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Vol III
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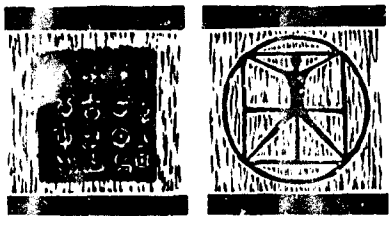
# FINAL REPORT
# DOD USER-NEEDS STUDY, PHASE II

## FLOW OF SCIENTIFIC AND TECHNICAL INFORMATION WITHIN THE DEFENSE INDUSTRY

## VOLUME III
## A. FREQUENCY DISTRIBUTIONS AND CORRELATION
## B. RELATIONSHIP AND COMPARISON







North American Aviation, Inc. Autonetics Division



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Vol III

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## VOLUME III
## A. FREQUENCY DISTRIBUTIONS AND CORRELATION
## B. RELATIONSHIP AND COMPARISON

30 November 1966

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Office of the Director of Defense Research and Engineering
Advanced Research Projects Agency
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# FOREWORD

The Department of Defense (DOD) has conducted a two-phase study to determine how scientists and engineers in government and industrial research, development and production activities acquire information for performing work assignments on DOD programs. This study is referred to as the DOD User-Needs Study, Phase I and Phase II.

Objectives of the study are to develop (a) an understanding of the scientific and engineering process and its technical information needs, (b) implications for current and future DOD scientific and engineering information systems, and (c) information to guide administrative decisions on the scope of DOD scientific and technical information programs.

The Phase I study covered the information needs of DOD personnel engaged in research, development, test and evaluation (RDT&E) activities. Results of this study are contained in Reference 1.

Phase II investigated the nation's defense industry to determine its information needs, and the flow of scientific and technical information (flow process) inherent in satisfying those needs. It is based on a representative sample of 1500 individuals from 83 organizations in the defense industry.

The Phase II Final Report describes the results of Phase II, and compares them with those of Phase I. It is presented in three volumes. Volume I contains a nontechnical summary of Phase II, including guidelines for management decisions and recommendations for the future. Volume II describes the technical approach, findings and recommendations of the study. Volume III presents the reduced data, in the form of frequency distributions and models for relationships among component parts of the flow process. For the reader's convenience, both Volumes II and III are divided into two parts, A and B.

Phase II was performed by North American Aviation, Inc., under Contract DSA-7-16244, awarded by the Defense Supply Agency and funded by the Advanced Research Projects Agency. The study was administered by Mr. Walter M. Carlson, Director of Technical Information in the Office of the Director of Defense Research and Engineering, and monitored by Mr. Howard B. Lawson of the Defense Documentation Center. Survey interviews were made possible by the cooperation of the National Security Industrial Association and the participating organizations listed in Appendix 1 of Volume II.

In addition to those listed on the title page, the following North American Aviation personnel contributed to the successful completion and documentation of Phase II: Mr. Forrest G. Allen, Mr. Martin Cutler, Mr. John F. Duewel, Mrs. Marian E. Farnsworth, Miss Darnell Gentry, Mr. David S. Irwin, Mr. Roland K. Jacobson, Dr. Edith S. Jay, Mr. Leonard B. Jenson, Mr. Laurence Kasden, Mr. Richard F. Lees, Mr. Robert J. Mason, Jr., Mrs. Philotheos J. Mazzagatte, Mr. Spencer B. McCain, Dr. Franklyn J. Michaelson, Mr. William R. Myers, Mr. William E. Nelson, Mr. Solomon L. Pollack, Mr. Louis J. Precht, Jr., Mr. Carroll M. Shipplett, Mr. Keith V. Smith, and Mr. Hagop H. Terzagian.

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# 1. INTRODUCTION

## 1.1 PURPOSE AND OBJECTIVES OF PHASE II

The principal technical tasks of Department of Defense (DOD) contractors are research, development and production of weapons and their supporting systems. Their efforts involve searching for and using an enormous amount of scientific and technical information. This store of information is continually growing, accompanied by an increasing need for improving the process of acquiring it.

The problem in the design of information systems is to channel the required information to interested persons as efficiently as possible. The goal is to provide the right information to the right person, in the right form, at the right time. A first step in achieving this goal is to define the user's need and procedures for acquiring technical information.

The Office of the Director of Defense Research and Engineering has initiated a two-phase study of user needs to determine the information acquisition patterns within the defense community. A prior study (DOD User-Needs Study, Phase I) surveyed these patterns among a random sample of research, development, test and evaluation (RDT&E) personnel of the Department of Defense.

The aim of the present Phase II study is to perform a similar survey to learn how scientists and engineers in the defense industry gather scientific and technical information. Data were obtained by personal interviews with a representative sample of 1500 from a population of approximately 120,000 scientists, engineers and technical personnel. These personnel were employed by 73 companies, 8 research institutes and 2 universities that are defense contractors. Each interview dealt with a specific task recently completed by the user, and his experiences relating to the need for, search for, and acquisition of information required in performing the task. Data were also collected concerning the individual's use of formal technical information centers and services, and on his background, experience and work activity.

The major study objectives were to answer questions in the following areas:

- What are the educational, experience and job characteristics of the users of scientific and technical information in the defense industry?
- What is the nature of the scientific and technical tasks within the defense industry?
- What characteristics does the defense industry exhibit in its utilization of technical information centers and services?
- What characterizes the search and acquisition process in the defense industry?
- What are the significant factors within the flow of scientific and technical information (flow process) for the defense industry?

- What are the differences between DOD in-house and defense industry personnel and their needs and procedures for acquiring scientific and technical information?

The study concentrated on the information wanted and used to perform specific tasks. It was not concerned with "current-awareness" (i.e., "intentional browsing" that is not task-oriented) information which a person uses to maintain an awareness of the state of the art, to educate himself, to review previously known areas, and to stimulate his thinking.

Many investigations have been performed, and much has been written, concerning the flow of scientific and technical information. The tendency, however, has been to examine only small portions of the flow process, or to speculate about large portions of the flow process in vague generalities. Therefore, very little of a comprehensive, definitive and unifying nature actually has been said about the process. The DOD User-Needs Study is the first attempt to obtain data on a large portion of the flow process, and the Phase II analysis is the first attempt to draw definitive and unifying conclusions from these data. This, in turn, will provide the first comprehensive definition of the information requirements in today's complex array of scientific and technical endeavors.

## 1.2 CONCLUSIONS

The major conclusions of the study can be expressed in the form of guidelines for management decisions bearing on the direction and scope of DOD information programs. These guidelines are supported by the numerical results which appear in Sections 2 through 5 and are summarized in Sections 5, 6 and 7 of Volume II. The two surveys produced a considerable mass of data concerning the scientific and technical process and its information needs. It is likely that additional analysis in depth may yield further information about the user's needs and the flow process that would permit refinements and additions to the present guidelines.

### Importance of Certain Categories of Information

Priority of effort should be assigned to information which is:

- In the development phase of the research, development and production cycle.
- Related to design and performance.
- In the engineering field.

The engineering subfields that are of greatest interest are electronics and electrical engineering, and aeronautics and space technology.

### Importance of the Local Work Environment as a Source for Information[1]

Eighty percent of the time, the Phase II users first searched for information within the local work environment. Therefore, information policies should recognize

[1]The "local work environment" extends only as far from the user as an internal company consultant, but not as far as the company Technical Information Center, which is his connection with the formal information system (see Table 1-2).

and seek to strengthen the utility of local sources of scientific and technical information. Specifically, more effort should be devoted to:

- Organized storage and active circulation to the local work environment of information which is informal or semiformal in composition.
- Tailoring for the local work environment the indexing, abstracting, organization and analysis of information, prior to its distribution.
- Selective and automatic dissemination to the local work environment of these tailored indexes, abstracts, and organized and analyzed information.

Partially organized and analyzed ("once-over-lightly") information is of questionable value, since it satisfies only a small percentage of information needs in task-oriented situations.

Publicity Concerning DOD Information Centers and Services

More effort should be devoted to publicity programs for informing the scientific and technical community, especially within the defense industry, regarding the availability of DOD Information Centers and Services and the procedures for their most efficient use.

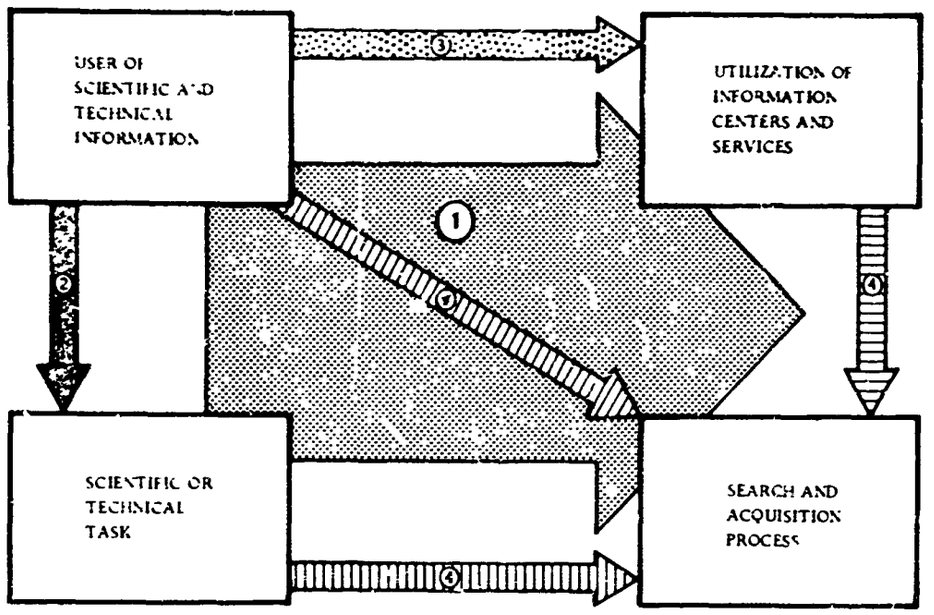
Satisfying the Needs of the Significant Users of Information

More effort should be devoted to satisfying the needs, and minimizing the information acquisition problems, of the significant users of scientific and technical information. In general, these users are characterized by their value to the company; that is, they are research and development scientists or engineers who have an advanced degree, are specialists or in lower management levels, and are highly paid. These personnel are also the real users of information centers and services and the ones most frustrated by problems involving their use.

Input/Output Relations for the Flow Process

The major components of the flow process are the (a) USER of scientific and technical information, (b) scientific or technical TASK, (c) UTILIZATION of information centers and services, and (d) SEARCH AND ACQUISITION process. From a systems design point of view, it is both informative and suggestive to consider (see Figure 1-1):

- The primary "input/output" relation (symbolized by arrow 1) with USER and TASK as "inputs" (i.e., tending to influence) and UTILIZATION and SEARCH AND ACQUISITION as "outputs" (i.e., tending to be influenced).
- A secondary input/output relation (symbolized by arrow 2) with USER as input and TASK as output.
- A secondary input/output relation (symbolized by arrow 3) with USER as input and UTILIZATION as output.




*The arrows point from input (tending to influence) to output (tending to be influenced).

Figure 1-1. Input/Output Relations for the Flow Process*

- A secondary input/output relation (symbolized by the arrows marked 4) with USER, TASK and UTILIZATION as inputs and SEARCH AND ACQUISITION as output.

Significant Relationships within the Flow Process

The analysis characterized relationships among elements of the flow process. These relationships should be utilized in the planning and operation of scientific and technical information programs. Among the more significant relationships are:

- The higher the user's level and value to his organization, the more complex the task and its information requirements.

- Greater complexity of the task occurs earlier in the research, development and production cycle. In the earlier phases of the cycle, information is needed in greater formality and detail; and it takes longer to acquire this information.

- As the formality of the task output increases (i.e., from findings through decisions to plans), the complexity of the information tends to increase.

- When more time is available for a task and for the acquisition of information, the user tends to be more demanding in regard to the organization of the media conveying the information and the volume of information required.

- Those who tend to make more use of information centers and services, want more formality and detail in the information media to satisfy their needs.

- When the user goes to a more distant first source (i.e., formal information centers) the information requested will involve more formal media, in greater volume and accompanied by a greater allowable acquisition time. On the other hand the more distant first source tends to yield only part of the needed information, so that further search is required.

Comparison of Phases I and II

The five general conclusions of Phase I are:

- Engineering data is the most important category of information.

- The local work environment is the most important first source for information.

- Information analysis prior to distribution is important in a scientific and technical information program.

- The DOD Information Centers and Services are not sufficiently used.

- The user is not completely satisfied with his ability to obtain information.

Although answers to comparable questions in Phases I and II exhibit significant differences (see Section 7), the Phase II data sustain these conclusions.

Continuing Study and Analysis

More effort should be devoted to the extension of progress made by the DOD User-Needs Study, as described in the following subsection.

## 1.3 RECOMMENDATIONS[2]

The two surveys of user needs within the Government and defense industry environments have yielded a wealth of valuable data relating to the scientific and technical information flow process. The analysis of these data, notwithstanding cost and schedule limitations inherent in an exploratory research project, has resulted in useful but preliminary insights into and explanations of the flow process. However, there are abundant lodes of information yet to be discovered, mined and refined, in order to exploit more fully the economic value of the available data base.

The Phase II study was a pioneering attempt to draw comprehensive, definitive and unifying conclusions from data on a large portion of the flow process. From the perspective gained in this study, it is clear that certain portions of the flow process

[2]Since the discovery and exploitation of the desired information is subject to the law of diminishing returns, the recommendations are goals and should be assigned priorities according to the twin criteria of objectives and available resources.

merit further investigation and that there is considerable room for refinement and extension of the analysis. A more detailed discussion of the recommendations contained here may be found in Section 8 of Volume II.

The present study has provided a valuable basis for this further investigation and refinement. In addition to yielding guidelines for management decisions, it has also provided:

- A structure and its numerical description with which to view, construct and estimate models describing the information flow process.
- A framework for designing field experiments, performing estimation and testing hypotheses concerning the flow process.
- A methodology for overcoming the analytic deficiencies in past and present user needs studies[3] by the relationship analysis cycle of transforming qualitative question responses into numerical form, constructing and estimating multivariate models for relationships within the flow process, and then transforming the numerical relationship results back to qualitative form.
- A basis for the recommendations which follow concerning: (a) additional field experimentation regarding the flow process; (b) a program for coordinating additional field experimentation and computer simulation in the analysis and optimization of the flow process[4]; and (c) refined analysis of the data from the Phase I and Phase II studies.

Additional Field Experimentation

In order that the implications of Phase II be fully exploited, the flow process merits further investigation. There should be additional field observation, experimentation and analysis regarding the flow process, such as:

- An investigation of the feasibility and effect upon the flow process of the guidelines in Section 1.2.
- An investigation of task-oriented use of information centers and services.
- Experiments, suggested in Reference 3, concerning (a) dissemination of documents; (b) dissemination of scientific and technical intelligence information (i.e., what is going on); (c) organization and analysis of information in selected fields; (d) indexes, title listings, abstracts and catalogues in selected fields; (e) Specialized Technical Information Centers; (f) techniques for processing information; and (g) evaluation and improvement of technical writing.

[3] Noted by H. Menzel in Chapter 3 of Reference 2, and by B. Griffith and W. Paisley during the Progress Review Panel on Information Needs and Uses at the 29th Annual Meeting of the American Documentation Institute, October 3-7, 1966.

[4] The flow process is optimized when its effect upon the performance of a scientific or technical task is optimized.

- Experiments suggested in Reference 7, which appeared while this final report was in publication.

- Specific experiments suggested by refined analysis of the data.

A Program for Analysis and Optimization

The flow of scientific and technical information has a profound, but as yet uncharacterized, effect upon the performance of scientific and technical tasks. In their efforts to improve task performance, both DOD and its contractors have made large investments in information centers and services. Optimization of the flow process will produce substantial benefits in terms of quality, resources and time.

The flow process and its effect upon task performance are quite complex, and field experimentation regarding them is both difficult and expensive. For such processes, mathematical solution is usually not feasible and computer simulation is often an effective and efficient means to complement field experimentation.

When the model (mathematical representation) for the process is translated into a simulation computer program (computer representation) for the process, the process and the effects of various factors upon it may be simulated. The accuracy and precision of the computer simulation increase as the accuracy and precision of the model increase. Therefore, computer simulation yields appropriate results at any stage of one's knowledge about a process, ranging from relative ignorance to relative certainty.

There are four periods in the evolution of a body of knowledge, as it matures from an art into a science: description, modeling, prediction, and control and optimization. With the completion of Phase II, knowledge concerning the flow process is emerging from the description period and entering into the modeling period.

Specific recommendations for additional experimentation have already been given. We now briefly describe a general program to coordinate field experimentation and computer simulation in the analysis and optimization of the flow process. This program (see Figure 1-2) is an improvement of one which was developed by North American Aviation, Inc., and is currently being utilized by a Government Agency on a process of comparable complexity. A more complete treatment of the program may be found in Section 8 of Volume II.

The program, which is adaptive in nature, is composed of ten basic stages:

1. Quantitative process analysis to transform the elements of the process into numerical form, and to construct a process model, with unspecified constants, for relationships among component parts of the process.

2. Experimental trial(s) to yield experimental data.

3. Process model estimation to produce estimates of unspecified constants in the process model from process experimental data and available auxiliary data.

4. Simulation programming to construct a simulation computer program from the model.

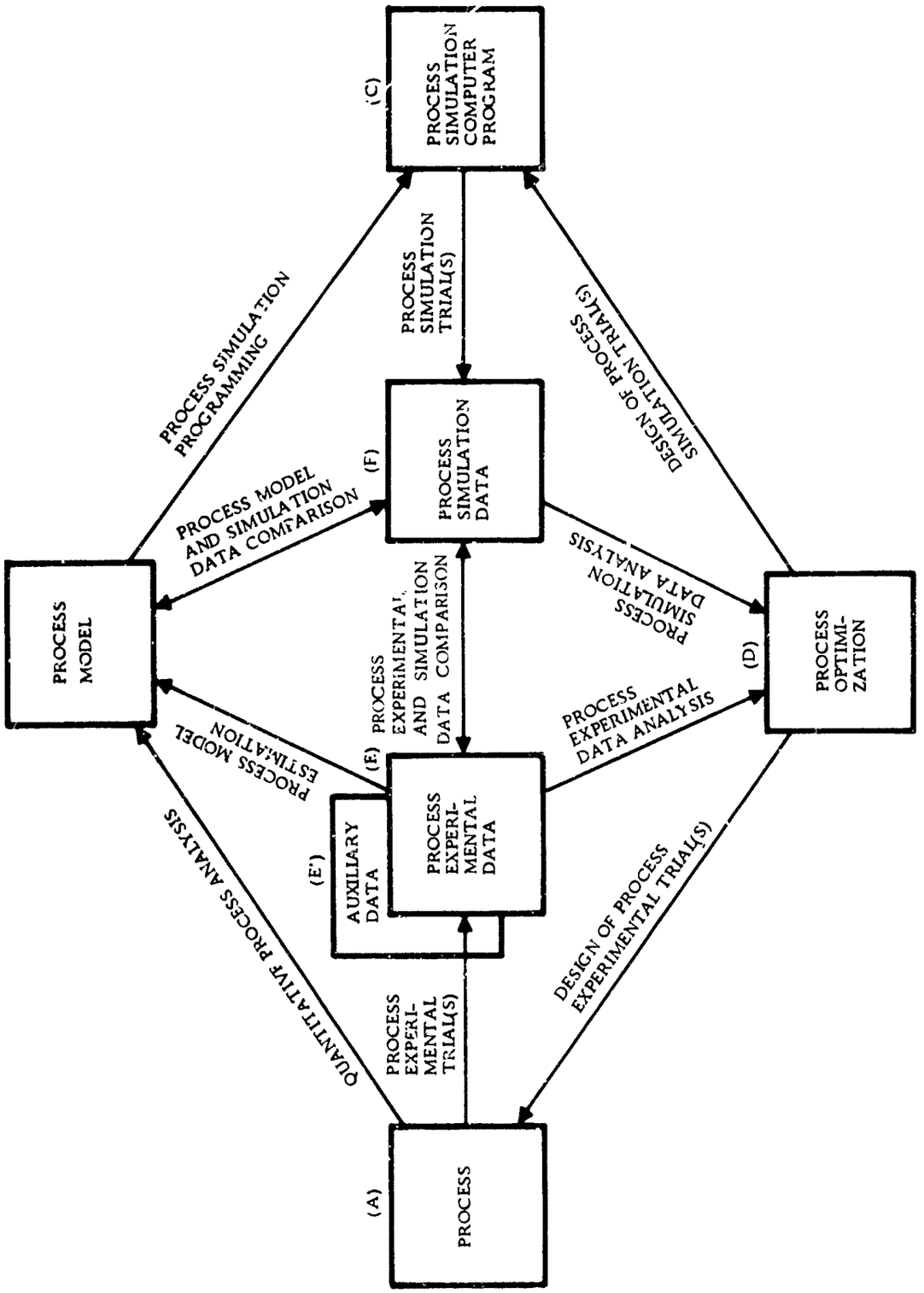



Figure 1-2. Program for Analysis and Optimization

5. Simulation trial(s) to yield simulation data.

6. Process model and simulation data comparison to provide a validation (i.e., positive check) for the simulation computer program.

7. Experimental and simulation data comparison to provide a validation for the combination of process model and simulation computer program.

8. Experimental and simulation data analysis to aid optimization by suggesting improvement of the process.

9. Process optimization to iteratively improve the process and apply appropriate stages of the program to the improved process.

10. Design of experimental and simulation trials to implement process optimization.

Additional experimentation is covered by Stages 1 through 3. Stages 4 through 7 concern computer simulation and its validation. In Stages 8 through 10, analysis and optimization of the flow process are treated.

The recommendations stated here provide the basis and framework for a long-term investigation and improvement of the flow process.

Refined Analysis of the Data

Since only a small fraction of the effort expended in collecting data is typically devoted to its analysis, a large amount of the information it contains generally is undiscovered and unexploited.

A more profound understanding of the DOD/defense industry information flow process can be achieved through more refined analysis of the data, as suggested below:

- More thorough examination of the distribution of answers to questions, and relationships among questions.

- Investigation into the effect of company size, industry, and interviewer bias on the answers to questions.

- Improvement in the arrangement of responses to a question, and the association of a numerical value with each response to a question, with the objective of improving the linearity of relationships among questions.

- Incorporation into the analysis of differences between the corresponding characteristics of the desired and actually received information, and additional special indices.

- Reformulation and re-estimation of appropriate models for relationships among questions, in order to reflect the above improvements and to investigate more specific relationships which involve only single questions (rather than combinations of related questions).

- For purposes such as the study of the selective dissemination process, formulation of reverse models to study the flow process in reverse (i.e., reverse the input/output relations described in Sections 1.2 and 6). An example would be a model relating the user's highest degree to the class of information, desired composition and layout of the information media, the first source for the information, and the usefulness of title listings or abstracts.

- Formulation and estimation of additional models describing the flow process, and utilization of additional analytical techniques (such as factor analysis).

- Division of the sample of 1500 users into appropriate subsamples to permit analysis and comparison of special groups, such as the three groups which acquired information that is: (a) conceptual, (b) design and performance, and (c) production.

- Application, as appropriate, of the above suggestions in making further analyses of the Phase I data, the similarities and differences of the Phase I and Phase II data, and the combined data from Phase I and Phase II.

## 1.4 METHODOLOGY

The methodology employed in the study of the defense industry (Phase II) was based on precedents established in the prior Phase I study of DOD personnel engaged in RDT&E. Improvements in methodology were achieved by profiting from lessons learned in the Phase I study, and through the use of a more comprehensive and powerful analytical approach. Also, the Interview Guide used in Phase I was tailored and improved to make it more suitable for use in a survey of defense industry needs. A more complete discussion of the methodology appears in Sections 2, 3, and 4 and Appendix 15 of Volume II.

### Interview Guide

The initial portion of the study required (a) modification of the Interview Guide, (b) preparation of an Interview Guide Handbook and Reference Manual for use by the interviewers, (c) testing of the modified Interview Guide to validate revisions and provide a basis for further improvements, and (d) selection and training of the interviewers.

### Modification of Interview Guide

The Phase I Interview Guide had to be modified in two major areas: (a) tailoring to the defense industry population; and (b) overall improvement based on Phase I experience, North American Aviation technical evaluation, and the pilot test. Modifications were designed to:

- Reorganize it, by removing extensive tables and including them in a separate Interview Reference Manual.
- Improve the printing and layout, making it easier to record data during interviews.
- Provide increased logical order of questions.
- Minimize the number of questions (e.g., by letting one group of related questions cover an entire subject, when possible).
- Assess the utilization of company Technical Information Centers.
- Assess the utilization of Non-DOD Specialized Information Centers.
- Investigate restrictions on availability of technical information.
- Provide for mutally exclusive responses.
- Expand, reorient and rearrange question responses.

The revised Interview Guide contained 63 questions, grouped according to (a) the user of information, (b) his most recent scientific or technical task, (c) his utilization of information centers and services, and (d) his search for and acquisition of information specifically related to the task. Most of the responses to questions in the Interview Guide are qualitative and, therefore, not susceptible to quantitative interpretation without using special techniques.

Interview Guide Handbook and Interview Reference Manual

The Interview Guide Handbook (Reference 4) is the basic documentation for the initial portion of the Phase II study. It contains an explanation of and instruction in the interviewing methods, questions to be covered and aids for the interviewers. In developing this Handbook, the primary theme was to tailor it to serve both as a training document on the objectives and conduct of the study and and as an interviewer reference. The Handbook also contains the basic study correspondence, a directory of participating organizations and a glossary of terms.

An innovation in Phase II was the introduction of an Interview Reference Manual. This Manual contains a compact, easily-handled listing of frequently used and complex responses for questions in the Interview Guide. The document was basically an interviewer aid, and was shown to the respondent when it would facilitate the interview. Instuctions in the use of the Interview Reference Manual are contained in the Interview Guide Handbook.

Pilot Test

A modified Interview Guide was pilot tested to validate the revisions accomplished for the Phase II study. As specified by DOD, the pilot testing was based on 20 interviews with selected engineering and scientific personnel of North American Aviation, Inc. The pilot test resulted in a reorganization of the questions into a more logical sequence.

## Survey Operations and Controls

Selection and Training of Interviewers

Interviewers were selected on the basis of their scientific and technical backgrounds, research experience, interviewing and survey experience, maturity, personality and responsibility. All interviewers had at least a bachelor's degree and prior interviewing experience. The interviewing staff employed in the Phase II survey included eight behavioral scientists, three operations research analysts and three information processing specialists.

Each interviewer was given a two-week training program, consisting of classroom instruction and controlled field practice interviews. Training emphasized standardization of survey interview techniques in dealing with a highly diversified sample. Training sessions included Program Orientation, Scientific and Technical Information Systems, Survey Operations, Review of Phase I Results, Comprehensive Study of the Interview Guide, Summary of the Analysis Plan, Interview Demonstration, and four days of practice interviews with critiques of student performance. Remedial sessions were scheduled when the need for them was indicated during the practice interviews.

Selection of Sample for the Interviews

The National Security Industrial Association and the Director of Technical Information in the Office of the Director of Defense Research and Engineering contacted and obtained voluntary participation of the majority of organizations cooperating in the survey. North American Aviation, Inc. helped arrange for the participation of additional qualifying organizations. The organizations surveyed included 14 of the top

25 DOD contractors and 17 of the top 25 RDT&E contractors. They are considered representative of the major DOD/RDT&E contractors. Appendix 1 of Volume II lists participating organizations with the sample sizes drawn for each.

The Director of Technical Information provided explicit instructions on the method to be employed by the participating organizations in selecting the samples of individuals for interview. The sample for interview was obtained by the selection of a representative group of 1500 from a population of approximately 120,000 scientists, engineers and technical personnel. These personnel were employed by 73 companies, 8 research institutes and 2 universities having defense contracts. In addition, the sequential acquisition of data permitted strong positive checks to be made upon the internal consistency and representative nature of the sample. The individuals sampled represent approximately 1.5 percent of the total scientific, engineering and technical personnel of the 83 participating organizations.

Pre-Survey Preparation of the Interviewees

Early in the planning of survey operations, it was determined that the conduct of the survey and the quality of responses would be enhanced considerably if interviewees were familiar with the purpose of the study and the kinds of questions to be asked. Consequently a descriptive brochure, Synopsis of Interview Topics (see Appendix 8 in Volume II), was developed and distributed to each interviewee in advance of the interview.

This brochure acquainted the interviewees with the topics to be discussed. It provided a frame of reference, introduced the general subject matter of the interview, and tended to ease possible confusion and apprehension. The Synopsis also reassured the interviewee's management that the survey was solely intended to investigate information needs and acquisition procedures, and that it was not an attempt to obtain classified or proprietary information. Comment from the interview staff indicated that the Synopsis fulfilled its intended purposes.

Interview Policy

The sample to be interviewed spanned a diversity of backgrounds (e.g., field of training and extent of formal education) and position levels (e.g., type of activity and level of responsibility). In addition, the flow of scientific and technical information is not widely discussed or understood. It was, therefore, realized that the interview questions might have different meanings to different interviewees.

In order to achieve comparable results under these conditions, the interview was "standardized" so that essentially the same information would be collected from each interviewee. This was achieved by the interviewer tailoring the formulation and sequence of the questions to each interviewee (i.e., "non-scheduled" interviewing). The interview was predominantly one of "free response," (i.e., where an explanation or description was required) in which there were few explicit bounds upon interviewee responses. An interviewer also encouraged interviewees to talk freely of their experiences, and to give examples of their information search and acquisition patterns.

Operations

Early in the study program it was recognized that successful results would require careful planning, scheduling and control of survey operations. It was also clear that data collected in the field had to be monitored for quality, so that conclusions based on the data would be valid and meaningful.

Survey operations included correspondence with participating companies, interview scheduling, aggressive follow-up of missed interviews, and interview quality control. Each participating organization was assigned a control number. Upon completion, each interview was assigned an accession number to maintain control and facilitate subsequent analysis.

Personal in-depth interviews with the 1500 users lasted an average of 1 hour and 40 minutes per interview. All interviews were conducted in private, to ensure confidentiality and to prevent bias.

Controls

The quality of the analysis depended to a great extent on the quality of the data collected during the interviews. Consequently, appropriate procedures were developed and implemented to assure consistently high quality data and to provide accurate and complete inputs for computer analysis.

Quality control extended from the interview itself, through keypunching of the data, to subsequent analysis. Interview answers were recorded both in precoded and in narrative form. To minimize errors or omissions, each interviewer was required to review and inspect the material from each interview immediately after its completion, but before the next interview. Completed interviews were sent to the project office for review and preliminary audit for completeness, consistency and coding accuracy. Immediate feedback was provided to interviewers when needed to correct errors or improve performance on subsequent interviews.

To reduce errors in transcribing data from the Interview Guide to punched cards, the Interview Guide was designed so that coded responses could be punched directly from the Guide.

An extensive procedure of manual editing and narrative response classification was carried out to ensure the maximum completeness of the data. In this manner the potential "other" and "no response" entries in an interview were largely eliminated. In addition, the computer analysis had various automatic edit and consistency checks built into its routines.

## Analysis[5]

The survey data consist of the reports of 1500 interviews, each containing the answers to 55 questions having qualitative responses and 8 questions having quantitative responses.

[5]This analysis is respectfully dedicated to the memory of Dr. Edith Jay, whose ideas serve as an inspiration to all of us. The great contribution which she always brought to a project was prevented by her untimely passing.

Requirements and Objectives of the Analysis

An analysis should provide a bridge between the data, and meaningful guidelines for management decisions and recommendations for the future. The methods of summarization employed by the analysis should be sufficient to bring both the detailed and general information content of the data into focus. Otherwise, management will be forced to accept only its detailed information content, or to itself perform additional summarization so that its general information content is brought into focus. In order to achieve this:

- The analysis first should summarize the data until their detailed information content is brought into focus. This summary by its very essence is limited to only small portions of the flow process at once.
- The analysis then should continue to summarize the data until their general information content is brought into focus, so that both small and large portions of the flow process are described.

The first of these requirements could be achieved by means of frequency distributions for single questions and pairs of questions in the Interview Guide. In addition, the second requirement could be accomplished by an analysis of relationships among questions in the Interview Guide (which represent component parts of the flow process). Such an analysis would yield sufficiently summarized and properly focused general information, describing both small and large portions of the flow process. To achieve this analysis, however, the qualitative data acquired in the Interviews must be transformed into a numerical form.

Thus, the objectives of the analysis are to:

- Generate frequency distributions for single questions and pairs of questions in the Interview Guide.
- Transform the qualitative question responses into numerical form.
- Construct and estimate models for relationships among questions in the Interview Guide.
- Analyze and interpret the frequency distribution and relationship results, in order to provide meaningful guidelines for management decisions and recommendations for the future which are relatively insensitive to changes in the response transformation.

Overview of the Analysis

Detailed information describing small portions of the flow process is provided by one-way and two-way frequency distributions. A one-way frequency distribution is the distribution of the percent of answers to a question that corresponds to each question response, and a two-way frequency distribution is the distribution of the percent of answers to a pair of questions that corresponds to each pair of question responses (see Table 1-1). In addition, the relationship analysis cycle yields general information describing both small and large portions of the flow process.

The relationship analysis cycle transforms the qualitative question responses into numerical form, constructs and estimates models for relationships among questions, and then transforms the numerical relationship results back to qualitative

Table 1-1. One-Way and Two-Way Frequency Distributions

ONE-WAY FREQUENCY DISTRIBUTION

Question 22: Desired Volume of Information Media

| RESPONSE | FREQUENCY (%) |
|---|---|
| All from Recall | 7 |
| One Report or Document | 30 |
| A Sampling of the Reports and Documents Available | 22 |
| All Reports and Documents That Could Be Found Pertinent to the Question | 41 |

TWO-WAY FREQUENCY DISTRIBUTION

Question 25: Desired Depth of Information Media

| Question 22: Desired Volume of Information Media — RESPONSE | A Once Over Lightly | A Specific Answer | A Detailed Analysis |
|---|---|---|---|
| All from Recall | 0% | 5% | 2% |
| One Report or Document | 2% | 18% | 10% |
| A Sampling of the Reports and Documents Available | 2% | 10% | 9% |
| All Reports and Documents That Could Be Found Pertinent to the Question | 2% | 23% | 16% |

form (see Figure 1-3). As illustrated by Table 1-2, the transformation of qualitative question responses into numerical form is accomplished in two steps:

- A detailed structure is developed by grouping the related responses to a question and arranging these groups (and, to the extent possible, the responses within groups) into an informative order. The grouping and arranging are based on the primary unifying characteristic of the question's responses, as determined from the responses themselves and the intent of the question.

- A numerical description of the detailed structure is defined by associating a number with each ordered question response. The base point for a numerical scale is selected, according to the primary unifying characteristic of the question. With each response there is then associated a numerical value, corresponding to its relative "distance" from the base point, along a scale from -1 to 1 (usually from 0 to 1).

Next the construction and estimation of models for relationships among questions are performed in the following four steps:

- Groups of related questions are arranged into an informative and unifying order to form a general structure. To the extent feasible, the arrangement is based on the desirable characteristic that a question tends to influence only those questions which follow it. An example is contained in Table 1-3.

- Pairs of related questions are combined as illustrated in Table 1-3, in order to simplify the specification and estimation of models for relationships among questions in the general structure. Except for rare cases in which a product is employed, all of the combinations of related questions are averages of the numbers previously assigned. The scales remain between -1 and 1 (usually between 0 and 1), in all cases.

- Linear models are specified to represent potential relationships among the combinations of questions in the general structure. (See Table 1-4). The models are defined in general form to include unspecified constants which, when evaluated, completely determine the model.

- Unspecified constants in the general form of the models are estimated from the data by the technique of regression analysis. Regression analysis also indicates the significance of a relationship and the relative contribution of question combinations to the relationship (see Table 1-4).

Finally, the numerical relationship results are transformed back to qualitative form by a ranking procedure which:

- Ranks question combinations in order of their contribution to each relationship, as shown in Table 1-4.

- Ranks question combinations in order of their overall contribution to the relationships in each component of the flow process and the flow process itself, as illustrated in Table 1-5.

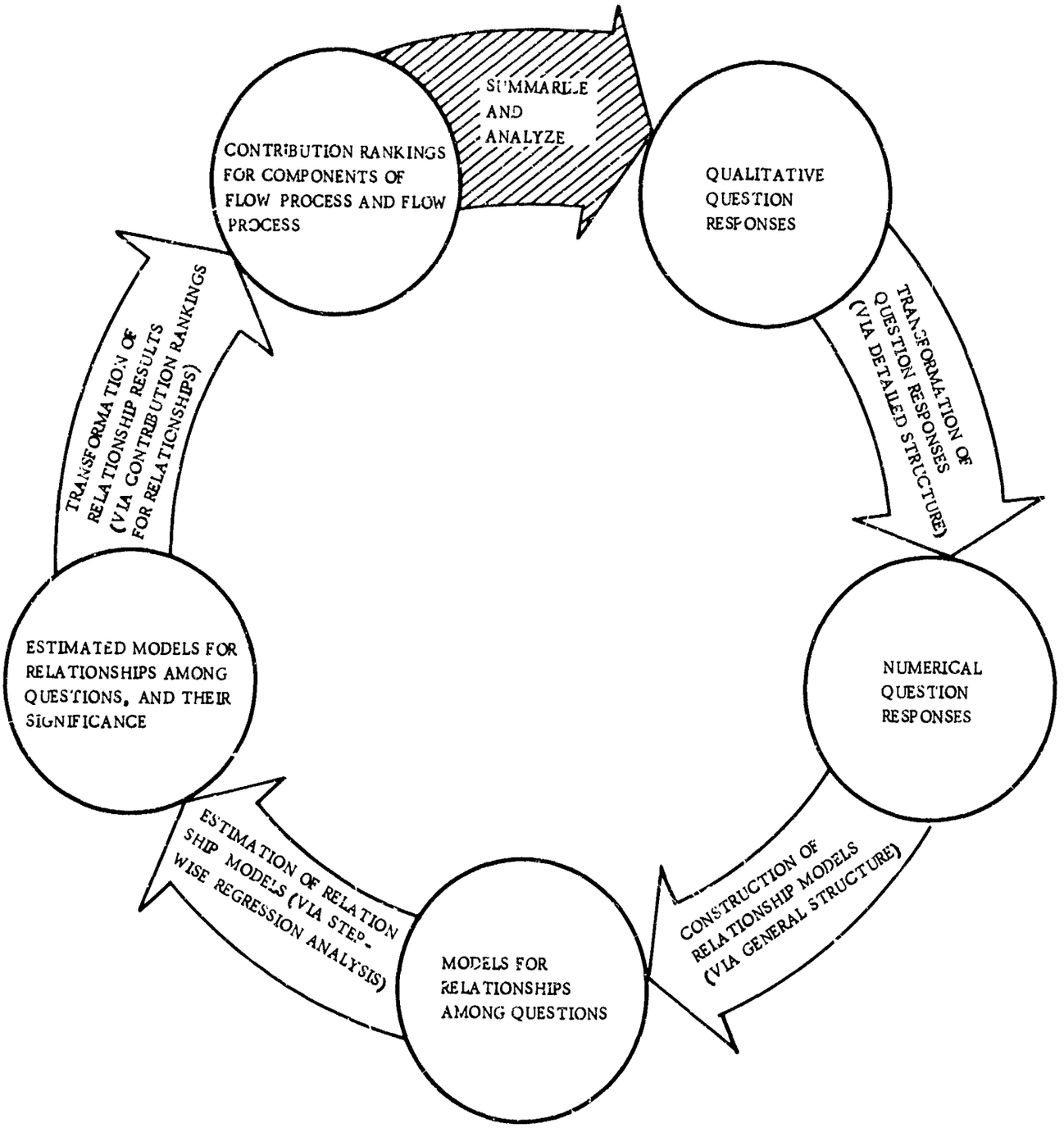



Figure 1-3 Relationship Analysis Cycle

Table 1-2. Transformation of Qualitative Question Responses into Numerical Form

Question 14: First Source for Information

| Informative Order[A] | | Scale |
|---|---|---|
| I | Received with task assignment | 0 |
| II | Recalled it | 0.05 |
| III | Searched own collection | 0.10 |
| IV | Respondent's own action | 0.15 |
| V | Assigned subordinate to get it | 0.20 |
| VI | Asked a colleague | 0.25 |
| VII | Asked my supervisor | 0.30 |
| VIII | Requested search of department files | 0.35 |
| IX | Asked an internal company consultant | 0.45 |
| X | Searched company information center [B] | 0.50 |
| X | Requested library search [B] | 0.50 |
| XI | Requested data from vendor, manufacturer, supplier [B] | 0.60 |
| XI | Searched vendor, manufacturer, supplier sources [B] | 0.60 |
| XII | Searched outside library | 0.70 |
| XIII | Asked an external consultant or expert | 0.80 |
| XIV | Requested search of DOD Information Center [B] | 0.90 |
| XIV | Search DOD Information Center [B] | 0.90 |
| XV | Asked customer | 1.00 |

A. It is instructive to note the evolution of the responses and their order:

1. The 12 responses to Question 40 in the Phase I Interview Guide were reordered and expanded into the 16 responses to Question 14 in the Phase II Interview Guide.

2. Then the 16 responses were expanded to 18, based on an analysis of the answers to the response, "other - specify."

3. Finally the 18 responses were arranged into an informative order, according to their primary characteristic, which may be called "distance from the user."

B. No distinction is made between the two responses in this group of related responses.

The relationship analysis cycle is believed to be novel in the field of information science. Its employment and testing in Phase II have yielded results that are encouraging, and implications for the future that are provocative.

Analysis and interpretation of the above results produce meaningful guidelines for management decisions and recommendations for the future which are relatively insensitive to changes in the detailed structure and its numerical description. In addition, a comparison is made between the comparable one-way and two-way frequency distributions from Phases I and II; and the Phase I conclusions are reviewed in the light of the Phase II data.

Table 1-3. Arrangement and Combination of Questions

| USER COMPONENT |
|---|
| A. User's Age: Question 48 |
| B. User's Education |
| 1. Highest Degree: Question 50A |
| 2. Field of Degree: Question 50C |
| 3. Year of Degree: Question 50B |
| C. User's Experience |
| 1. Job Experience: Question 51 |
| 2. Company Experience: Question 52 |
| Combination of Questions: 1/2 (Question 51 + Question 52) |
| D. User's Position |
| 1. Kind of Position: Question 55 |
| 2. Field of Position: Question 56 |
| E. User's Level |
| 1. Equivalent Government Service (GS) Rating: Question 58 |
| 2. Personnel Supervised: Question 49 |
| 3. Type of Activity: Question 54 |
| Combination of Questions: 1/2 (Question 49 + Question 58) |

Table 1-4. User Relationships

| User Characteristic | Judged Potentially Related To | Related To[A] | Candidate For Relationship[F] |
|---|---|---|---|
| User's highest degree (Q50A) | User'age age (Q48) | | |
| User's field of degree (Q50C) | User's age | User's age[B, C] | User's highest degree[G] |
| User's experience (1/2(Q51+Q52)) | User's age | User's age[D, E] | User's highest degree |
| User's kind of position (Q55) | User's age, highest degree, field of degree and experience | User's highest degree[B, D] | |
| User's field of position (Q56) | User's age, highest degree, field of degree, and experience | User's field of degree,[D] highest degree,[B] and age[B] | User's kind of position |
| User's level (1/2(Q49+Q58)) | User's age, highest degree, field of degree, experience, kind of position, and field of position | User's highest degree,[D] experience,[C] age,[C] and field of position[B, E] | |

A. Are ranked in order of contribution to the relationship
B. Coefficient is negative (all other coefficients being positive).
C. Makes a significant contribution to the relationship.
D. Makes a highly significant contribution to the relationship.
E. Relationship is significant.
F. Are ranked in order of potential contribution to the relationship.
G. Would potentially make a significant contribution to the relationship.

Table 1-5. User Ranks*

| Combination of Questions \ Related Question Combinations | User's Age (Q48) | User's Highest Degree (Q50A) | User's Field of Degree (Q50C) | User's Experience (1/2(Q51+Q52)) | User's Kind of Position (Q55) | User's Field of Position (Q56) | User's Level (1/2(Q49 + Q58)) |
|---|---|---|---|---|---|---|---|
| User's Highest Degree (Q50A) | | 0 | | | | | |
| User's Field of Degree (Q50C) | 1 | 2 | 0 | | | | |
| User's Experience (1/2(Q51+Q52)) | 1 | 2 | | 0 | | | |
| User's Kind of Position (Q55) | | 1 | | | 0 | | |
| User's Field of Position (Q56) | 3 | 2 | 1 | | 4 | 0 | |
| User's Level (1/2(Q49+Q58)) | 3 | 1 | | 2 | | 4 | 0 |
| Question Combination Column Total | 32 | 8 | 49 | 50 | 52 | 52 | 60 |
| Question Combination Rank | 2 | 1 | 3 | 4 | 5-1/2 | 5-1/2 | 7 |

*Table entries are assigned, according to order of appearance in Table 1-4, as follows: 0 to combination of questions in CHARACTERISTIC column: 1 to 1st question combination, 2 to 2nd question combination, . . . , m to last question combination in RELATED TO column; m+1 to 1st question combination, m+2 to 2nd question combination, . . . , p ≤11 to last question combination in CANDIDATE FOR RELATIONSHIP column; and 12, which is omitted for simplicity, to those question combinations not appearing.

Computer Operations

Two basic kinds of computer programs were used in the study:

- Special North American Aviation, Inc. programs used to prepare interview data for analysis.
- Biomedical or BMD programs used in the analysis itself (see Reference 5).

Three of each kind were employed, brief descriptions of which follow.

North American Aviation Data Preparation Programs

- Creation and Updating: This program edits all inputs and creates a new tape, or updates an existing one. The answer to each question is tested for proper code limits and, in some cases, is cross-checked with answers to other questions.
- Reorder: This program assigns the sequence of coded responses, in the detailed structure, to be used for frequency distributions.
- Rescale: This program assigns the numerical values to coded responses.

Biomedical Data Analysis Programs (see Reference 5)

- Transgeneration: This program accepts data created by the Reorder or Rescale Program and combines questions, as desired, for subsequent analysis. The program was used to combine questions as specified in the general structure.
- Two-Way Frequency Distribution: This program computes (a) two-way frequency distributions; (b) Chi-square value and degrees of freedom for each distribution; and (c) means, standard deviations and correlation coefficient for each question associated with the distribution.
- Stepwise Multiple Regression: This general purpose statistical program was used to compute (a) a sequence of estimates for linear models in a stepwise manner; (b) a correlation matrix; and (c) associated significance-level information.

## 1.5 BACKGROUND

The DOD User-Needs Study was exploratory in nature. It attempted to structure and describe the nebulous process of the flow of scientific and technical information. The study has not completely solved the problems of defining, designing and operating a scientific and technical information program. Some of the reasons for this are:

- The DOD User-Needs Study was the first investigation of its size and scope dealing with a large portion of the information flow process, and its component users and tasks within major segments of the scientific and engineering community.

- The samples from Phases I and II exhibited significant differences in their users, tasks, utilization of information centers and services, and search and acquisition process.

- The Phase II analysis, although compatible with that of Phase I, was more comprehensive and definitive.

- Time and resource limitations precluded the accomplishment of more than a preliminary application of the Phase II analytical approach to the Phase II data, much less its application to the Phase I data.

- Phase II results should be regarded as indicative, but not conclusive, and meriting additional investigation.

On the other hand, the study represents the initial step essential in developing a base of knowledge on which to build future programs. It has investigated the flow process from within, and has concentrated on the study of the user's actual experience relative to specific tasks.

In using and interpreting the results of this study, the following points should be kept in mind:

- Prior to these studies, no definitive description of the composition of the DOD RDT&E and defense industry populations was available. Consequently no attempt was made to select a stratified sample (this is now possible, based on the data acquired in the studies). However, the broad base and large samples used in the Phase I and Phase II studies are representative of the scientific and engineering communities studies. In fact, the Phase II data exhibited strong internal consistency.

- The study technique of investigating "critical incidents" (in this case a specific task that was recently completed by the user) ensured the acquisition of specific data on the flow process. Thus, the data acquired in the study are based on specific experiences in the interviewee's work situation, and not on his opinions, judgments and other generalities.

- The question or information areas covered in the Interview Guide were not closed-end or multiple choice. As asked, almost every question required a free response answer based on the interviewee's task-oriented experience.

- The analysis has concentrated on the over-all sample rather than its compartmentalized segments. Thus a description of particular specialists (e.g., chemists, electrical engineers, etc.), although feasible, was not attempted.

- The questions and pairs of questions dealing with INFORMATION (as opposed to those dealing with the USER, TASK or UTILIZATION) should be considered as exclusively INFORMATION descriptors, in that they are

drawn from a different data base than the other descriptors (i.e., any one USER and TASK can have from one to five information units associated with them).[6]

- Conclusions involving combinations of questions should not be drawn from the frequency distributions of single questions, but only from those involving pairs of questions and the models of relationships.

- In order to analyze the data, the qualitative responses were transformed into numerical form as described in Section 1.4. One must take this transformation into account in order to apply the results of this study intelligently to information programs. If a different transformation is desired, then certain portions of the analysis should be repeated with the new transformation.

- Regression analysis estimates of models describing the flow process are sensitive to changes in the detailed structure and its numerical description, and in the general structure and its combinations of related questions. The model estimates in Section 5 and in Volume II must then be taken as relative, and not exact. However, the guidelines for management decisions in Section 1.2 have been obtained from the model estimates via a ranking technique which is relatively insensitive to such changes. This technique is described in Volume II.

- Employment of the terms, input and output, to describe relations and factors within the flow process not only provides insight into the flow process, but also facilitates the analysis of the process and the design and analysis of the information system which serves it. One must realize, however, that regression analysis can merely characterize and indicate the significance of a relationship. It cannot imply a cause-and-effect relationship, for this can only be accomplished by thorough knowledge of the flow process.

## 1.6 ORGANIZATION OF VOLUME III

The essence of Phase II may be obtained by reading Section 1. Sections 2 through 5 contain the data which have been reduced according to the analysis described briefly in Volume I and in detail in Volume II. Four types of reduced data are presented in tables: one-way frequency distributions, two-way frequency distributions, stepwise regression relationships, and comparison of Phase I and Phase II distributions. Introducing each type of table is an explanation of how to interpret it. This

[6] Twenty-four percent of the USERS performed TASKS which had an output associated with a design or design technique; but the 10 percent of INFORMATION that related to design or design techniques represents 547 of the 5359 separate information units that were used in the survey tasks. These 547 information units could have been used by anywhere from 7 percent to 36 percent of the USERS. Therefore, INFORMATION questions identify INFORMATION characteristics and not those of USER, TASK or UTILIZATION.

is followed by an index of the tables and their location. For the reader's convenience, Volume III is divided into two parts:

- Volume IIIA, which contains Sections 1, 2, 3 and 4.
- Volume IIIB, which contains Sections 5 and 6.

Section 2 presents the one-way distributions of answers to questions in the Interview Guide. To present the data in a more concise and understandable form, responses have been combined or grouped in certain cases. The tables appear in question number sequence.

The two-way frequency distributions of answers to pairs of questions appear in Section 3. There are two groups of two-way distributions:

- Those involving questions about the USER of scientific and technical information, his scientific or technical TASK and his UTILIZATION of information centers and services, but not the SEARCH AND ACQUISITION process. These tables represent sample sizes of 1500.
- Those involving questions about the USER, TASK, UTILIZATION, and SEARCH AND ACQUISITION. These tables generally represent sample sizes of 5359.

The tables appear in sequence by group, and by number of the first question in the pair within a group.

Section 4 contains the complete correlation matrix. The stepwise regression relationships are presented in Section 5. These involve the linear models of relationships among questions. Four computer runs were made to create the 39 sets of tables (22 tables involving USER, TASK, and UTILIZATION, but not SEARCH AND ACQUISITION questions; and 17 tables involving USER, TASK, UTILIZATION and SEARCH AND ACQUISITION questions). Each computer run had a different sample size, because questionnaires without answers to all questions involved in that particular run were eliminated. The tables are in sequence according to the general structure.

Finally, Section 6 contains the comparison of the Phase I and Phase II one-way frequency distributions. The tables are in sequence by the Phase II question number.

The work "chunk" was used in both Phases I and II to represent an information unit. A chunk is the smallest identifiable and meaningful quantity of information which is required in the conduct of a task.

Throughout the volume, the following abbreviations have been used:

- DDC - Defense Documentation Center
- DOD - Department of Defense
- GS - General Schedule
- Q - Question
- STAR - Scientific and Technical Aerospace Reports
- TAB - Technical Abstract Bulletin
- TIC - Technical Information Center

# 2. ONE-WAY FREQUENCY DISTRIBUTIONS

## 2.1 INTERPRETATION

See Appendix 15 of Volume II and Reference 5 for a description of BMD 08D, the computer program employed for the compilation of frequency distributions.

Each table presents an abbreviated form of the question as it appeared in the Interview Guide, and five columns of information consisting of:

1. The responses to the question arranged in order according to the detailed structure. That order is expressed by Roman numerals. If the same Roman numeral appears with more than one response, no distinction is made between these responses in the analysis.

2. The order of responses in the Interview Guide, denoted by Arabic numerals. If there are no Arabic numerals, the question is narrative. In most cases the open-end responses (e.g., "other") were categorized as part of the manual edit; but when it could not be categorized, it is listed as "other" without an identifying code.

3. The response descriptions that originally appeared in the Interview Guide or ones that are indicative of the grouped responses.

4. The number N to indicate the number of answers for each response. In most cases, the total number of answers will be 1500 for USER, TASK and UTILIZATION questions and 5359 for SEARCH and ACQUISITION questions.

5. The one-way frequency distribution of the percent of answers that corresponds to each question response. This one-way frequency distribution appears as the (marginal) row or column totals for the appropriate two-way frequency distribution(s).

## 2.2 INDEX

## 2.3 DISTRIBUTIONS

Q2. Task Initiator Table 2-1

What prompted the task?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (4) | Initiative of respondent | 204 | 13.6 |
| II. | (5) | Decision by respondent and colleagues | 120 | 8.0 |
| III. | (6) | Application of standard procedures | 127 | 8.5 |
| IV. | (3) | Direction by immediate supervisor | 537 | 35.8 |
| V. | (2) | Direction by higher management | 283 | 18.8 |
| VI. | (1) | Instruction or questions directed from the customer | 229 | 15.3 |
| | | | 1500 | |

Q3. Elapsed Time on Task Table 2-2

What was the total elapsed time that you were active on this task, from the time you started it until the time you finished it, including periods during which you may have been diverted to other activities?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (1) | 1-7 days | 183 | 12.2 |
| II. | (2) | 8-14 days | 110 | 7.4 |
| III. | (3) | 15-21 days | 134 | 9.0 |
| IV. | (4) | 22-30 days | 164 | 10.9 |
| V. | (5) | 31-90 days | 412 | 27.4 |
| VI. | (6) | 91-180 days | 251 | 16.8 |
| VII. | (7) | 181-270 days | 83 | 5.5 |
| VIII. | (8) | 271-365 days | 95 | 6.3 |
| IX. | (9) | Over 365 days | 68 | 4.5 |
| | | | 1500 | |

Q4. Percentage of Time on Task Table 2-3

During the total elapsed time that you were active on this task, about what percentage of your work time did you devote directly to the task?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (1) | Under 25 percent | 330 | 22.0 |
| II. | (2) | 25 - 49 percent | 273 | 18.2 |
| III. | (3) | 50 - 74 percent | 318 | 21.2 |
| IV. | (4) | 75 - 99 percent | 251 | 16.7 |
| V. | (5) | Full Time | 328 | 21.9 |
| | | | 1500 | |

Q5. Type of Task Output Table 2-4

What was the major output of the task?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (7) | Hardware | 88 | 5.9 |
| II. | (1) | Technical data or information | 271 | 18.1 |
| III. | (6) | A design (includes specifications) | 294 | 19.6 |
| IV. | (2) | A finding | 197 | 13.1 |
| V. | (3) | A recommendation | 367 | 24.5 |
| VI. | (4) | A decision | 55 | 3.7 |
| VII. | (5) | A plan | 223 | 14.8 |
| | (8) | Other | 5 | 0.3 |
| | | | 1500 | |

Q6. Formality of Task Output Table 2-5

How was the major output of the task presented or transmitted?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (5) | Hardware | 15 | 1.0 |
| II. | (4) | Informal briefing or discussion | 100 | 6.7 |
| III. | (3) | Informal document or memorandum | 329 | 21.9 |
| IV. | (2) | Formal briefing or demonstration | 63 | 4.2 |
| V. | (1) | Formal document | 992 | 66.1 |
| | (6) | Other | 1 | 0.1 |
| | | | 1500 | |

Q7. Task Recipient Table 2-6

To whom was the major output of the task directed?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (1) | Individual's own use | 22 | 1.5 |
| II. | (2) | Individual(s) within the respondent's company | 890 | 59.3 |
| III. | (5) | A particular contractor or contractors | 172 | 11.5 |
| III. | (6) | Department of Defense | 268 | 17.8 |
| III. | (7) | NASA | 78 | 5.2 |
| IV. | (3) | Members of the respondent's profession | 45 | 3.0 |
| V. | (4) | A major segment of an industry | 22 | 1.5 |
| | (9) | Other | 3 | 0.2 |
| | | | 1500 | |

Q8. Class of Task Output — Table 2-7

What was the class of the major output of the task?

| | | N | Percent |
|---|---|---|---|
| I. | Only used for Question 16, Desired Class of Information | | |
| II. | (1) Concepts | 129 | 8.6 |
| III. | (8) Raw data | 24 | 1.6 |
| IV. | (5) Math aids and formulae; computer programs | 94 | 6.3 |
| V. | (3) Designs or design techniques | 362 | 24.2 |
| VI. | (4) Experimental processes and procedures | 75 | 5.0 |
| VII. | (11) Test processes and procedures | 86 | 5.7 |
| VIII. | (13) Evaluation | 141 | 9.4 |
| IX. | (9) Specifications | 93 | 6.2 |
| X. | (6) Performance and characteristics | 241 | 16.1 |
| XI. | (7) Production processes and procedures | 89 | 5.9 |
| XII. | (10) Technical status | 57 | 3.8 |
| XIII. | (12) Utilization | 53 | 3.5 |
| XIV. | (2) Cost and funding; administrative action | 56 | 3.7 |
| | | 1500 | |

Q9. Kind of Task Output — Table 2-8

What was the kind of the major output of the task?

| | | N | Percent |
|---|---|---|---|
| I. | (2) Research - basic | 64 | 4.3 |
| II. | (1) Research - applied | 239 | 15.9 |
| III. | (11) System analysis | 173 | 11.5 |
| IV. | (3) Development - advanced | 147 | 9.8 |
| V. | (4) Development - engineering | 188 | 12.5 |
| VI. | (5) Development - operational system | 163 | 10.9 |
| VII. | (6) R&D support | 119 | 7.9 |
| VIII. | (7) Test or evaluation | 190 | 12.7 |
| IX. | (8) Production processes | 69 | 4.6 |
| X. | (9) Production end-items | 58 | 3.9 |
| XI. | (10) Reliability or quality control | 69 | 4.6 |
| XII. | (12) Customer relations | 21 | 1.4 |
| | | 1500 | |

Q1 )A. Field of Task Output (Grouped) Table 2-9

What was the field of the major output of the task?

| | N | | Percent | |
|---|---|---|---|---|
| I. Production, Management and Social Sciences | | 143 | | 9.6 |
| (32) Miscellaneous arts and sciences | 10 | | 0.7 | |
| (23) Personnel and training | 14 | | 0.9 | |
| (26) Production and management | 102 | | 6.8 | |
| (28) Psychology and human engineering | 17 | | 1.2 | |
| II. Medical Sciences | | 33 | | 2.2 |
| (1f) Medical sciences | 33 | | 2.2 | |
| III. Mechanical, Industrial, Civil and Marine Engineering | | 94 | | 6.3 |
| (11) Ground transportation equipment | 7 | | 0.5 | |
| (13) Installation and construction | 36 | | 2.4 | |
| (18) Military sciences and operations | 21 | | 1.4 | |
| (24) Photography and other reproductive processes | 7 | | 0.5 | |
| (29) Quartermaster equipment and supplies | 0 | | 0.0 | |
| (31) Ships and marine equipment | 18 | | 1.2 | |
| (33) Transportation | 5 | | 0.3 | |
| IV. Aeronautics and Space Technology | | 351 | | 23.4 |
| (01) Aircraft and flight equipment | 197 | | 13.2 | |
| (12) Guided Missiles | 128 | | 8.5 | |
| (19) Navigation | 26 | | 1.7 | |
| V. Electronics and Electrical Engineering | | 354 | | 23.6 |
| (05) Communications | 35 | | 2.3 | |
| (06) Detection | 35 | | 2.3 | |
| (07) Electrical equipment | 29 | | 2.0 | |
| (08) Electronics, electronic equipment | 255 | | 17.0 | |
| VI. Chemical Science and Material | | 181 | | 12.1 |
| (03) Chemical warfare equipment materials | 2 | | 0.1 | |
| (04) Chemistry | 66 | | 4.4 | |
| (10) Fuels and combustion | 9 | | 0.6 | |
| (14) Materials (nonmetallic) | 56 | | 3.8 | |
| (17) Metallurgy | 35 | | 2.3 | |
| (22) Ordnance | 13 | | 0.9 | |
| VII. Physical Science | | 193 | | 12.8 |
| (02) Astronomy, Geophysics and Geography | 13 | | 0.9 | |
| (09) Fluid mechanics | 44 | | 2.9 | |
| (20) Nuclear physics and nuclear chemistry | 8 | | 0.5 | |
| (21) Nuclear propulsion | 3 | | 0.2 | |
| (25) Physics | 51 | | 3.4 | |
| (27) Propulsion systems | 74 | | 4.9 | |
| VIII. Research and Research Equipment | | 131 | | 8.7 |
| (30) Research and research equipment (including computer science) | 131 | | 8.7 | |
| IX. Mathematics | | 14 | | 0.9 |
| (15) Mathematics | 14 | | 0.9 | |
| Other | | 6 | | 0.4 |
| (35) Other | 6 | | 0.4 | |
| | 1500 | | | |

Q10B. Field of Task Output (Ungrouped) Table 2-10

What was the field of the major output of the task?

| | | N | Percent |
|---|---|---|---|
| (1) | Aircraft and flight equipment | 197 | 13.2 |
| (2) | Astronomy, geophysics and geography | 13 | 0.9 |
| (3) | Chemical warfare equipment and materials | 2 | 0.1 |
| (4) | Chemistry | 66 | 4.4 |
| (5) | Communications | 35 | 2.3 |
| (6) | Detection | 35 | 2.3 |
| (7) | Electrical equipment | 29 | 1.9 |
| (8) | Electronics, electronic equipment | 255 | 17.0 |
| (9) | Fluid mechanics | 44 | 2.9 |
| (10) | Fuels and combustion | 9 | 0.6 |
| (11) | Ground transportation equipment | 7 | 0.5 |
| (12) | Guided Missiles | 128 | 8.6 |
| (13) | Installations and constructions | 36 | 2.4 |
| (14) | Materials (nonmetallic) | 56 | 3.7 |
| (15) | Mathematics | 14 | 0.9 |
| (16) | Medical sciences | 33 | 2.2 |
| (17) | Metallurgy | 35 | 2.3 |
| (18) | Military sciences and operations | 21 | 1.4 |
| (19) | Navigation | 26 | 1.7 |
| (20) | Nuclear physics and nuclear chemistry | 8 | 0.5 |
| (21) | Nuclear propulsion | 3 | 0.2 |
| (22) | Ordnance | 13 | 0.9 |
| (23) | Personnel and training | 14 | 0.9 |
| (24) | Photography and other reproductive processes | 7 | 0.5 |
| (25) | Physics | 51 | 3.4 |
| (26) | Production and management | 102 | 6.8 |
| (27) | Propulsion systems | 74 | 5.0 |
| (28) | Psychology and human engineering | 17 | 1.1 |
| (29) | Quartermaster equipment and supplies | 0 | 0.0 |
| (30) | Research and research equipment (including computer science) | 131 | 8.8 |
| (31) | Ships and marine equipment | 18 | 1.2 |
| (32) | Miscellaneous arts and sciences | 10 | 0.7 |
| (33) | Transportation | 5 | 0.3 |
| (35) | Other | 6 | 0.4 |
| | | 1500 | |

Q12. Actual Acquisition Time for Information Table 2-11

How much time elapsed from the time you requested this chunk of information - or from the time you started to search for it - until you got it?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (1) | From Recall | 618 | 11.5 |
| II. | (8) | Task generated | 3 | 0.1 |
| III. | (2) | Less than 1 day | 1535 | 28.6 |
| IV. | (3) | 1 - 7 days | 1203 | 22.5 |
| V. | (4) | 8 - 30 days | 1007 | 18.8 |
| VI. | (5) | More than 30 days | 971 | 18.1 |
| VII. | (7) | Received only part of chunk | 22 | 0.4 |
| | | | 5359 | |

Q13. Desired Acquisition Time for Information Table 2-12

From the time you requested this chunk or started to search for it, was there a maximum elapsed time you could have allowed to get it?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (1) | From recall | 382 | 7.1 |
| II. | (2) | Less than 1 day | 833 | 15.5 |
| III. | (3) | 1 - 7 days | 1339 | 25.0 |
| IV. | (4) | 8 - 30 days | 1418 | 26.5 |
| V. | (5) | 31 - 90 days | 388 | 7.3 |
| VI. | (7) | More than 90 days | 999 | 18.6 |
| | | | 5359 | |

Q14. Location of First Source for Information — Table 2-13

How did you first go about getting this information chunk?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (1) | Received with task assignment | 576 | 10.7 |
| II. | (4) | Recalled it | 1009 | 18.9 |
| III. | (9) | Searched own collection | 696 | 13.0 |
| IV. | (19) | Respondent's action | 136 | 2.5 |
| V. | (3) | Asked subordinate to get it | 236 | 4.4 |
| VI. | (5) | Asked a colleague | 769 | 14.3 |
| VII. | (2) | Asked my supervisor | 72 | 1.3 |
| VIII. | (8) | Requested search of department files | 297 | 5.5 |
| IX. | (6) | Asked an internal company consultant | 507 | 9.5 |
| X. | (10) | Searched company TIC | 399 | 7.4 |
| X. | (7) | Requested library search | 96 | 1.8 |
| XI. | (15) | Requested data from manufacturer, vendor or supplier | 235 | 4.4 |
| XI. | (14) | Searched manufacturer, vendor or supplier sources | 85 | 1.6 |
| XII. | (11) | Searched outside library | 31 | 0.6 |
| XIII. | (18) | Asked an external consultant or expert | 46 | 0.9 |
| XIV. | (13) | Requested search of DOD information/data center | 36 | 0.7 |
| XIV. | (12) | Searched DOD information/data center | 31 | 0.6 |
| XV. | (17) | Asked customer | 100 | 1.9 |
| | | | 5357 | |

Q15. Why First Source Used — Table 2-14

What is the main reason that you used this source first?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (1) | Received with task assignment | 580 | 10.8 |
| II. | (4) | Available, handy or easy to use | 1426 | 26.6 |
| III. | (6) | Found helpful previously | 368 | 6.9 |
| IV. | (3) | Most authoritative | 1194 | 22.3 |
| V. | (2) | Only source known | 508 | 9.5 |
| VI. | (5) | Recalled, or was told, that specific chunk was available from the source | 1274 | 23.8 |
| | (7) | Other | 9 | 0.1 |
| | | | 5359 | |

Q16. Desired Class of Information* Table 2-15

What question(s) did you want answered by this first source?

| | | N | Percent |
|---|---|---|---|
| I. | (15) Requested information source | 179 | 4.2 |
| II. | (1) Concepts | 47 | 1.1 |
| III. | (8) Raw data | 55 | 1.3 |
| IV. | (5) Math aids and formulae; computer programs | 165 | 3.9 |
| V. | (3) Designs or design techniques | 449 | 10.6 |
| VI. | (4) Experimental processes and procedures | 36 | 0.8 |
| VII. | (11) Test processes and procedures | 159 | 3.8 |
| VIII. | (13) Evaluation | 186 | 4.4 |
| IX. | (9) Specifications | 489 | 11.6 |
| X. | (6) Performance and characteristics | 1224 | 28.9 |
| XI. | (7) Production processes and procedures | 106 | 2.5 |
| XII. | (10) Technical status | 524 | 12.4 |
| XIII. | (12) Utilization | 187 | 4.4 |
| XIV. | (2) Cost and funding; administrative action | 427 | 10.1 |
| | | 4233* | |

Q17. Acquisition From First Source Table 2-16

What did you get from this first source?

| | | N | Percent |
|---|---|---|---|
| I. | (4) Irrelevant or inappropriate information | 37 | 0.7 |
| II. | (5) Nothing | 59 | 1.1 |
| III. | (3) Reference to another source | 236 | 4.4 |
| IV. | (2) Part of the information | 2513 | 46.9 |
| V. | (1) All the information needed | 2514 | 46.9 |
| | | 5359 | |

*The narrative answers to the question were categorized according to class, so that Question 28 (Class of Information) would have a "desired" counterpart.

This categorization was applied to only the answers that corresponded to the first three information chunks.

Q18. Actual Composition of Transporting Medium Table 2-17

Would you describe the media by which you received this information chunk? If more than one medium was used, indicate the three most important, in order of importance.

| | | N | Percent |
|---|---|---|---|
| I. | (22) Previous knowledge | 1485 | 13.5 |
| II. | (9) Meetings and symposia | 209 | 1.9 |
| III. | (8) Oral contacts - all other | 2269 | 20.6 |
| IV. | (7) Oral contacts with manufacturers | 425 | 3.8 |
| V. | (15) Live demonstrations | 90 | 0.8 |
| VI. | (25) Physical measurement or experiment | 298 | 2.7 |
| VII. | (24) Personal notes, logs and files | 380 | 3.5 |
| VIII. | (11) Correspondence, memos and TWX | 676 | 6.1 |
| IX. | (4) Drawings and schematics | 571 | 5.2 |
| X. | (20) Photographs, maps and files | 28 | 0.3 |
| XI. | (5) Parts lists | 54 | 0.5 |
| XII. | (23) Computer printout | 160 | 1.5 |
| XIII. | (26) Microfilm or microfiche | 28 | 0.3 |
| XIV. | (27) Slides or motion pictures | 13 | 0.1 |
| XV. | (6) System specification document | 461 | 4.2 |
| XVI. | (14) Newsletters and other mass media | 41 | 0.4 |
| XVII. | (1) Brochures | 211 | 1.9 |
| XVIII. | (2) Catalogs | 209 | 1.9 |
| XIX. | (3) Standards and Codes | 118 | 1.1 |
| XX. | (10) Directives | 86 | 0.8 |
| XXI. | (12) Handbooks | 254 | 2.3 |
| XXII. | (13) Manuals | 321 | 2.9 |
| XXIII. | (17) Proposals | 134 | 1.2 |
| XXIV. | (18) Reports | 1428 | 13.0 |
| XXV. | (16) Preprints and reprints | 128 | 1.2 |
| XXVI. | (21) Journals | 439 | 4.5 |
| XXVII. | (19) Textbooks | 423 | 3.8 |
| | | 10999* | |

*Many chunks have more than one media indicated.

Q19. Usual Composition of Transporting Medium — Table 2-18

What media do you use regularly to obtain this information chunk?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (3) | None indicated in Question 18 | 157 | 2.9 |
| II. | (1) | Same as those indicated in Question 18 | 4295 | 80.2 |
| III. | (2) | Same as those indicated in Question 18 and other media | 907 | 16.9 |
| | | | 5359 | |

Q20. Desired Composition of Transporting Medium — Table 2-19

At the time you obtained this information chunk, would you rather have had it presented by any other medium? If more than one medium is indicated, record the three most important, in order of importance.

| | N | Percent |
|---|---|---|
| No | 4238 | 79.1 |
| Yes | 1121 | 20.9 |
| | 5359 | |

What were the media you would have rather received (including those actually received)?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (22) | Previous knowledge | 1299 | 12.7 |
| II. | (9) | Meetings and symposia | 188 | 1.8 |
| III. | (8) | Oral contacts - all other | 1860 | 18.2 |
| IV. | (7) | Oral contacts with manufacturer | 333 | 3.3 |
| V. | (15) | Live demonstrations | 97 | 1.0 |
| VI. | (25) | Physical measurement or experiment | 232 | 2.3 |
| VII. | (24) | Personal notes, logs and files | 321 | 3.1 |
| VIII. | (11) | Correspondence, memos and TWX | 597 | 5.8 |
| IX. | (4) | Drawings and schematics | 527 | 5.2 |
| X. | (20) | Photographs, maps and films | 29 | 0.3 |
| XI. | (5) | Parts Lists | 50 | 0.5 |
| XII. | (23) | Computer printout | 182 | 1.8 |
| XIII. | (26) | Microfilm or microfiche | 38 | 0.4 |
| XIV. | (27) | Slides or motion pictures | 21 | 0.2 |
| XV. | (6) | System specification document | 479 | 4.7 |

Q20. Desired Composition of Transporting Medium

Table 2-19 (Continued)

| | | | N | Percent |
|---|---|---|---|---|
| XVI. | (14) | Newsletters and other mass media | 30 | 0.3 |
| XVII. | (1) | Brochures | 179 | 1.8 |
| XVIII. | (2) | Catalogs | 191 | 1.9 |
| XIX. | (3) | Standards and codes | 139 | 1.4 |
| XX. | (10) | Directives | 95 | 0.9 |
| XXI. | (12) | Handbooks | 290 | 2.8 |
| XXII. | (13) | Manuals | 379 | 3.7 |
| XXIII. | (17) | Proposals | 122 | 1.2 |
| XXIV. | (18) | Reports | 1581 | 15.5 |
| XXV. | (16) | Preprints and reprints | 112 | 1.1 |
| XXVI. | (21) | Journals | 455 | 4.4 |
| XXVII. | (19) | Textbooks | 381 | 3.7 |
| | | | 10207* | |

Q21. Actual Volume of Transporting Medium

Table 2-20

When you received this chunk of information, did you get:

| | | | N | Percent |
|---|---|---|---|---|
| I. | (4) | All from recall? | 371 | 6.9 |
| II. | (1) | One report or document ? | 1365 | 25.5 |
| III. | (2) | A sampling of the reports and documents available? | 2033 | 38.0 |
| IV. | (3) | All reports and documents that could be found pertinent to the question? | 1575 | 29.4 |
| V. | (4) | Did not receive chunk ? | 13 | 0.2 |
| | (5) | Other? | 2 | 0.0 |
| | | | 5359 | |

*Many chunks have more than one media indicated.

Q22. Desired Volume of Transporting Medium Table 2-21

For each information chunk, did you want:

| | | N | Percent |
|---|---|---|---|
| I. | (4) All from recall ? | 373 | 7.0 |
| II. | (1) One report or document ? | 1625 | 30.3 |
| III. | (2) A sampling of the reports and documents available? | 1154 | 21.5 |
| IV. | (3) All reports and documents that could be found pertinent to the question? | 2205 | 41.2 |
| | (5) Other | 2 | 0.0 |
| | | 5359 | |

Q23A. Usefulness of Title Listings or Abstracts Table 2-22

Would you comment on the usefulness of title listings or abstracts with regard to this chunk ?

| | | N | Percent |
|---|---|---|---|
| I. | (3) Would not have been useful | 3065 | 57.2 |
| II. | (2) Would have found them useful | 1048 | 19.6 |
| III. | (1) Used them for this chunk | 1246 | 23.2 |
| | | 5359 | |

Q23B. Reason that Title Listings or Abstracts Would Not be Useful. Table 2-23

Explain why title listings or abstracts would not have been useful.

| | | N | Percent |
|---|---|---|---|
| I. | Had the data or knew of its location | 762 | 25.0 |
| II. | Subject too specific for title listings or abstracts | 511 | 16.7 |
| III. | Information was recalled | 395 | 12.9 |
| IV. | No published or indexed information available | 354 | 11.5 |
| V. | Information was received from personal or oral contact | 288 | 9.4 |
| VI. | Received with task or from normal distribution procedure | 206 | 6.7 |
| VII. | Required raw data | 78 | 2.6 |
| VIII. | Takes too much time | 64 | 2.1 |
| IX. | Information was internally generated | 57 | 1.8 |
| X. | Not applicable - no reason given | 350 | 11.4 |
| | | 3065* | |

Q24. Actual Detail of Transporting Medium Table 2-24

For this information chunk did you get:

| | | N | Percent |
|---|---|---|---|
| I. | (1) A once over lightly? | 952 | 17.8 |
| II. | (3) A specific answer? | 2710 | 50.5 |
| III. | (2) A detailed analysis ? | 1697 | 31.7 |
| | | 5359 | |

*Based on the 3065 information chunks for which the answer to Question 23 was "would not have been useful."

Q25. Desired Detail of Transporting Medium Table 2-25

At the time you recognized the need for this information chunk, did you want:

| | | N | Percent |
|---|---|---|---|
| I. | (1) A once over lightly ? | 393 | 7.3 |
| II. | (3) A specific answer ? | 2994 | 55.9 |
| III. | (2) A detailed analysis ? | 1972 | 36.8 |
| | | 5359 | |

Q26. Actual Layout of Transporting Medium Table 2-26

What was the physical layout of this chunk of information when you received it?

| | | N | Percent |
|---|---|---|---|
| I. | (14) Recall | 634 | 12.0 |
| II. | (13) Telephone conversation | 124 | 2.3 |
| III. | (11) Group discussion | 187 | 3.5 |
| IV. | (4) Photographs | 8 | 0.2 |
| V. | (3) Graphics (diagrams, drawings, etc.) | 413 | 7.8 |
| VI. | (2) Tables or lists | 432 | 8.2 |
| VII. | (1) Narrative text | 700 | 13.2 |
| VIII. | (18) Narrative text and tables or lists | 58 | 1.1 |
| IX. | (9) Graphics and lists | 138 | 2.6 |
| X. | (8) Photographs and text | 51 | 1.0 |
| XI. | (7) Graphics and text | 1400 | 26.4 |
| XII. | (16) Graphics, text and oral | 466 | 8.8 |
| XIII. | (17) Graphics, text, oral and recall | 195 | 3.7 |
| XIV. | (12) Informal briefing, with chalk or pencil drawings | 465 | 8.8 |
| XV. | (5) Microfilm - microfiche | 3 | 0.1 |
| XVI. | (6) Slides or motion pictures | 4 | 0.1 |
| XVII. | (10) Formal briefing or lecture | 17 | 0.3 |
| | (15) Other | 61 | 1.1 |
| | | 5359 | |

Q27. Desired Layout of Transporting Medium Table 2-27

In what physical layout would you have wanted it?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (14) | Recall | 603 | 11.3 |
| II. | (13) | Telephone conversation | 80 | 1.5 |
| III. | (11) | Group discussion | 139 | 2.5 |
| IV. | (4) | Photographs | 11 | 0.2 |
| V. | (3) | Graphics (diagrams, drawings, schematics, flow charts, graphs, maps) | 466 | 8.7 |
| VI. | (2) | Tables or lists | 477 | 8.9 |
| VII. | (1) | Narrative text | 734 | 13.7 |
| VIII. | (18) | Narrative text and tables or lists | 59 | 1.1 |
| IX. | (9) | Graphics and lists | 148 | 2.8 |
| X. | (8) | Photographs and text | 69 | 1.3 |
| XI. | (7) | Graphics and text | 1633 | 30.5 |
| XII. | (16) | Graphics, text and oral | 393 | 7.3 |
| XIII. | (17) | Graphics, text, oral and recall | 130 | 2.4 |
| XIV. | (12) | Informal briefing, with chalk or pencil drawings | 341 | 6.4 |
| XV. | (5) | Microfilm - microfiche | 10 | 0.2 |
| XVI. | (6) | Slides or motion pictures | 10 | 0.2 |
| XVII. | (10) | Formal briefing or lecture | 31 | 0.5 |
| | (15) | Other | 25 | 0.5 |
| | | | 5359 | |

Q28. Class of Information Table 2-28

What was the class of this chunk?

| | | N | Percent |
|---|---|---|---|
| I. | (Only used for Question 16, Desired Class of Information) | | |
| II. | (1) Concepts | 378 | 7.1 |
| III. | (8) Raw data | 372 | 6.9 |
| IV. | (5) Math aids and formulae; computer programs | 387 | 7.2 |
| V. | (3) Designs or design techniques | 547 | 10.2 |
| VI. | (4) Experimental processes and procedures | 187 | 3.5 |
| VII. | (11) Test processes and procedures | 235 | 4.4 |
| VIII. | (13) Evaluation | 189 | 3.5 |
| IX. | (9) Specifications | 813 | 15.2 |
| X. | (6) Performance and characteristics | 1349 | 25.2 |
| XI. | (7) Production processes and procedures | 224 | 4.2 |
| XII. | (10) Technical status | 328 | 6.1 |
| XIII. | (12) Utilization | 189 | 3.5 |
| XIV. | (2) Cost and funding; administrative action | 160 | 3.0 |
| | (14) Other | 1 | 0.0 |
| | | 5359 | |

Q29A. Field of Information (Grouped) Table 2-29

What was the field of this chunk?

| | | N | | Percent | |
|---|---|---|---|---|---|
| I. | Production, Management and Social Sciences | | 617 | | 11.5 |
| | (32) Miscellaneous arts and sciences | 55 | | 1.0 | |
| | (23) Personnel and training | 58 | | 1.1 | |
| | (26) Production and management | 437 | | 8.1 | |
| | (28) Psychology and human engineering | 67 | | 1.3 | |
| II. | Medical Sciences | | 95 | | 1.8 |
| | (16) Medical sciences | 95 | | 1.8 | |
| III. | Mechanical, Industrial, Civil and Marine Engineering | | 355 | | 6.6 |
| | (11) Ground transportation equipment | 31 | | 0.6 | |
| | (13) Installations and constructions | 146 | | 2.7 | |

Q29A. Field of Information Table 2-29 (continued)

| | | N | | Percent | |
|---|---|---|---|---|---|
| | (18) Military sciences and operations | 86 | | 1.6 | |
| | (24) Photography and other reproductive processes | 22 | | 0.4 | |
| | (29) Quartermaster equipment and supplies | 4 | | 0.1 | |
| | (31) Ships and marine equipment | 50 | | 0.9 | |
| | (33) Transportation | 16 | | 0.3 | |
| IV. | Aeronautics and Space Technology | | 900 | | 16.8 |
| | (1) Aircraft and flight equipment | 549 | | 10.2 | |
| | (12) Guided Missiles | 305 | | 5.7 | |
| | (19) Navigation | 46 | | 0.9 | |
| V. | Electronics and Electrical Engineering | | 1291 | | 24.2 |
| | (5) Communications | 94 | | 1.8 | |
| | (6) Detection | 96 | | 1.8 | |
| | (7) Electrical equipment | 133 | | 2.5 | |
| | (8) Electronics, electronic equipment | 968 | | 18.1 | |
| VI. | Chemical Science and Materials | | 712 | | 13.2 |
| | (3) Chemical warfare equipment | 13 | | 0.2 | |
| | (4) Chemistry | 234 | | 4.4 | |
| | (10) Fuels and combustion | 43 | | 0.8 | |
| | (14) Materials (nonmetallic) | 188 | | 3.5 | |
| | (17) Metallurgy | 169 | | 3.1 | |
| | (22) Ordnance | 65 | | 1.2 | |
| VII. | Physical Science | | 747 | | 13.9 |
| | (2) Astronomy, geophysics and geography | 64 | | 1.2 | |
| | (9) Fluid mechanics | 157 | | 2.9 | |
| | (20) Nuclear physics and nuclear chemistry | 34 | | 0.6 | |
| | (21) Nuclear propulsion | 5 | | 0.1 | |
| | (25) Physics | 264 | | 4.9 | |
| | (27) Propulsion systems | 223 | | 4.2 | |
| VIII. | Research and Research Equipment | | 448 | | 8.4 |
| | (30) Research and research equipment (including computer science) | 448 | | 8.4 | |
| IX. | Mathematics | | 169 | | 3.2 |
| | (15) Mathematics | 169 | | 3.2 | |
| | (35) Other | 25 | 25 | 0.4 | 0.4 |
| | | 5359 | | | |

Q29B. Field of Information (Ungrouped) Table 2-30

What was the FIELD of this chunk?

| | N | Percent |
|---|---|---|
| (1) Aircraft and flight equipment | 549 | 10.2 |
| (2) Astronomy, geophysics and geography | 64 | 1.2 |
| (3) Chemical warfare equipment and materials | 13 | 0.2 |
| (4) Chemistry | 234 | 4.4 |
| (5) Communications | 94 | 1.8 |
| (6) Detection | 96 | 1.8 |
| (7) Electrical equipment | 133 | 2.5 |
| (8) Electronics, electronic equipment | 968 | 18 0 |
| (9) Fluid mechanics | 157 | 2.9 |
| (10) Fuels and combustion | 43 | 0.8 |
| (11) Ground transportation equipment | 31 | 0.5 |
| (12) Guided Missile | 305 | 5.7 |
| (13) Installations and constructions | 146 | 2.7 |
| (14) Materials (nonmetallic) | 188 | 3.5 |
| (15) Mathematics | 169 | 3.2 |
| (16) Medical sciences | 95 | 1.8 |
| (17) Metallurgy | 169 | 3.1 |
| (18) Military sciences and operations | 86 | 1.6 |
| (19) Navigation | 46 | 0.9 |
| (20) Nuclear physics and nuclear chemistry | 34 | 0.6 |
| (21) Nuclear propulsion | 5 | 0.1 |
| (22) Ordnance | 65 | 1.2 |
| (23) Personnel and training | 58 | 1.1 |
| (24) Photography and other reproductive processes | 22 | 0.4 |
| (25) Physics | 264 | 4.9 |
| (26) Production and management | 437 | 8.2 |
| (27) Propulsion systems | 223 | 4.2 |
| (28) Psychology and human engineering | 67 | 1.3 |
| (29) Quartermaster equipment and supplies | 4 | 0.1 |
| (30) Research and research equipment (including computer science) | 448 | 8.4 |
| (31) Ships and marine equipment | 50 | 0.9 |
| (32) Miscellaneous arts and sciences | 55 | 1.0 |
| (33) Transportation | 16 | 0.3 |
| (35) Other | 25 | 0.5 |
| | 5359 | |

Q30. Essentially of Information to Task Table 2-31

How essential was this information chunk to the task?

| | | N | Percent |
|---|---|---|---|
| I. | (4) Neither essential nor helpful to successful task completion | 27 | 0.5 |
| II. | (3) Not essential, but somewhat helpful to successful task completion | 235 | 4.4 |
| III. | (2) Not essential, but extremely helpful to successful task completion | 910 | 17.0 |
| IV. | (1) Absolutely essential to successful task completion | 4187 | 78.1 |
| | | 5359 | |

Q31. Extensiveness of Information use in Task Table 2-32

To what extent was this information chunk used in the task?

| | | N | Percent |
|---|---|---|---|
| I. | (6) Not at all | 38 | 0.7 |
| II. | (5) As a lead to other information | 47 | 0.9 |
| III. | (4) As background information | 617 | 11.5 |
| IV. | (3) In only small parts of the task | 623 | 11.6 |
| V. | (2) In major portions of the task | 1836 | 34.3 |
| VI. | (1) Throughout the entire duration of the task | 2198 | 41.0 |
| | | 5359 | |

Q32. Discovery of Information Available, but Unknown, during Task Table 2-33

After you finished the total TASK, did you learn of any relevant information that was available but unknown to you while you were doing the task?

| | | N | Percent |
|---|---|---|---|
| I. | (2) No | 1196 | 79.7 |
| II. | (1) Yes | 304 | 20.3 |
| | | 1500 | |

Q33. Existence of Company Technical Information Center (TIC) Table 2-34

Does your company have a technical information center or similar library facility?

| | | N | Percent |
|---|---|---|---|
| II. | (1) Yes | 1489 | 99.3 |
| I. | (2) No | 6 | 0.4 |
| I. | (3) Not sure | 5 | 0.3 |
| | | 1500 | |

Q34. Known Company TIC Services Table 2-35

What services, facilities and documents does your company information center have?

| | | | N* | Percent |
|---|---|---|---|---|
| I. | (10) | Not familiar with company information center | 67 | 4.5 |
| II. | (3) | Acquisition lists | 1138 | 76.4 |
| III. | (4) | Awareness/special interest service/SDI | 546 | 36.7 |
| IV. | (5) | Information retrieval (search) service | 1101 | 73.9 |
| V. | (7) | Library telephone checkout service | 648 | 43.5 |
| VI. | (1) | Bibliography service | 958 | 64.3 |
| VII. | (2) | Abstract service | 762 | 51.2 |
| VIII. | (8) | Micro-form and associated reader-printer services (e.g., microfilm, microfiche, aperture cards, etc.) | 1000 | 67.2 |
| IX. | (6) | Films and projection service | 724 | 48.6 |
| X. | (9) | Translation, book purchasing, reproduction, etc. | 132 | 8.9 |

*Based upon an N of 1489 for each response, only eleven did not know of TIC.

Q35. Use of Company TIC Table 2-36

How often do you use your company information center?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (4) | Never | 71 | 4.8 |
| II. | (3) | Only on an as-needed basis | 400 | 26.9 |
| III. | (2) | Regularly - infrequently (once a month) | 217 | 14.5 |
| IV. | (1) | Regularly - frequently (twice or more a month) | 801 | 53.8 |
| | | | 1489* | |

*Based on only 1489 users, as eleven did not know of TIC.

Table 2-37

Q36. Evaluation of Company TIC

How would you categorize or describe your company information center as to its satisfaction of your information/data needs?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (5) | Never use information center | 89 | 6.0 |
| II. | (3) | Center is too far from my work location | 58 | 3.9 |
| III. | (2) | Seldom get what is needed | 177 | 11.9 |
| IV. | (4) | Takes too long to get available information | 136 | 9.1 |
| V. | | Entire TIC incomplete | 21 | 1.4 |
| VI. | | Material coverage inadequate | 80 | 5.4 |
| VII. | | Structure and mechanics poor | 21 | 1.4 |
| VIII. | | Personnel inadequate | 8 | 0.5 |
| IX. | | Services inadequate | 27 | 1.8 |
| X. | (1) | Almost always find needed information | 872 | 58.6 |
| | | | 1489* | |

Q37. Use of TAB

Table 2-38

How often do you see or read TAB (Technical Abstract Bulletin)?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (5) | Do not know of TAB | 649 | 43.3 |
| II. | (4) | Never | 325 | 21.7 |
| III. | (3) | About once every 6 months | 203 | 13.5 |
| IV. | (2) | Once every 2 or 3 months | 117 | 7.8 |
| V. | (1) | Every issue or almost every issue | 206 | 13.7 |
| | | | 1500 | |

*Based on only 1489 users, as eleven did not know of TIC.

Q38. Use of STAR Table 2-39

How often do you see or read STAR (Scientific and Technical Aerospace Reports)?

| | | N | Percent |
|---|---|---|---|
| I. | (5) Do not know of STAR | 955 | 63.6 |
| II. | (4) Never | 269 | 17.9 |
| III. | (3) About once every 6 months | 112 | 7.5 |
| IV. | (2) Once every 2 or 3 months | 70 | 4.7 |
| V. | (1) Every issue or almost every issue | 94 | 6.3 |
| | | 1500 | |

Q39. Use of DDC Table 2-40

Do you use DDC (Defense Documentation Center) (ASTIA)?

| | | N | Percent |
|---|---|---|---|
| I. | (3) Do not know of DDC | 473 | 31.5 |
| II. | (2) Know of DDC, but do not use it | 240 | 16.0 |
| II. | (5) Use other sources instead | 85 | 5.7 |
| II. | (4) Not relevant | 23 | 1.5 |
| III. | (1) Yes, including own library going to DDC | 679 | 45.3 |
| | | 1500 | |

Q40A. Use of DOD Specialized Information Centers Table 2-41

Of the DOD specialized information and data centers shown on the following list, which one do you use most often?

| | | | N | Percent |
|---|---|---|---|---|
| I | (29) | Do not know of such centers | 549 | 36.6 |
| II. | (31) | Use other sources instead | 190 | 12.7 |
| II. | (30) | Not relevant | 100 | 6.7 |
| III. | (1-28) | Use centers | 661 | 44.0 |
| | | | 1500 | |

Q40B. Use of DOD Specialized Information Centers, by Center Table 2-42

Of the DOD specialized information and data centers shown on the following list, which one do you use most often?

| | | N | Percent |
|---|---|---|---|
| (1) | Chemical Propulsion Information Agency | 44 | 6.6 |
| (2) | DASA Data Center | 13 | 2.0 |
| (3) | Infrared Information and Analysis Center | 43 | 6.5 |
| (4) | National Oceanographic Data Center | 21 | 3.2 |
| (5) | Vela Seismic Information Analysis Center | 6 | 0.9 |
| (6) | Hibernation Information Exchange | 2 | 0.3 |
| (7) | Military Entomology Information Service | 1 | 0.1 |
| (8) | Human Engineering Information and Analysis Service | 20 | 3.0 |
| (9) | Binary Information Service | 4 | 0.6 |
| (10) | Ceramics and Graphite Information Center | 8 | 1.2 |
| (11) | Defense Metals Information Center | 111 | 16.8 |
| (12) | Electronic Properties Information Center | 14 | 2.1 |
| (13) | Mechanical Properties Data Center | 3 | 0.5 |
| (14) | Plastics Technical Evaluation Center | 17 | 2.5 |
| (15) | Radiation Effects Information Center | 54 | 8.2 |
| (16) | Thermophysical Properties Research Center | 15 | 2.3 |
| (17) | Shock and Vibration Information Center | 43 | 6.5 |
| (18) | Nondestructive Testing Information Analysis Center | 9 | 1.4 |
| (19) | Ballistic Missile Radiation Center | 12 | 1.8 |

Q40B. Use of DOD Specialized Information Centers, by Center — Table 2-42 (Continued)

| | | N | Percent |
|---|---|---|---|
| (20) | Battelle-Defender Information Analysis Center | 23 | 3.5 |
| (21) | Counter-Insurgency Information Analysis Center | 3 | 0.5 |
| (22) | Remote Area Conflict Information Center | 6 | 0.9 |
| (23) | Defense Logistics Studies Information Exchange | 4 | 0.6 |
| (24) | Interservices Data Exchange Program | 109 | 16.5 |
| (25) | Index of Specifications and Standards | 61 | 9.2 |
| (26) | Secretariat for Electronic Test Equipment | 3 | 0.5 |
| (27) | Advisory Group for Electron Devices | 7 | 1.1 |
| (28) | Parts Reliability Information Center | 5 | 0.7 |
| | | 661* | |

Q41. Use of Other Specialized Information Centers — Table 2-43

Do you use any specialized information and/or data centers other than those listed?

| | | N | Percent |
|---|---|---|---|
| I. | (2) No | 1047 | 69.8 |
| II. | (1) Yes | 453 | 30.2 |
| | | 1500 | |

*Based on the 661 users for which the answer to Question 40A was "use centers."

Q42. Encounter of Restriction Table 2-44

Have you encountered any special restrictions which made it difficult to obtain information needed in your work?

| | N | Percent |
|---|---|---|
| I. (2) No | 975 | 65.0 |
| II. (1) Yes | 525 | 35.0 |
| | 1500 | |

Q43. Nature of Restrictions Table 2-45

What was the nature of the restriction(s)?

| | N | Percent |
|---|---|---|
| I. (1) Proprietary | | |
| Unwillingness of vendors to supply drawings and information - fear of commercial competition | 77 | 17.0 |
| Vendors reluctant to provide failure analysis reports | 9 | 2.0 |
| Unwillingness of other companies to supply company classified information | 38 | 8.4 |
| Other companies very jealous of technical processes | 16 | 3.5 |
| Other companies jealous of "developmental" data | 6 | 1.3 |
| "Primes" reluctant to release proprietary information when they sub-contract | 3 | 0.7 |
| Proprietor's reports are evasive and furnish insufficient data | 3 | 0.7 |
| Other companies refuse information on materials composition | 3 | 0.7 |
| "Specs" not available from other companies | 1 | 0.2 |
| Proprietary restrictions preclude knowing what information to request | 3 | 0.7 |
| Government funded programs withheld as proprietary | 13 | 2.9 |
| Limited documents very difficult to obtain. | 8 | 1.8 |
| Miscellaneous | 4 | 0.9 |
| Total (I) | 184 | 40.8 |

Q43. Nature of Restriction(s)? Table 2-45 (Continued)

| | N | Percent |
|---|---|---|
| II. (2) Industrial (Government) Security | | |
| Not having proper need to know | 75 | 16.5 |
| Takes too long to establish need to know | 33 | 7.5 |
| Administrative procedures make it difficult to establish need to know | 27 | 6.0 |
| Establishing need to know too burdensome - decided not to pursue any further | 9 | 2.0 |
| Difficulty in justifying need to know to DOD contracting officer | 6 | 1.3 |
| Can't acquire information to submit unsolicited proposal because of need to know restriction | 4 | 0.9 |
| Establishment of need-to-know jeopardizes competitive position of company | 1 | 0.2 |
| Documents seem to be over-classified | 10 | 2.2 |
| Unable to get cleared at proper level | 9 | 2.0 |
| Security requirements keep documents in dark | 8 | 1.8 |
| Difficulty in getting data because of restrictions imposed by (a) DOD and Military Services | | 7.5 |
| (b) NASA, AEC and STATE | | 3.1 |
| Intelligence data almost impossible to obtain | 4 | 0.9 |
| Classified documents take too long to get | 33 | 7.5 |
| Total (II) | 267 | 59.2 |
| Total (I) | 184 | 40.8 |
| | 451* | 100.0 |

*Based on the 451 appropriate narrative answers, of the 525 answers to the question from the users for which the answer to Question 42 was "yes." Those two-way frequency distributions involving Q43 are based on the 525 non-narrative answers to the questions which are not as accurate as the narrative answers.

Q44. Use of English Abstracts or Translations Table 2-46

Do you use English translations or English abstracts of foreign literature?

| | N | Percent |
|---|---|---|
| I. (2) No | 904 | 60.3 |
| II. (1) Yes | 596 | 39.7 |
| | 1500 | |

Q45. Encounter of Difficulties Table 2-47

With respect to all the tasks you have worked on over the last year, did you have any difficulty obtaining or locating technical information needed to perform or complete these tasks?

| | N | Percent |
|---|---|---|
| I. (2) No | 861 | 57.4 |
| II. (1) Yes | 639 | 42.6 |
| | 1500 | |

Q46. Nature of Difficulties Table 2-48

Would you explain the difficulty?

| | N | Percent |
|---|---|---|
| I. Utility of Information | 48 | 7.6 |
| Internal to Company | | 1.0 |
| External to Company | | 4.0 |
| Both | | 2.6 |
| II. Timely Acquisition of Information | 334 | 53.2 |
| Internal to Company | | 16.6 |
| External to Company | | 27.6 |
| Both | | 9.0 |
| III. Timely Awareness of Information | 246 | 39.2 |
| Internal to Company | | 13.4 |
| External to Company | | 13.5 |
| Both | | 12.4 |
| Other | 11 | |
| | 639* | |

*Based on the 639 users for which the answer to Question 45 was "yes."

Q47. Solutions for Difficulties* Table 2-49

Can you offer a possible solution to the problem?

| | | N | Percent |
|---|---|---|---|
| I. | Implementation of Available Procedures or Administrative Action | 80 | 17.2 |
| II. | Publicity and Training | 36 | 7.7 |
| III. | More Professional Contact | 19 | 4.1 |
| IV. | Improvement of Subject Reporting and Coverage | 35 | 7.5 |
| IV. | Improvement of Subject | 18 | 3.9 |
| IV. | Improvement of Organization of Subject Data or Documentation | 11 | 2.4 |
| V. | Improvement of Indexing, Abstraction and Classification | 90 | 19.3 |
| VI. | Use of Periodic Workshops Information Centers, Clearing Houses, Symposium or Other Central Source for Information | 109 | 23.4 |
| VII. | Improvement of Dissemination Techniques | 17 | 3.6 |
| VII. | Improvement of Dissemination by Making more Copies of Documentation Available | 16 | 3.4 |
| VII. | Improvement of Dissemination by Reducing Lag Time | 11 | 2.4 |
| VIII. | Use of Automatic Data Processing | 24 | 5.1 |
| | Total | 466* | |

*These solutions apply to the difficulties indicated in Question 46. Based on the 466 users who offered solutions, out of the 628 users indicating appropriate difficulties in Question 46.

Q48. User's Year of Birth/Age Table 2-50

In what year were you born?

| | Year of Birth | Age | N | Percent |
|---|---|---|---|---|
| I. | 1896 - 1905 | 60 - 69 | 18 | 1.2 |
| II. | 1906 - 1915 | 50 - 59 | 141 | 9.4 |
| III. | 1916 - 1925 | 40 - 49 | 463 | 30.9 |
| IV. | 1926 - 1935 | 30 - 39 | 666 | 44.4 |
| V. | 1936 - 1945 | 20 - 29 | 212 | 14.1 |
| | | | 1500 | |

Q49. Number of Personnel Supervised by User Table 2-51

How many technical personnel do you supervise?

| | | N | Percent |
|---|---|---|---|
| | None | 604 | 40.3 |
| I. | 1 - 5 | 471 | 31.4 |
| II. | 6 - 10 | 202 | 13.5 |
| III. | 11 - 15 | 61 | 4.1 |
| IV. | 16 - 20 | 34 | 2.3 |
| V. | 21 - 25 | 26 | 1.7 |
| VI. | 26 - 30 | 21 | 1.4 |
| VII. | 31 - 35 | 13 | 0.9 |
| VIII. | 36 - 40 | 7 | 0.5 |
| IX. | 41 - 45 | 6 | 0.4 |
| X. | 46 - 50 | 8 | 0.5 |
| XI. | 51 - 75 | 18 | 1.2 |
| XII. | 76 - 100 | 9 | 0.6 |
| XIII. | 101 - 200 | 13 | 0.8 |
| XIV. | More than 200 | 7 | 0.4 |
| | | 1500 | |

Q50A. User's Highest Degree Table 2-52

What is your highest college degree?

| | | N | Percent |
|---|---|---|---|
| I. (6) | None | 195 | 13.1 |
| II. (1) | Associate's | 28 | 1.9 |
| III. (2) | Bachelor's | 798 | 53.2 |
| IV. (3) | Master's | 296 | 19.7 |
| V. (4) | Professional (EdD LLB, Engr) | 26 | 1.7 |
| VI. (5) | Doctors | 157 | 10.4 |
| | | 1500 | |

Q50B. Year of User's Highest Degree Table 2-53

When did you get your highest degree?

| | | N | Percent |
|---|---|---|---|
| I. | 1921 - 1925 | 2 | 0.2 |
| II. | 1926 - 1930 | 17 | 1.3 |
| III. | 1931 - 1935 | 29 | 2.2 |
| IV. | 1936 - 1940 | 70 | 5.4 |
| V. | 1941 - 1945 | 75 | 5.8 |
| VI. | 1946 - 1950 | 205 | 15.7 |
| VII. | 1951 - 1955 | 285 | 21.8 |
| VIII. | 1956 - 1960 | 343 | 26.3 |
| IX. | 1961 - 1965 | 278 | 21.3 |
| | | *1304 | |

*Based on the 1304 users for which the answer to Question 50A was other than "none."

Q50C. Field of User's Highest Degree
In what field is your highest degree?

Table 2-54

| | N | Percent |
|---|---|---|
| I. No degree | 196 | 13.1 |
| (00) No degree | | |
| II. Behavioral and Social Sciences | 88 | 5.9 |
| (01) Arts | 1 | 0.1 |
| (17) Business and Business Administration | 27 | 1.8 |
| (40) Economics | 6 | 0.4 |
| (41) Education | 9 | 0.6 |
| (01) English | 3 | 0.2 |
| (01) General Studies | 1 | 0.1 |
| (45) Geography | 1 | 0.1 |
| (44) History | 4 | 0.2 |
| (01) Journalism | 2 | 0.1 |
| (01) Languages | 2 | 0.1 |
| (43) Law | 3 | 0.2 |
| (01) Library Science | 1 | 0.1 |
| (01) Philosophy | 1 | 0.1 |
| (42) Political Science | 6 | 0.4 |
| (06) Psychology | 19 | 1.3 |
| (46) Sociology | 2 | 0.1 |
| III. Biological and Medical Sciences | 26 | 1.7 |
| (02) Biology | 6 | 0.4 |
| (37) Dentistry | 1 | 0.1 |
| (39) Medicine | 11 | 0.7 |
| (35) Pharmacy | 1 | 0.1 |
| (31) Physiology | 4 | 0.2 |
| (39) Public Health | 1 | 0.1 |
| (38) Zoology | 2 | 0.1 |
| IV. Agriculture and Agricultural Engineering (27 and 34) | 2 | 0.1 |
| V. General Engineering | 48 | 3.2 |
| (07) Engineering Management | 5 | 0.3 |
| (07) General Engineering | 26 | 1.8 |
| (12) Industrial Engineering | 15 | 1.0 |
| (24) Systems Engineering | 2 | 0.1 |

Q50C. Field of User's Highest Degree

Table 2-54
(Continued)

| | N | | Percent | |
|---|---|---|---|---|
| VI. Civil Engineering | | 35 | | 2.4 |
| (26) Architectural Engineering | 1 | | 0.1 | |
| (10) Civil Engineering | 32 | | 2.1 | |
| (15) Military Science | 1 | | 0.1 | |
| (10) Naval Architectural Engineering | 1 | | 0.1 | |
| VII. Mechanical Engineering | | 229 | | 15.3 |
| (25) Automotive Engineering | 2 | | 0.1 | |
| (13) Engineering Mechanics | 2 | | 0.1 | |
| (21) Maintenance Engineering | 1 | | 0 1 | |
| (13) Marine Engineering | 1 | | 0.1 | |
| (13) Mechanical Engineering | 223 | | 14.9 | |
| VIII. (09) Chemical Engineering | | 63 | | 4.2 |
| IX. Aeronautical Engineering | | 116 | | 7.7 |
| (20) Aeronautical Engineering | 96 | | 6.4 | |
| (08) Aeronautics | 6 | | 0.4 | |
| (08) Aerospace Engineering | 14 | | 0.9 | |
| X. (11) Electrical Engineering | | 332 | | 22.1 |
| XI. (03) Chemistry | | 109 | | 7.3 |
| XII. Earth Sciences | | 38 | | 2.6 |
| (23) Ceramic Engineering | 5 | | 0.3 | |
| (33) Geology and Mineralogy | 9 | | 0.6 | |
| (36) Geophysics | 1 | | 0.1 | |
| (14) Metallurgy and Metallurgical Engineering | 21 | | 1.4 | |
| (14) Mining Engineering | 1 | | 0.1 | |
| (22) Petroleum Engineering | 1 | | 0.1 | |
| XIII. Physical Science | | 137 | | 9.0 |
| (16) Applied Science | 2 | | 0.1 | |
| (18) Engineering Science | 5 | | 0.3 | |
| (16) General Science | 4 | | 0.2 | |
| (32) Meteorology and Astronomy | 2 | | 0.1 | |
| (05) Physics | 124 | | 8.3 | |
| XIV. (04) Mathematical Science | | 81 | | 5.4 |
| | | 1500 | | |

Q51. Job Experience of User — Table 2-55

About how long have you been doing your present kind of work?

| | | N | Percent |
|---|---|---|---|
| I. | 0 - 5 years | 480 | 32.0 |
| II. | 6 - 10 years | 438 | 29.2 |
| III. | 11 - 15 years | 296 | 19.7 |
| IV. | 16 - 20 years | 154 | 10.2 |
| V. | 21 - 25 years | 70 | 4.7 |
| VI. | 26 - 30 years | 40 | 2.7 |
| VII. | More than 30 years | 22 | 1.5 |
| | | 1500 | |

Q52. Company Experience of User — Table 2-56

About how long have you been associated with this company?

| | | N | Percent |
|---|---|---|---|
| I. | 0 - 5 years | 488 | 32.5 |
| II. | 6 - 10 years | 487 | 32.5 |
| III. | 11 - 15 years | 308 | 20.5 |
| IV. | 16 - 20 years | 124 | 8.3 |
| V. | 21 - 25 years | 49 | 3.3 |
| VI. | 26 - 30 years | 31 | 2.0 |
| VII. | More than 30 years | 13 | 0.9 |
| | | 1500 | |

Q54. Type of Work Activity Table 2-57

In what TYPE of activity are you primarily engaged?

| | | N | Percent |
|---|---|---|---|
| I. | (5) Technical evaluation | 183 | 12.2 |
| II. | (4) Scientific and engineering (nonmanagement) | 823 | 54.9 |
| III. | (2) Technical management | 171 | 11.4 |
| IV. | (1) Administrative management | 28 | 1.9 |
| V. | (3) Both administrative and technical management | 295 | 19.6 |
| | | 1500 | |

Q55. Kind of Work Position Table 2-58

What kind of work do you do?

| | | N | Percent |
|---|---|---|---|
| I. | (2) Research - basic | 65 | 4.3 |
| II. | (1) Research - applied | 244 | 16.3 |
| III. | (11) System analysis | 149 | 9.9 |
| IV. | (3) Development - advanced | 146 | 9.7 |
| V. | (4) Development - engineering | 282 | 18.8 |
| VI. | (5) Development - operational system | 139 | 9.3 |
| VII. | (6) R&D support | 151 | 10.1 |
| VIII. | (7) Test or evaluation | 123 | 8.2 |
| IX. | (8) Production processes | 69 | 4.6 |
| X. | (9) Production end-items | 42 | 2.8 |
| XI. | (10) Reliability or quality control | 63 | 4.2 |
| XII. | (12) Customer relations | 26 | 1.7 |
| | (13) Other | 1 | 0.1 |
| | | 1500 | |

Q56A. Field of Work Position (Grouped) Table 2-59

What is the field of your work?

| | N | | Percent | |
|---|---|---|---|---|
| I. Production, Management and Social Sciences | | 159 | | 10.6 |
| (32) Miscellaneous arts and sciences | 17 | | 1.1 | |
| (23) Personnel and training | 10 | | 0.7 | |
| (26) Production and management | 120 | | 8.0 | |
| (28) Psychology and human engineering | 12 | | 0.8 | |
| II. Medical Sciences | | 30 | | 2.0 |
| (16) Medical sciences | 30 | | 2.0 | |
| III. Mechanical, Industrial, Civil and Marine Engineering | | 84 | | 5.6 |
| (11) Ground transportation equipment | 5 | | 0.3 | |
| (13) Installations and constructions | 31 | | 2.1 | |
| (18) Military sciences and operations | 31 | | 2.1 | |
| (24) Photography and other reproduction processes | 2 | | 0.1 | |
| (29) Quartermaster equipment and supplies | 0 | | 0.0 | |
| (31) Ships and marine equipment | 12 | | 0.8 | |
| (33) Transportation | 3 | | 0.2 | |
| IV. Aeronautics and Space Technology | | 333 | | 22.5 |
| (01) Aircraft and flight equipment | 208 | | 13.9 | |
| (12) Guided Missiles | 106 | | 7.1 | |
| (19) Navigation | 22 | | 1.5 | |
| V. Electronics and Electrical Engineering | | 400 | | 26.7 |
| (05) Communications | 24 | | 1.6 | |
| (06) Detection | 14 | | 0.9 | |
| (07) Electrical equipment | 28 | | 1.9 | |
| (08) Electronics, electronic equipment | 334 | | 22.3 | |
| VI. Chemical Science and Materials | | 159 | | 10.6 |
| (03) Chemical warfare equipment and materials | 3 | | 0.3 | |
| (04) Chemistry | 74 | | 4.9 | |
| (10) Fuels and combustion | 6 | | 0.4 | |
| (14) Materials (nonmetallic) | 39 | | 2.6 | |
| (17) Metallurgy | 23 | | 1.5 | |
| (22) Ordnance | 14 | | 0.9 | |
| VII. Physical Science | | 187 | | 12.4 |
| (02) Astronomy, geophysics and geography | 12 | | 0.8 | |
| (09) Fluid mechanics | 29 | | 1.9 | |
| (20) Nuclear physics and nuclear chemistry | 10 | | 0.7 | |
| (21) Nuclear propulsion | 2 | | 0.1 | |
| (25) Physics | 60 | | 4.0 | |
| (27) Propulsion systems | 74 | | 4.9 | |
| VIII. Research and Research Equipment | | 114 | | 7.6 |
| (30) Research and research equipment (including computer science) | 114 | | 7.6 | |
| IX. Mathematics | | 27 | | 1.8 |
| (15) Mathematics | 27 | | 1.8 | |
| Other | | 4 | | 0.2 |
| (35) Other | 4 | | 0.2 | |
| | 1500 | | | |

Q56B. Field of Work Position (Ungrouped) Table 2-60

What is the FIELD of your work?

| | N | Percent |
|---|---|---|
| (1) Aircraft and flight equipment | 208 | 13.9 |
| (2) Astronomy, geophysics and geography | 12 | 0.8 |
| (3) Chemical warfare equipment and materials | 3 | 0.3 |
| (4) Chemistry | 74 | 4.9 |
| (5) Communications | 24 | 1.6 |
| (6) Detection | 14 | 0.9 |
| (7) Electrical equipment | 28 | 1.9 |
| (8) Electronics, electronic equipment | 334 | 22.3 |
| (9) Fluid mechanics | 29 | 1.9 |
| (10) Fuels and combustion | 6 | 0.4 |
| (11) Ground transportation equipment | 5 | 0.3 |
| (12) Guided Missiles | 106 | 7.1 |
| (13) Installations and constructions | 31 | 2.1 |
| (14) Materials (nonmetallic) | 39 | 2.6 |
| (15) Mathematics | 27 | 1.8 |
| (16) Medical sciences | 30 | 2.0 |
| (17) Metallurgy | 23 | 1.5 |
| (18) Military sciences and operations | 31 | 2.1 |
| (19) Navigation | 22 | 1.5 |
| (20) Nuclear physics and nuclear chemistry | 10 | 0.7 |
| (21) Nuclear propulsion | 2 | 0.1 |
| (22) Ordnance | 14 | 0.9 |
| (23) Personnel and training | 10 | 0.7 |
| (24) Photography and other reproductive processes | 2 | 0.1 |
| (25) Physics | 60 | 4.0 |
| (26) Production and management | 120 | 8.0 |
| (27) Propulsion systems | 74 | 4.9 |
| (28) Psychology and human engineering | 12 | 0.8 |
| (29) Quartermaster equipment and supplies | 0 | 0.0 |
| (30) Research and research equipment (including computer science) | 114 | 7.6 |
| (31) Ships and marine equipment | 12 | 0.8 |
| (32) Miscellaneous arts and sciences | 17 | 1.1 |
| (33) Transportation | 3 | 0.2 |
| (35) Other | 4 | 0.2 |
| | 1500 | |

Q57. User's Job Description Table 2-61

Description of respondent's job:

| MOS | Description | N | Percent |
|---|---|---|---|
| 0015 | Operations Research | 16 | 1.1 |
| 0101 | Social Science | 2 | 0.1 |
| 0110 | Economist | 5 | 0.3 |
| 0131 | International Relations | 2 | 0.1 |
| 0132 | Intelligence | 4 | 0.3 |
| 0170 | History | 1 | 0.1 |
| 0180 | Psychology | 18 | 1.2 |
| 0201 | Personnel Administration | 1 | 0.1 |
| 0222 | Occupational Analysis | 1 | 0.1 |
| 0330 | Digital Computer Systems Administration | 12 | 0.8 |
| 0331 | Digital Computer Programming | 41 | 2.7 |
| 0332 | Digital Computer Systems Operation | 7 | 0.4 |
| 0333 | Peripheral Computer Equipment Operation | 5 | 0.3 |
| 0334 | Digital Computer Systems Analysis | 29 | 1.9 |
| 0340 | Program Management | 45 | 3.0 |
| 0341 | Administrative Assistant and Officer | 9 | 0.6 |
| 0393 | Communications Specialist | 1 | 0.1 |
| 0401 | Biology | 5 | 0.3 |
| 0403 | Microbiology | 1 | 0.1 |
| 0413 | Physiology | 3 | 0.2 |
| 0525 | Accounting Technician | 1 | 0.1 |
| 0602 | Medical Officer | 9 | 0.6 |
| 0615 | Public Health Nurse | 1 | 0.1 |
| 0660 | Pharmacist | 1 | 0.1 |
| 0680 | Dental Officer | 1 | 0.1 |
| 0801 | General Engineering | 58 | 3.9 |
| 0802 | Engineering Technician | 77 | 5.1 |
| 0803 | Safety Engineering | 2 | 0.1 |
| 0805 | Maintenance | 2 | 0.1 |
| 0806 | Materials Engineering | 11 | 0.7 |
| 0809 | Construction Inspection | 2 | 0.1 |
| 0810 | Civil Engineering | 5 | 0.3 |

Q57. User's Job Description

Table 2-61 (Continued)

| MOS | Description | N | Percent |
|---|---|---|---|
| 0811 | Construction Engineering | 3 | 0.2 |
| 0812 | Structural Engineering | 5 | 0.3 |
| 0818 | Engineering Drafting | 2 | 0.1 |
| 0830 | Mechanical Engineering | 82 | 5.5 |
| 0840 | Nuclear Engineering | 3 | 0.2 |
| 0850 | Electrical Engineering | 23 | 1.5 |
| 0855 | Electronic Engineering | 250 | 16.7 |
| 0856 | Electronic Technician | 21 | 1.4 |
| 0861 | Aerospace Engineering | 340 | 22.7 |
| 0870 | Marine Engineering | 7 | 0.4 |
| 0871 | Naval Architecture | 1 | 0.1 |
| 0881 | Petroleum Production and Natural Gas Engineering | 1 | 0.1 |
| 0892 | Ceramic Engineering | 5 | 0.3 |
| 0893 | Chemical Engineering | 38 | 2.4 |
| 0896 | Industrial Engineering | 19 | 1.3 |
| 0897 | Valuation Engineering | 1 | 0.1 |
| 1001 | General Arts and Information | 2 | 0.1 |
| 1083 | Technical Writing and Editing | 7 | 0.4 |
| 1101 | General Business and Industry | 18 | 1.2 |
| 1102 | Contract and Procurement | 7 | 0.5 |
| 1103 | Industrial Property Administration | 1 | 0.1 |
| 1140 | Trade Specialist | 1 | 0.1 |
| 1150 | Industrial Specialist | 4 | 0.3 |
| 1152 | Production Control | 24 | 1.6 |
| 1220 | Patent Administration | 1 | 0.1 |
| 1222 | Patent Attorney | 1 | 0.1 |
| 1310 | Physics | 68 | 4.5 |
| 1311 | Physical Science Technician | 1 | 0.1 |
| 1313 | Geophysics | 5 | 0.3 |
| 1320 | Chemistry | 79 | 5.3 |
| 1321 | Metallurgy | 18 | 1.2 |
| 1330 | Astronomy and Space Science | 2 | 0.1 |
| 1340 | Meteorology | 1 | 0.1 |
| 1350 | Geology | 2 | 0.1 |
| 1360 | Oceanography | 1 | 0.1 |

Q57. User's Job Description

Table 2-61 (Continued)

| MOS | Description | N | Percent |
|---|---|---|---|
| 1410 | Librarian | 6 | 0.4 |
| 1520 | Mathematics | 18 | 1.2 |
| 1529 | Mathematical Statistician | 3 | 0.2 |
| 1530 | Statistician | 2 | 0.1 |
| 1701 | General Education and Training | 1 | 0.1 |
| 1710 | Educational and Vocational Training | 1 | 0.1 |
| 1712 | Instruction | 1 | 0.1 |
| 1720 | Educational Research and Program | 2 | 0.1 |
| 1901 | General Commodities Quality Control and Inspection | 3 | 0.2 |
| 1903 | Quality Control and Inspection Management | 14 | 0.9 |
| 1915 | Chemical Quality Control and Inspection | 2 | 0.1 |
| 1920 | Materials Quality Control and Inspection | 1 | 0.1 |
| 1936 | Electronic Equipment Quality Control and Inspection | 10 | 0.7 |
| 1942 | Aircraft Quality Control and Inspection | 1 | 0.1 |
| 1950 | Missile Quality Control and Inspection | 1 | 0.1 |
| 1955 | Space System Quality Control | 7 | 0.4 |
| 1961 | Calibration and Measurement Quality Control and Inspection | 1 | 0.1 |
| 2090 | Publications Supply | 1 | 0.1 |
| 2101 | General Transportation | 1 | 0.1 |
| 2150 | Transportation Operations | 2 | 0.1 |
| | | 1500 | |

Q58. User's Equivalent Government Service (GS) Rating Table 2-62

What is your equivalent GS rating?

| | | | | N | Percent |
|---|---|---|---|---|---|
| I. | (01) | GS-6 | (under 6,000) | 0 | 0.0 |
| II. | (02) | GS-9 | (6,000 - 7,999) | 28 | 1.9 |
| III. | (03) | GS-11 | (8,000 - 10,249) | 258 | 17.2 |
| IV. | (04) | GS-12 | (10,250 - 11,999) | 289 | 19.2 |
| V. | (05) | GS-13 | (12,000 - 13,999) | 286 | 19.0 |
| VI. | (06) | GS-14 | (14,000 - 16,499) | 294 | 19.6 |
| VII. | (07) | GS-15 | (16,500 - 18,999) | 184 | 12.3 |
| VIII. | (08) | GS-16 | (19,000 - 20,999) | 70 | 4.7 |
| IX. | (09) | GS-17 | (21,000 - 23,999) | 49 | 3.3 |
| X. | (10) | GS-18 | (24,000 - 26,999) | 25 | 1.7 |
| XI. | (11) | Sp A | (27,000 - 29,999) | 8 | 0.5 |
| XII. | (12) | Sp B | (30,000 - 34,999) | 5 | 0.3 |
| XIII. | (13) | Sp C | (over 35,000) | 4 | 0.3 |
| | | | | 1500 | |

Q59. Interviewer's Assessment of User's Information Needs Table 2-63

How would you, the interviewer, characterize the respondent's need for external scientific and technical information and data?

| | | | N | Percent |
|---|---|---|---|---|
| I. | (3) | Insignificant need | 290 | 19.3 |
| II. | (2) | Moderate need | 728 | 48.6 |
| III. | (1) | Large need | 482 | 32.1 |
| | | | 1500 | |

Q61. Interviewer's Assessment of Difficulty in use of Information Table 2-64

At the beginning of the task described in response to Question 1, was the choice of method or procedure for using the needed information:

| | | N | Percent |
|---|---|---|---|
| I. | (1) Obvious or prescribed? | 244 | 16.3 |
| II. | (2) Entirely or largely independent of professional judgment? | 179 | 11.9 |
| III. | (3) Entirely or largely dependent upon professional judgment? | 973 | 64.9 |
| IV. | (4) Difficult, because methods and procedures were lacking ? | 104 | 6.9 |
| | | 1500 | |

Q62. Interviewer's Assessment of Difficulty in Acquisition of Information Table 2-65

When the respondent started the task described in response to Question 1, was a suitable method or procedure of obtaining needed information:

| | | N | Percent |
|---|---|---|---|
| I. | (1) Quite clear or obvious? | 498 | 33.2 |
| II. | (2) Fairly clear or obvious? | 765 | 51.0 |
| III. | (3) Neither clear nor obvious ? | 237 | 15.8 |
| | | 1500 | |

Q63. Interviewer's Assessment of Task Creativity Table 2-66

Would you consider the output of the task:

| | | N | Percent |
|---|---|---|---|
| I. | (1) Communication of existing information ? | 55 | 3.7 |
| II. | (2) Rearrangement of existing information, with little evaluation or analysis ? | 283 | 18.9 |
| III. | (3) Extensive evaluation and analysis of existing data? | 548 | 36.5 |
| IV. | (4) Creation of new information, systems or hardware | 614 | 40.9 |
| | | 1500 | |

# 3. TWO-WAY FREQUENCY DISTRIBUTIONS

## 3.1 INTERPRETATION

See Appendix 15 of Volume II and Reference 5 for a description of BMD 08D, the computer program employed for the compilation of frequency distributions.

The distribution of the percent of answers to a pair of questions that corresponds to each pair of question responses is called a two-way frequency distribution. The following illustration provides a guide to the two-way frequency distributions in this report.

Illustration: Q13 vs Q9 (See Figure 3-1)

(1) Q13 is cross tabulated with Q9: Question 13's responses are listed vertically and identified at the left of the table. Question 9's responses are listed horizontally and identified at the bottom of the table.

(2) Variable 2 is cross tabulated with Variable 1: The computer assigned Q13 and Q9 to be Variable 2 and Variable 1, respectively.

(3) Number of Replications, 5359: Number of cases (answers) considered by the computer as controlled by input specifications.

(4) Variable Maximum and Minimum (as specified): The column of numbers to the extreme left indicates the two variables, Q13 (Variable 2) and Q9 (Variable 1). The other columns snow the maximum and minimum limits established by computer input specifications. These limits may reduce the number of cases for a two-way frequency distribution.

(5) (2): Refers to the computer assigned Variable 2 for Q13. See (2) above.

(6) Q13: It is Variable 2. The displayed figures in the table represent the cross tabulated results with Variable 1, Q9. See (1) above.

(7) (1): Refers to the computer assigned Variable 1 for Q9. See (2) above.

(8) Q9: It is Variable 1. The displayed figures in the table represent the cross tabulated results with Variable 2, Q13. See (1) above.

(9) Table Characteristics

(6:) Refers to the re-ordered (Roman Numeral) code 6, (i.e., VI) response to Q13 and the indicated code response for Q9 in the display. The horizontal figures along this row (line) represent the number of answers having code 6 for Q13 and codes 1 through 12, respectively, for Q9. Further, the extreme right value in this row represents the total number of answers having code 6 for Q13.

(86:) Indicates that 86 information chunks had responses of code 6 for Q13 and code 1 for Q9, respectively. The figure "1", indicating code 1, is

found at the foot of the column. The count of 86 is the cell frequently meeting the double condition of code 6 response for Q13 and code 1 response for Q9.

(T:) Identifies this row of figures as the percentage that the corresponding cell frequency is of the GRAND TOTAL for the distribution.

(2:) Indicates that the cell frequency count of 86 is 2 percent of the GRAND TOTAL of 5,354.

(R:) Identifies this row of figures as the percentage that the corresponding cell frequency is of the ROW TOTAL. The ROW TOTAL for Q13, code 6 is 998.

(9:) Indicates that the cell frequency of 86 is 9 percent of the ROW TOTAL of 998.

(C:) Identifies this row of figures as the percentage that the corresponding cell frequency is of the COLUMN TOTAL. The COLUMN TOTAL for Q9, code 1 is 219.

(39:) Indicates that the cell frequency of 86 is 39 percent of the COLUMN TOTAL of 219.

(998) Represents the ROW TOTAL entry count for Q13, code 6.

(19:) It is the sum of the percentages in the T row, which is the same as the percentage that the ROW TOTAL is of the GRAND TOTAL.

(100:) It is the sum of the percentages in the R row, which is 100 by definition.

(19:) It is the percentage that the ROW TOTAL is of the GRAND TOTAL, which is the same as the sum of the percentages in the T row.

(219) Represents the COLUMN TOTAL entry count for Q9, code 1.

(4:) It is both the sum of the percentages in the T column, and the percentage that the COLUMN TOTAL is of the GRAND TOTAL.

Grand Total: Total sample size (or cases) for Q13 vs Q9.

Chi-Square (of Table) and df: As a function of its degrees of freedom (df), Chi-Square measures the departure of the corresponding answers, to the two questions, from being independent.

Values Not Entered 5: Represents the five cases not entered into the total count. If the number of cases deleted by the computer is greater than 50, the missing cases will not be listed.

Case No.: It is the sequential entry number assigned by the computer and does not mean the Interview Guide Identification Number.

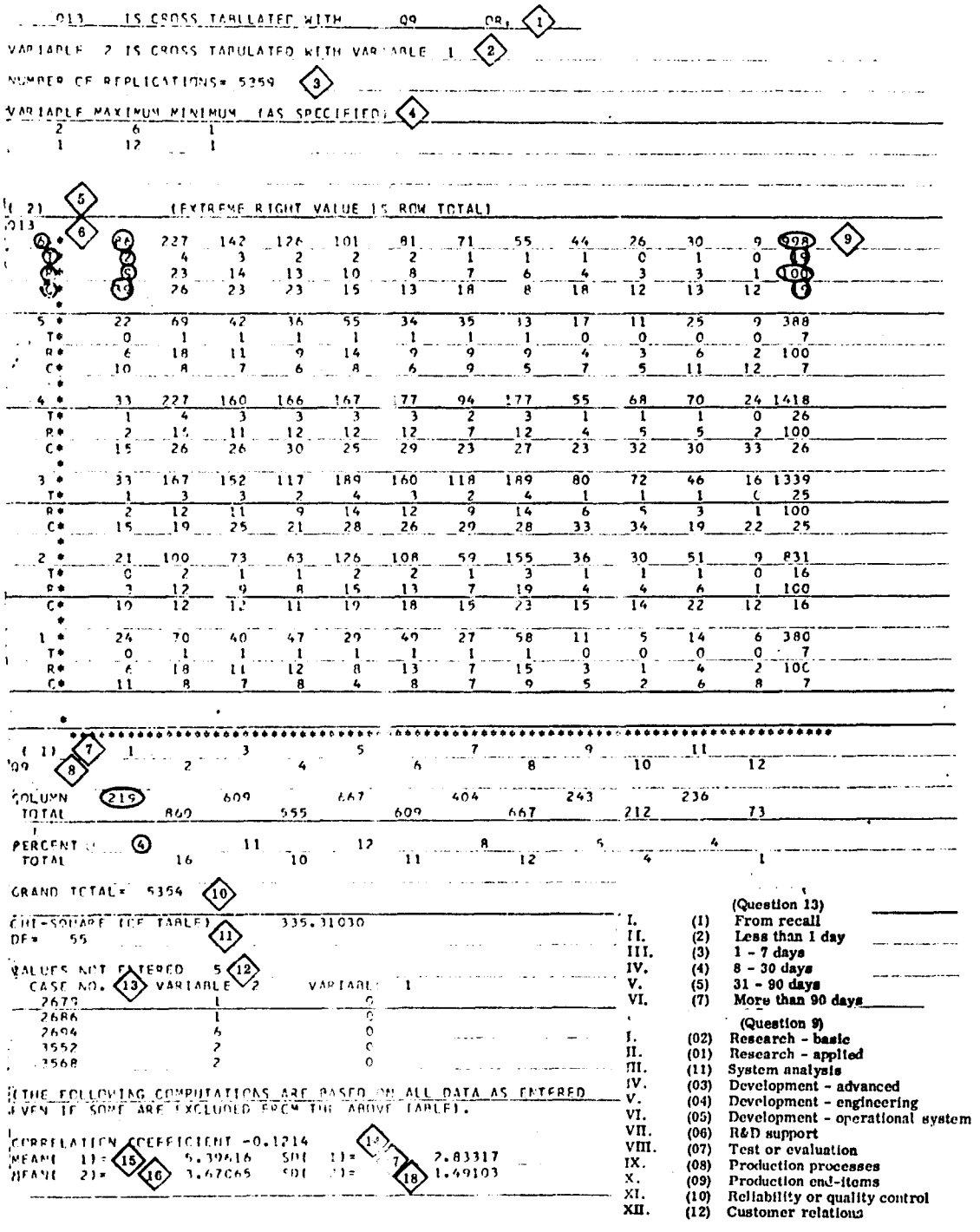
(14) Correlation Coefficient: Measures the degree of linear relationship between corresponding answers to the two questions. The closer it approaches an absolute value of 1.00, the greater is this degree. Conversely, the closer it approaches to 0, the less is this degree.

(15) Mean (1): Refers to Variable 1, Q13. It indicates the arithmetic mean of the sample of 5,359 for Q13, coded 1 through 6. The mean measures the location of the "center" of the one-way frequency distribution for Q13. The zero values are included in this computation even though listed in the "Values Not Entered" section of the table.

(16) Mean (2): Refers to Variable 2, Q9. It indicates the arithmetic mean of the sample of 5,354 for Q9 codes 0 through 12. See (15) above.

(17) SD (1): Refers to Variable 1, Q13. It indicates the standard deviation of the total of 5,359 for Q13, codes 1 through 6, respective numerical values. The standard deviation measures the "spread" of the one-way frequency distribution for Q13 about its mean. The zero values are included in this computation even though listed in the "Values Not Entered" section of the table.

(18) SD (2): Refers to Variable 2, Q9. It indicates the standard deviation of the sample of 5,354 for Q9, codes 0 through 12. See (15) above.



Q13 IS CROSS TABULATED WITH Q9 Q8. (1)

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1 (2)

NUMBER OF REPLICATIONS= 5359 (3)

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED) (4)

| | | |
|---|---|---|
| 2 | 6 | 1 |
| 1 | 12 | 1 |

( 2) (5) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q13 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (6) * | (7) | 227 | 142 | 126 | 101 | 81 | 71 | 55 | 44 | 26 | 30 | 9 | 998 (9) |
| (8) * | | 4 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 1 | 0 | 13 |
| (8) * | (8) | 23 | 14 | 13 | 10 | 8 | 7 | 6 | 4 | 3 | 3 | 1 | 100 |
| (8) * | (10) | 26 | 23 | 23 | 15 | 13 | 18 | 8 | 18 | 12 | 13 | 12 | 5 |
| 5 * | | 22 | 69 | 42 | 36 | 55 | 34 | 35 | 33 | 17 | 11 | 25 | 9 388 |
| T* | | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 7 |
| R* | | 6 | 18 | 11 | 9 | 14 | 9 | 9 | 9 | 4 | 3 | 6 | 2 100 |
| C* | | 10 | 8 | 7 | 6 | 8 | 6 | 9 | 5 | 7 | 5 | 11 | 12 7 |
| 4 * | | 33 | 227 | 160 | 166 | 167 | 177 | 94 | 177 | 55 | 68 | 70 | 24 1418 |
| T* | | 1 | 4 | 3 | 3 | 3 | 3 | 2 | 3 | 1 | 1 | 1 | 0 26 |
| R* | | 2 | 14 | 11 | 12 | 12 | 12 | 7 | 12 | 4 | 5 | 5 | 2 100 |
| C* | | 15 | 26 | 26 | 30 | 25 | 29 | 23 | 27 | 23 | 32 | 30 | 33 26 |
| 3 * | | 33 | 167 | 152 | 117 | 189 | 160 | 118 | 189 | 80 | 72 | 46 | 16 1339 |
| T* | | 1 | 3 | 3 | 2 | 4 | 3 | 2 | 4 | 1 | 1 | 1 | 0 25 |
| R* | | 2 | 12 | 11 | 9 | 14 | 12 | 9 | 14 | 6 | 5 | 3 | 1 100 |
| C* | | 15 | 19 | 25 | 21 | 28 | 26 | 29 | 28 | 33 | 34 | 19 | 22 25 |
| 2 * | | 21 | 100 | 73 | 63 | 126 | 108 | 59 | 155 | 36 | 30 | 51 | 9 831 |
| T* | | 0 | 2 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 0 16 |
| R* | | 3 | 12 | 9 | 8 | 15 | 13 | 7 | 19 | 4 | 4 | 6 | 1 100 |
| C* | | 10 | 12 | 12 | 11 | 19 | 18 | 15 | 23 | 15 | 14 | 22 | 12 16 |
| 1 * | | 24 | 70 | 40 | 47 | 29 | 49 | 27 | 58 | 11 | 5 | 14 | 6 380 |
| T* | | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 7 |
| R* | | 6 | 18 | 11 | 12 | 8 | 13 | 7 | 15 | 3 | 1 | 4 | 2 100 |
| C* | | 11 | 8 | 7 | 8 | 4 | 8 | 7 | 9 | 5 | 2 | 6 | 8 7 |

| ( 1) (7) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q9 (8) | | | | | | | | | | | | |
| COLUMN TOTAL | (219) | 860 | 609 | 555 | 667 | 609 | 404 | 667 | 243 | 212 | 236 | 73 |
| PERCENT OF TOTAL | (4) 16 | 11 | 10 | 12 | 11 | 8 | 12 | 5 | 4 | 4 | 1 | |

GRAND TOTAL= 5354 (10)

CHI-SQUARE (OF TABLE) 335.31030

DF= 55 (11)

VALUES NOT ENTERED 5 (12)

| CASE NO. (13) | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 2679 | 1 | 0 |
| 2686 | 1 | 0 |
| 2694 | 6 | 0 |
| 3552 | 2 | 0 |
| 3568 | 2 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.1214 (14)

MEAN 1)= (15) 5.39616 SDE 1)= (17) 2.83317

MEAN 2)= (16) 3.47065 SDE 2)= (18) 1.49103

(Question 13)

| | | |
|---|---|---|
| I. | (1) | From recall |
| II. | (2) | Less than 1 day |
| III. | (3) | 1 - 7 days |
| IV. | (4) | 8 - 30 days |
| V. | (5) | 31 - 90 days |
| VI. | (7) | More than 90 days |

(Question 9)

| | | |
|---|---|---|
| I. | (02) | Research - basic |
| II. | (01) | Research - applied |
| III. | (11) | System analysis |
| IV. | (03) | Development - advanced |
| V. | (04) | Development - engineering |
| VI. | (05) | Development - operational system |
| VII. | (06) | R&D support |
| VIII. | (07) | Test or evaluation |
| IX. | (08) | Production processes |
| X. | (09) | Production end-items |
| XI. | (10) | Reliability or quality control |
| XII. | (12) | Customer relations |

Figure 3-1. Example of Two-Way Frequency Distribution Printout

3.2 INDEX

USER, TASK AND UTILIZATION, but not SEARCH AND ACQUISITION, Questions

The order of questions in a pair has been permuted in half the instances, to show all pairs that were run containing a question. Those tables with the reverse listing have table numbers which are out of sequence. The sample size for these tables is 1500.

USER, TASK AND UTILIZATION Questions vs SEARCH AND ACQUISITION Questions

The order of questions in a pair has been permuted to show all pairs that were run containing a question. Those tables with the reverse listing have table numbers which are out of sequence. The sample size for these tables is 5359.

## 3.3 DISTRIBUTIONS

USER, TASK and UTILIZATION,
but Not SEARCH AND ACQUISITION Questions

# Table 3-1. Task Initiator vs. Task Recipient

```
     Q2     IS CROSS TABULATED WITH      Q7      OR.
VARIABLE  1 IS CROSS TABULATED WITH VARIABLE  4
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     1        4        1
     4        6        1
(  1)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q2
    6 *    3  54 162   4   4  229
     T*    0   4  11   0   0   15
     R*    1  24  71   2   2  100
     C*   14   7  31   9  18   15
      *
    5 *    1193  85       4  283
     T*    0  13   6       0   19
     R*    0  64  30       1  100
     C*    5  22  16      18   19
      *
    4 *    337914 3   7  535
     T*    0  25  10   0   0   34
     R*    1  71  27   1   1  100
     C*   14  43  28   7  32   16
      *
    3 *       84  38   2   2  128
     T*       6   3   0   0    9
     R*       67  30   2   2  100
     C*       10   7   4   9    9
      *
    2 *    4  78  30   7   3  119
     T*    0   5   2   0   0    8
     R*    3  63  25   6   3  100
     C*   19   9   5  16  14    8
      *
    1 *  111101 60  25   2  203
     T*    1   7   4   2   0   14

     R*    5  50  30  14   1  100
     C*   50  11  12  64   9   14
      *
      **********************
( 4)     1     3     5
Q7           2     4

COLUMN   22   518    22
 TOTAL      RSC    45

PERCENT    1    35     1
 TOTAL     **     3

GRAND TOTAL=  1497

CHI-SQUARE (OF TABLE)        =4.05263
DF=   20.

VALUES NOT ENTERED   3
  CASE NO.     VARIABLE  1     VARIABLE  4
     828              2              0
     914              4              0
    1444              1              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  -.0534
MEAN(  4)=        2.43047   S.D.(  4)=        0.45941
MEAN(  1)=        3.84047   S.D.(  1)=        1.55077
```

(Question 2)

| | | |
|---|---|---|
| I. | (4) | Initiative of respondent |
| II. | (5) | Decision by respondent and colleagues |
| III. | (6) | Application of standard procedures |
| IV. | (3) | Direction by immediate supervisor |
| V. | (2) | Direction by higher management |
| VI. | (1) | Instruction or questions directed from the customer |

(Question 7)

| | | |
|---|---|---|
| I. | (1) | Individual's own use |
| II. | (2) | Individual(s) within the respondent's company |
| III. | (5) | A particular contractor or contractors |
| III. | (6) | Department of Defense |
| III. | (7) | NASA |
| IV. | (3) | Members of the respondent's profession |
| V. | (4) | A major segment of an industry |

Table 3-2. Percentage of Time on Task vs. Elapsed Time on Task

```
     Q4     IS CROSS TABULATED WITH      Q3      OR,
VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       5       1
     1       9       1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q4
    5 *  67 23 20 40 81 52 19 14 12  328
    T*   4  2  1  3  5  3  1  1  1   22
    R*  20  7  6 12 25 16  6  4  4  100
    C*  37 21 15 24 20 21 23 15 18   22
     *
    4 *  25 14 23 24 71 46 13 25 10  251
    T*   2  1  2  2  5  3  1  2  1   17
    R*  10  6  9 10 28 18  5 10  4  100
    C*  14 13 17 15 17 18 16 26 15   17
     *
    3 *  38 29 34 41 74 50 17 20 15  318
    T*   3  2  2  3  5  3  1  1  1   21
    R*  12  9 11 13 23 16  5  6  5  100
    C*  21 26 25 25 18 20 20 21 22   21
     *
    2 *  35 23 33 23 77 48 13 12  9  273
    T*   2  2  2  2  5  3  1  1  1   18
    R*  13  8 12  8 28 18  5  4  3  100
    C*  19 21 25 14 19 19 16 13 13   18
     *
    1 *  18  2 24 36107 97 71 24 22  330
    T*   1  1  2  2  7  4  1  2  1   22
    R*   5  6  7 11 32 17  6  7  7  100
    C*  10 19 18 22 26 23 25 25 32   22
     *
     **********************************
( 1)    1    3    5    7    9

(Question 4)
I.    (1)  Under 25%
II    (2)  25 - 49%
III.  (3)  50 - 74%
IV.   (4)  75 - 99%
V     (5)  Full time

(Question 3)
I.    (1)  1 - 7 days
II.   (2)  8 - 14 days
III   (3)  15 - 21 days
IV    (4)  22 - 30 days
V     (5)  31 - 90 days
VI    (6)  91 - 180 days
VII.  (7)  181 - 270 days
VIII. (8)  271 - 365 days
IX    (9)  More than 365 days

Q3      2    4    6    8
COLUMN 183  134  410   83   68
 TOTAL  110  164  253   95

PERCENT  12    9   27    6    5
 TOTAL    7   11   17    6

GRAND TOTAL= 1500

CHI-SQUARE (OF TABLE)        68.93903
DF=  32

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0930
MEAN( 1)=        4.65467   SD( 1)=       2.15589
MEAN( 2)=        2.98267   SD( 2)=       1.45090
```

# Table 3-3. Task Recipient vs. Elapsed Time on Task

```
     Q7      IS CROSS TABULATED WITH      Q3       OR,
VARIABLE  4 IS CROSS TABULATED WITH VARIABLE  2
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     4        9        1
     2        9        1

( 4)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q7
    5 *    4   1   1   2   7   9       1   1    22
      T*   0   0   0   0   0   0       0   0     1
      R*  18   5   5   9  32  23       5   5   100
      C*   2   1   1   1   2   2       1   1     1
       *
    4 *        1   2   6  11  11   2   6   6    45
      T*       0   0   0   1   1   0   0   0     3
      R*       2   4  13  24  24   4  13  13   100
      C*       1   2   4   3   4   2   6   9     3
       *
    3 *   76  29  50  58 191  97  27  45  25   518
      T*    2   2   3   4  10   6   2   3   2    34
      R*    7   4  10  11  29  15   5   9   5   100
      C*   20  24  38  36  37  38  33  48  37    35
       *
    2 *  141  77  78  96 235 138  51  40  34   890
      T*    6   5   5   6  14   9   3   3   2    59
      R*   14   9   9  11  26  16   6   4   4   100
      C*   37  70  59  59  47  55  61  43  50    59
       *
    1 *    2   2   2   1   6   2   3   2   2    22
      T*    0   0   0   0   0   0   0   0   0     1
      R*    9   9   9   5  27   9  14   9   9   100
      C*    1   2   2   1   1   1   4   2   3     1
       *
        ********************************
 ( 2)    1       3       5       7       9
```

(Question 7)

| | | |
|---|---|---|
| I. | (1) | Individual's own use |
| II. | (2) | Individual(s) within the respondent's company |
| III. | (5) | A particular contractor or contractors |
| III. | (6) | Department of Defense |
| III. | (7) | NASA |
| IV. | (3) | Members of the respondent's profession |
| V. | (4) | A major segment of an industry |

(Question 3)

| | | |
|---|---|---|
| I. | (1) | 1 - 7 days |
| II. | (2) | 8 - 14 days |
| III. | (3) | 15 - 21 days |
| IV. | (4) | 22 - 30 days |
| V. | (5) | 31 - 90 days |
| VI. | (6) | 91 - 180 days |
| VII. | (7) | 181 - 270 days |
| VIII. | (8) | 271 - 365 days |
| IX. | (9) | More than 365 days |

```
Q3          2     4     6     8

COLUMN 100   133   410    83    66
 TOTAL   110   183   253    56

PERCENT  12     9    27     6     5
 TOTAL    7    11    17     4

GRAND TOTAL= 1497

CHI-SQUARE (OF TABLE)        AS.HP441
DF=  32

VALUES NOT ENTERED    3
  CASE NO.     VARIABLE  4     VARIABLE  2
    829              0               8
    914              0               3
   1444              0               4

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1277
MEAN  21=        4.69567   SDE  21=        2.15549
MEAN  41=        2.69767   SDE  41=        0.85041
```

Table 3-4. Class of Task Output vs. Elapsed Time on Task

```
     Q8      IS CROSS TABULATED WITH      Q3      OR,

VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  2

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     5       14       1
     2        9       1

( 5)              (EXTREME RIGHT VALUE IS ROW TOTAL)
OR
  14 *  10  7  7  6 10  3  4      56
    T*   1  0  0  0  1  1  0  0      4
    R*  18 13 13 11 18 16  5  7     100
    C*   5  6  5  4  2  4  4  4       4
     *
  13 *  10  3  5  6 10  5  5  7  4   53
    T*   1  0  0  0  1  0  0  0  0     4
    R*  19  6  6 11 19  9  9 13  8   100
    C*   5  3  2  4  2  2  6  7  6     4
     *
  12 *  12  6  1  6 14  9  2  2  5   57
    T*   1  0  0  0  1  1  0  0  0     4
    R*  21 11  2 11 25 16  4  4  9   100
    C*   7  5  1  4  3  4  2  2  7     4
     *
  11 *   8 11 11  8 24 17  1  5  4   89
    T*   1  1  1  1  2  1  0  0  0     6
    R*   9 12 12  9 27 19  1  6  4   100
    C*   4 10  8  5  6  7  1  5  6     6
     *
  10 *  32 17 17 37 64 43 11 16  4  241
    T*   2  1  1  2  4  3  1  1  0    16
    R*  13  7  7 15 27 18  5  7  2   100
    C*  17 15 13 23 16 17 13 17  6    16
     *
   9 *  11 11 13  9 30  9  7  2  1   93
    T*   1  1  1  1  2  1  0  0  0     6
    R*  12 12 14 10 32 10  8  2  1   100
    C*   6 10 10  5  7  4  8  2  1     6
     *
   8 *  24  6 21 11 33 21  7 10  8   141
    T*   2  0  1  1  2  1  0  1  1     9
    R*  17  4 15  8 23 15  5  7  6   100
    C*  13  5 16  7  8  8  8 11 12     9
     *
   7 *  14  7  9  9 24 11  3  5  4   86
    T*   1  0  1  1  2  1  0  0  0     6
    R*  16  8 10 10 28 13  3  6  5   100
    C*   8  6  7  5  6  4  4  5  6     6
     *
   6 *   9  5  8  6 16 11  9  4  7   75
    T*   1  0  1  0  1  1  1  0  0     5
    R*  12  7 11  8 21 15 12  5  9   100
    C*   5  5  6  4  4  4 11  4 10     5
     *
   5 *  21 24 32 40110 64 25 24 16  382
    T*   2  2  2  3  7  4  2  2  1    24
    R*   7  7  9 11 30 18  7  7  4   100
    C*  15 22 24 24 27 25 30 25 24    24
     *
   4 *   8  3  4 13 33 19  4  3  7   94
    T*   1  0  0  1  2  1  0  0  0     6
    R*   9  3  4 14 35 20  4  3  7   100
    C*   4  3  3  8  8  8  5  3 10     6
     *
   3 *  10  3     1  6  2  1  1      24
    T*   1  0     0  0  0  0  0       2
    R*  42 13     4 25  8  4  4     100
    C*   5  3     1  1  1  1  1       2
     *
   2 *   8  7  8 12 36 33  5 12  8  129
    T*   1  0  1  1  2  2  0  1  1     9
    R*   6  5  6  9 28 26  4  9  6   100
    C*   4  6  6  7  9 13  6 13 12     9
     *
     **********************************
( 2)    1     3     5     7     9
Q3          2     4     6     8

COLUMN 183   134   410    83    68

 TOTAL   110   164   253    95

PERCENT  12     9    27     6     5
 TOTAL        7    11    17     6

GRAND TOTAL= 1500
```

(Question 8)

| | | |
|---|---|---|
| II. | (1) | Concepts |
| III | (8) | Raw data |
| IV. | (5) | Math aids and formulae computer programs |
| V. | (3) | Designs or design techn ques |
| VI | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII | (13) | Evaluation |
| IX. | (9) | Specifications |
| X | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

(Question 3)

| | | |
|---|---|---|
| I | (1) | 1 - 7 days |
| II. | (2) | 8 - 14 days |
| III. | (3) | 15 - 21 days |
| IV. | (4) | 22 - 30 days |
| V. | (5) | 31 - 90 days |
| VI. | (6) | 91 - 180 days |
| VII. | (7) | 181 - 270 days |
| VIII | (8) | 271 - 365 days |
| IX. | (9) | More than 365 days |

```
CHI-SQUARE (OF TABLE)       154.85442
DF=   96

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =C.1034
MEAN( 21=        4.65467    SD( 21=        2.15589
MEAN( 51=        7.38600    SD( 51=        3.26069
```

Table 3-5. Kind of Task Output vs. Elapsed Time on Task

```
     Q9      IS CROSS TABULATED WITH      Q3       ON,
VARIABLE  6 IS CROSS TABULATED WITH VARIABLE  2
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     6       12       1
     2        9       1

( 6)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q9
  12 *   3  1  6  1  6  1  1  1        22
    T*   0  0  0  0  0  0  0  0         1
    R*  15  5 30  5 30  5  5  5       100
    C*   2  1  4  1  1  0  1  1         1
     *
  11 *  14  9  6 12 14  7  3  1  3     69
    T*   1  1  0  1  1  0  0  0  0      5
    R*  20 13  9 17 20 10  4  1  4     100
    C*   8  8  4  7  3  3  4  1  4      5
     *
  10 *   7  6  6  7 20  4  2  5  1     58
    T*   0  0  0  0  1  0  0  0  0      4
    R*  12 10 10 12 34  7  3  9  2     100
    C*   4  5  4  4  5  2  2  5  1      4
     *
   9 *  11  8 11  5 14 12  3  3  3     69
    T*   1  1  1  0  1  1  0  0  0      5
    R*  14 12 16  7 20 17  4  4  4     100
    C*   5  7  8  3  3  5  4  3  4      5
     *
   8 *  39 16 20 23 56 22  6  7  1    190
    T*   3  1  1  2  4  1  0  0  0     13
    R*  21  8 11 12 29 12  3  4  1     100
    C*  21 15 15 14 14  9  7  7  1     13
     *
   7 *  22  9  9 13 30 13  6 11  5    118
    T*   1  1  1  1  2  1  0  1  0      8

    R*  19  8  8 11 25 11  5  9  4     100
    C*  12  8  7  8  7  5  7 12  7      8
     *
   6 *  16 13 13 18 49 34  8  6  6    163
    T*   1  1  1  1  3  2  1  0  0     11
    R*  10  8  8 11 30 21  5  4  4     100
    C*   9 12 10 11 12 13 10  6  9     11
     *
   5 *  18 12 21 19 59 28  9 14  8    188
    T*   1  1  1  1  4  2  1  1  1     13
    R*  10  6 11 10 31 15  5  7  4     100
    C*  10 11 16 12 14 11 11 15 12     13
     *
   4 *  12  7 14 17 46 27  8 10  7    147
    T*   1  0  1  1  3  2  1  1  0     10
    R*   8  5  9 12 31 18  5  7  5     100
    C*   7  6 10 10 11 11 10 11 10     10
     *
   3 *  24 17 11 18 34 44 13  8  7    171
    T*   2  1  1  1  3  3  1  1  0     12
    R*  14  6  6 10 22 25  8  5  4     100
    C*  13  9  8  9 17 16  9 10  8     12
     *
   2 *  15 15 15 25 67 46 14 22 10    239
    T*   1  1  1  2  6  3  1  1  1     16
    R*   6  6  6 10 28 19  6  9  4     100
    C*   8 14 11 15 16 18 15 23 24     16
     *
   1 *   3  4  3  4 10 15  8  6  9     64
    T*   0  0  0  0  1  1  1  0  1      4
    R*   5  6  5  6 16 23 13  9 14     100
    C*   3  4  2  4  2  6 10  6 13      4
     *
      **********************************
( 2)     1     3     5     7     9
          2     4     6     8

COLUMN 183   134   439   487   298
 TOTAL   111   164   253    96

PERCENT  12     9    27     6     5
 TOTAL    7    11    17     6
```

(Question 9)

| | | |
|---|---|---|
| I | (02) | Research - basic |
| II | (01) | Research - applied |
| III | (11) | System analysis |
| IV | (03) | Development - advanced |
| V | (04) | Development - engineering |
| VI. | (05) | Development - operational system |
| VII. | (06) | R&D support |
| VIII. | (07) | Test or evaluation |
| IX | (08) | Production processes |
| X | (09) | Production end-items |
| XI. | (10) | Reliability or quality control |
| XII. | (12) | Customer relations |

(Question 3)

| | | |
|---|---|---|
| I. | (1) | 1 - 7 days |
| II. | (2) | 8 - 14 days |
| III. | (3) | 15 - 21 days |
| IV. | (4) | 22 - 30 days |
| V | (5) | 31 - 90 days |
| VI. | (6) | 91 - 180 days |
| VII. | (7) | 181 - 270 days |
| VIII | (8) | 271 - 365 days |
| IX | (9) | More than 365 days |

```
GRAND TOTAL= 1498

CHI-SQUARE (OF TABLE)        154.94643
DF=   88

VALUES NOT ENTERED IN
  CASE NO.      VARIABLE  6      VARIABLE  2
    734              0                8
    979              0                5

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =-0.2073
MEAN  2I=        4.65467    SD  2I=        2.15589
MEAN  6I=        5.40987    SD  6I=        2.85010
```

Table 3-6. Field of Task Output vs. Elapsed Time on Task

```
Q7     IS CROSS TABULATED WITH      16        BY,
VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  4
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    5       5       1
    4       3       1

( 5)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q7
   5 .   1   2   2   1  16   22
     T.   0   0   0   0   1    1
     R.   5   9   9   5  73  100
     C.   7   2   1   2   2    1
          .
   4 .           2      43   45
     T.          0       3    3
     R.          4      96  100
     C.          1       4    3
          .
   3 .   1   9  53  31444   518
     T.  0   1   2   2  30    35
     R.  0   2   6   6  86  100
     C.  7   9  10  30  43    35
          .
   2 .  15  83285  30478   880
     T.  1   6  19   2  32    59
     R.  1   9  32   3  54   100
     C.  87  83  87  48  48    59
          .
   1 .       4   7       9   53
     T.      0   0       1    1
     R.     27  32      41  100
     C.      4   2       1    1
          .
          ..................
 ( 4)     1       3       5

(Question 7
I.      (1)  Individual's own use
II.     (2)  Individual(s) within the respondent's company
III.    (3)  A particular contractor or contractors
III.    (6)  Department of Defense
III.    (7)  NASA
IV.     (3)  Members of the respondent's profession
V.      (4)  A major segment of an industry

(Question 8)
I.      (5)  Hardware
II.     (4)  Informal briefing or discussion
III.    (3)  Informal document or memorandum
IV.     (2)  Formal briefing or demonstration
V.      (1)  Formal document

QA          2       4

COLUMN  18    523    990
TOTAL   102    98

PERCENT   1     32     67
TOTAL     7      4

GRAND TOTAL=  1496

CHI-SQUARE (OF TABLE)        436.30327
DF=   16

VALUES NOT ENTERED   4
  CASE NO.      VARIABLE  5     VARIABLE  4
    190             2              0
    828             0              3
    916             0              3
   1448             0              4

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT=  0.2996
MEAN( 4)=      4.27600   SD( 4)=      1.08287
MEAN( 5)=      2.43067   SD( 5)=      0.65941
```

## Table 3-7. Field of Work Position vs. Elapsed Time on Task

```
     056    IS CROSS TABULATED WITH      03       02.

VARIABLE 10 IS CROSS TABULATED WITH VARIABLE  2

NUMBER OF REPLICATIONS= 1000

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    10       9       1
     2       9       1

(10)              (EXTREME RIGHT VALUE IS ROW TOTAL)
056
   9 *   3   2   2   1   5   8   3   1   2   27
     T*  0   0   0   0   0   1   0   0   0    2
     R*  11  7   7   4   19  30  11  4   7   100
     C*  2   2   2   1   1   3   4   1   3    2
     *
   8 *   14  6   11  15  37  22  6   3   2   114
     T*  1   0   1   1   2   1   0   0   0    8
     R*  12  6   10  13  32  19  5   3   2   100
     C*  8   5   8   9   9   9   7   3   3    8
     *
   7 *   19  13  13  26  44  34  7   20  11  197
     T*  1   1   1   2   3   2   0   1   1   13
     R*  10  7   7   14  24  18  4   11  6   100
     C*  10  13  10  16  11  14  8   21  16  19
     *
   A *   18  7   13  12  40  23  12  19  15  159
     T*  1   0   1   1   3   2   1   1   1   11
     R*  11  4   8   8   25  14  8   12  9   100
     C*  10  6   10  7   10  9   14  20  22  11
     *
   5 *   45  37  33  39  124 60  25  20  17  400
     T*  3   2   2   3   8   4   2   1   1   27
     R*  11  9   8   10  31  15  6   5   4   100
     C*  25  34  25  24  30  24  30  21  25  27
     *
   4 *   44  27  31  43  102 50  18  14  9   336
     T*  3   2   2   3   7   3   1   1   1   22

     R*  13  7   9   13  30  15  5   4   3   100
     C*  24  23  23  26  25  20  22  15  13  22
     *
   3 *   10  5   4   7   18  20  6   8   6   84
     T*  1   0   0   0   1   1   0   1   0   6
     R*  12  6   5   8   21  24  7   10  7   100
     C*  5   5   3   4   4   8   7   8   9   6
     *
   2 *   4   2   3   3   6   5   2   3   2   30
     T*  0   0   0   0   0   0   0   0   0   2
     R*  13  7   10  10  20  17  7   10  7   100
     C*  2   2   2   2   1   2   2   3   3   2
     *
   1 *   24  13  23  1.  34  29  4   9   4   159
     T*  2   1   2   1   2   2   0   1   0   11
     R*  15  8   14  11  21  18  3   6   3   100
     C*  14  12  17  11  8   12  5   9   6   11
     *
      ....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....+....9....+....A
  ( 21)     1         3         5         7         9
03          2         4         6         8

COLUMN 193   133   409    83    68
 TOTAL   110   144   251    95

PERCENT  12     9    27     8     5
 TOTAL    7    11    17     6

GRAND TOTAL= 1498

CHI-SQUARE FOR TABLE          51.68851
DEG   44

VALUES NOT ENTERED   4
  CASE NO.      VARIABLE 10      VARIABLE  2
    120              0              4
    122              0              5
    197              0              3
    538              0              4

(THE FOLLOWING 0 MULTIATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).
```

(Question 56)

I Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (73) Personnel and training
- (26) Production and management
- (29) Psychology and human engineering

II Medical Sciences
- (16) Medical sciences

III Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (19) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (09) Electronic, electronic equipment

VI Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII Research and Research Equipment
- (30) Research and research equipment

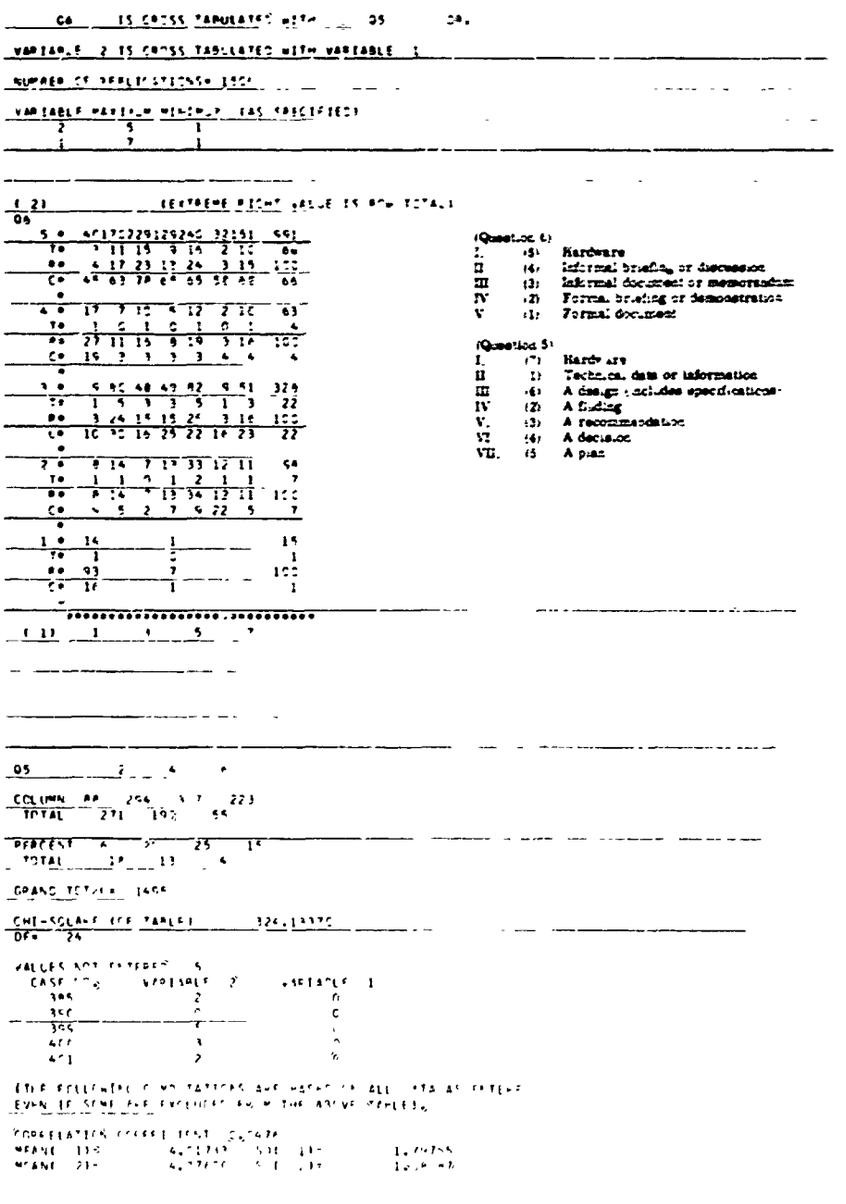
IX Mathematics
- (15) Mathematics

(Question 3)

| | | |
|---|---|---|
| I | (1) | 1 - 7 days |
| II | (2) | 8 - 14 days |
| III | (3) | 15 - 21 days |
| IV | (4) | 22 - 30 days |
| V | (5) | 31 - 90 days |
| VI | (6) | 91 - 180 days |
| VII | (7) | 181 - 270 days |
| VIII | (8) | 271 - 365 days |
| IX | (9) | More than 365 days |

```
CORRELATION COEFFICIENT  0.0648
MEAN(  2)=      4.65467   SD(  2)=      2.15580
MEAN( 10)=      4.82200   SD( 10)=      1.98451
```

Table 3-6. Formality of Task Output vs. Type of Task Output



(Question 6)
I. (5) Hardware
II (4) Informal briefing or discussion
III (3) Informal document or memorandum
IV (2) Formal briefing or demonstration
V (1) Formal document

(Question 5)
I. (7) Hardware
II (6) Technical data or information
III (5) A design (includes specifications)
IV (4) A finding
V. (3) A recommendation
VI (2) A decision
VII. (1) A plan

## Table 3-9. Task Recipient vs. Type of Task Output

07 IS CROSS TABULATED WITH 05 BY

VARIABLE 3 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 3 | 5 | 1 |
| 1 | 7 | 1 |

(I 3) (EXTREME RIGHT VALUE IS ROW TOTAL)

07

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 5 * | 3 | 4 | 4 | 3 | 3 | 4 | 22 | |
| T* | C | C | C | C | C | C | 1 | |
| R* | 14 | 23 | 18 | 14 | 14 | 18 | 100 | |
| C* | 3 | 2 | 1 | 2 | 1 | 2 | 1 | |
| * | | | | | | | | |
| 4 * | 8 | 1 | 22 | 6 | 2 | 6 | 45 | |
| T* | 1 | C | 1 | C | C | C | 3 | |
| R* | 18 | 2 | 49 | 13 | 4 | 13 | 100 | |
| C* | 3 | C | 11 | 2 | 4 | 3 | 3 | |
| * | | | | | | | | |
| 3 * | 37 | 57 | 57 | 54 | 43 | 8 | 81 | 317 |
| T* | 2 | 7 | 7 | 4 | 10 | 1 | 5 | 36 |
| R* | 7 | 10 | 19 | 10 | 28 | 2 | 16 | 100 |
| C* | 42 | 38 | 33 | 27 | 39 | 15 | 36 | 35 |
| * | | | | | | | | |
| 2 * | 45 | 55 | 51 | 49 | 112 | 14 | 44 | 128 | 687 |
| T* | 3 | 10 | 13 | 8 | 14 | 3 | 9 | 69 |
| R* | 5 | 17 | 21 | 13 | 24 | 5 | 14 | 100 |
| C* | 51 | 57 | 45 | 57 | 58 | 40 | 58 | 59 |
| * | | | | | | | | |
| 1 * | 3 | 6 | 1 | 6 | 1 | 1 | 3 | 21 |
| T* | C | C | C | C | C | C | C | 1 |
| R* | 14 | 26 | 5 | 29 | 5 | 5 | 17 | 100 |
| C* | 3 | 2 | C | 3 | C | 2 | 1 | 1 |
| * | | | | | | | | |

(I 1) 1 3 5 7

(Question 7)

I. (1) Individual's own use
II. (2) Individual(s) within the respondent's company
III. (5) A particular contractor or contractors
III. (6) Department of Defense
III. (7) NASA
IV. (3) Members of the respondent's profession
V. (4) A major segment of an industry

(Question 5)

I. (7) Hardware
II. (1) Technical data or information
III. (6) A design (includes specifications)
IV. (2) A finding
V. (3) A recommendation
VI. (4) A decision
VII. (5) A plan

05 2 4 6

| | | | |
|---|---|---|---|
| COLUMN TOTAL | 80 271 | 267 167 | 222 56 |
| PERCENT TOTAL | 18 | 13 | 4 |

GRAND TOTAL= 1492

CHI-SQUARE (OF TABLE) 53.49674

DF= 24

VALUES NOT ENTERED

| CASE NO. | VARIABLE 3 | VARIABLE 1 |
|---|---|---|
| 398 | 1 | 6 |
| 399 | 2 | 6 |
| 399 | 3 | 6 |
| 400 | 2 | 6 |
| 401 | 2 | 6 |
| 428 | 3 | 3 |
| 916 | 3 | 3 |
| 1444 | 0 | 7 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE.)

CORRELATION COEFFICIENT OF ORDER

MEANS (1)= 4.01734 (2) (1)= 1.79754
MEANS (3)= 3.43562 (2) (3)= .65041

## Table 3-10. Class of Task Output vs. Type of Task Output

```
     Q8     IS CROSS TABULATED WITH      Q5      OR,

VARIABLE  4 IS CROSS TABULATED WITH VARIABLE  3

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     4       14       1
     3        8       1

( 4)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q8
  14 *        5  2  9 13 10 17   56
    T*        0  0  1  1  1  1    4
    R*        9  4 16 23 18 30  100
    C*        2  1  5  4 18  8    4
      *
  13 *     5  8  1  3 18  4 16   53
    T*     0  1  0  0  1  0  1    4
    R*     9 15  2  6 34  8 26  100
    C*     6  3  0  2  5  7  6    4
      *
  12 *       16  1 18 17  1  4   57
    T*        1  0  1  1  0  0    4
    R*       28  2 32 30  2  7  100
    C*        6  0  9  5  2  2    4
      *
  11 *     8  3 12  6 36  6 18   89
    T*     1  0  1  0  2  0  1    6
    R*     9  3 13  7 40  7 20  100
    C*     9  1  4  3 10 11  8    6
      *
  10 *    12 66 12 60 68  5 17  240
    T*     1  4  1  4  5  0  1   16
    R*     5 27  5 25 28  2  7  100
    C*    14 24  4 30 19  9  8   16
      *
   9 *     1  9 44  3 18  3 17   93
    T*     0  1  3  0  1  0  1    6
    R*     1 10 47  3 19  3 16  100
    C*     1  3 15  2  5  5  7    6
      *
   8 *     6 29  4 28 53  4 17  141
    T*     0  2  0  2  4  0  1    9
    R*     4 21  3 20 38  3 12  100
    C*     7 11  1 14 14  7  8    9
      *
   7 *    10 13 12  7 16  4 24   86
    T*     1  1  1  0  1  0  2    6
    R*    12 15 14  8 19  5 28  100
    C*    11  5  4  4  4  7 11    6
      *
   6 *     5 14  8 11 19  3 11   71
    T*     0  1  1  1  1  0  1    5
    R*     7 20 11 15 27  4 15  100
    C*     6  5  3  6  5  5  5    5
      *
   5 *    37 25178 17 66  5 34  362
    T*     2  2 12  1  4  0  2   24
    R*    10  7 49  5 18  1  9  100
    C*    42  9 61  9 18  9 15   24
      *
   4 *       38  9 12  8  4 23   94
    T*        3  1  1  1  0  2    6
    R*       40 10 13  9  4 24  100
    C*       14  3  6  2  7 10    6
      *
   3 *       17  1  3  1  4  1   24
    T*        1  0  0  0  0  0    2
    R*       71  4 13  4  4  4  100
    C*        6  0  2  0  2  0    2
      *
   2 *     4 28 10 20 34  5 28  129
    T*     0  2  1  1  2  0  2    9
    R*     3 22  8 16 26  4 22  100
    C*     5 10  3 10  9  9 13    9
      *
      **************************
( 3)     1       3       5       7
Q5           2       4       6

COLUMN  88   294   367   223
 TOTAL     271   197    55

PERCENT  6    20    25    15
 TOTAL     18    13     4
```

(Question 8)

| | | |
|---|---|---|
| II. | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

(Question 5)

| | | |
|---|---|---|
| I. | (7) | Hardware |
| II. | (1) | Technical data or information |
| III. | (5) | A design (includes specifications) |
| IV. | (2) | A finding |
| V. | (3) | A recommendation |
| VI. | (4) | A decision |
| VII. | (5) | A plan |

```
GRAND TOTAL=  1495

CHI-SQUARE (OF TABLE)       676.80342
DF=   72

VALUES NOT ENTERED   5
          %      VARIABLE  4     VARIABLE  3
          2          10                0
        390           6                0
        399           6                0
        400           6                0
        401           6                0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.11152
MEAN( 3)=        4.01733    SD( 3)=        1.79755
MEAN( 4)=        7.38600    SD( 4)=        3.26069
```

# Table 3-11. Field of Task Output vs. Type of Task Output

Q1C IS CROSS TABULATED WITH Q5

VARIABLE 4 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 4 | 9 | 1 |
| 1 | 7 | |

(4)  (EXTREME RIGHT VALUE IS ROW TOTAL)

Q10

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 9 | * | 2 | 6 | 3 | 1 | 2 | 14 | |
| | T* | 0 | 0 | 0 | 0 | 0 | 1 | |
| | R* | 14 | 43 | 21 | 7 | 14 | 100 | |
| | C* | 1 | 3 | 1 | 2 | 1 | 1 | |
| | * | | | | | | | |
| 8 | * | 7 35 | 24 | 9 | 18 | 6 | 30 | 151 |
| | T* | 0 3 | 2 | 1 | 1 | 0 | 2 | 9 |
| | R* | 5 30 | 18 | 7 | 14 | 3 | 23 | 100 |
| | C* | 8 14 | 8 | 5 | 5 | 7 | 14 | 9 |
| | * | | | | | | | |
| 7 | * | 5 34 | 39 | 43 | 46 | 6 | 20 | 193 |
| | T* | 0 2 | 3 | 3 | 3 | 0 | 1 | 13 |
| | R* | 3 18 | 20 | 22 | 24 | 3 | 10 | 100 |
| | C* | 6 13 | 13 | 12 | 13 | 11 | 6 | 13 |
| | * | | | | | | | |
| 6 | * | 9 34 | 16 | 37 | 46 | 8 | 26 | 176 |
| | T* | 1 2 | 1 | 2 | 3 | 1 | 2 | 12 |
| | R* | 5 19 | 9 | 21 | 26 | 5 | 15 | 100 |
| | C* | 10 13 | 5 | 19 | 13 | 15 | 12 | 12 |
| | * | | | | | | | |
| 5 | * | 50 42 | 91 | 31 | 95 | 11 | 34 | 354 |
| | T* | 3 3 | 4 | 2 | 6 | 1 | 2 | 24 |
| | R* | 14 15 | 24 | 9 | 24 | 3 | 10 | 100 |
| | C* | 57 19 | 31 | 16 | 23 | 20 | 14 | 24 |
| | * | | | | | | | |
| 4 | * | 10 75 | 77 | 39 | 95 | 11 | 49 | 351 |
| | T* | 1 5 | 5 | 3 | 6 | 1 | 3 | 24 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | R* | 3 21 | 22 | 11 | 26 | 3 | 14 | 100 |
| | C* | 11 28 | 26 | 33 | 25 | 20 | 22 | 24 |
| | * | | | | | | | |
| 3 | * | 7 14 | 21 | 12 | 25 | 6 | 18 | 94 |
| | T* | 0 1 | 1 | 1 | 2 | 0 | 1 | 6 |
| | R* | 2 15 | 22 | 13 | 27 | 7 | 19 | 100 |
| | C* | 2 5 | 7 | 6 | 7 | 6 | 8 | 6 |
| | * | | | | | | | |
| 2 | * | 9 | 7 | 6 | 3 | 8 | 33 | |
| | T* | 1 | 0 | 0 | 0 | 1 | 3 | |
| | R* | 27 | 21 | 18 | 9 | 24 | 100 | |
| | C* | 3 | 4 | 3 | 2 | 4 | 3 | |
| | * | | | | | | | |
| 1 | * | 4 11 | 24 | 12 | 47 | 6 | 38 | 143 |
| | T* | 0 1 | 2 | 1 | 3 | 1 | 2 | 10 |
| | R* | 3 8 | 17 | 8 | 33 | 4 | 24 | 100 |
| | C* | 6 4 | 8 | 6 | 13 | 14 | 10 | 10 |
| | * | | | | | | | |

Q10 1 11 3 5 7

Q5 2 4 6

| COLUMN TOTAL | 88 | 282 | 366 | 222 | |
|---|---|---|---|---|---|
| PERCENT TOTAL | 6 18 | 20 13 | 25 4 | 15 | |

GRAND TOTAL= 1487

CHI-SQUARE (OF TABLE) 199.65554
DF= 47

VARIABLE NOT ENTERED 11

| CASE NO. | VARIABLE 4 | VARIABLE 5 |
|---|---|---|
| 122 | 0 | 5 |
| 385 | 6 | 0 |
| 392 | 6 | 0 |
| 394 | 0 | 4 |
| 395 | 6 | 0 |
| 400 | 6 | 0 |
| 407 | 6 | 0 |
| 446 | 0 | 2 |

(Question 10)

I. Production, Management, and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical Sciences
- (10) Medical sciences

III. Mechanical, Industrial, Civil, and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided Missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX Mathematics
- (15) Mathematics

(Question 5)

| | | |
|---|---|---|
| I | (7) | Hardware |
| II | (1) | Technical data or information |
| III. | (6) | A design (includes specifications) |
| IV | (2) | A finding |
| V | (3) | A recommendation |
| VI. | (4) | A decision |
| VII | (5) | A plan |

**Table 3-12. Type of Task Output vs. Interviewers Assessment of Task Creativity**

```
    Q5      IS CROSS TABULATED WITH      Q63      OR,

VARIABLE  3 IS CROSS TABULATED WITH VARIABLE 12

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    3        7        1
   12        5        1

( 3)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q5
   7 *    5 55 65 98  223
     T*   0  4  4  7   15
     R*   2 25 29 44  100
     C*   9 20 12 16   15
     *
   6 *    2 13 19 21   55
     T*   0  1  1  1    4
     R*   4 24 35 38  100
     C*   4  5  3  3    4
     *
   5 *    9 67176115  367
     T*   1  4 12  8   25
     R*   2 18 48 31  100
     C*  14 24 32 19   25
     *
   4 *    5 30 87 75  197
     T*   0  2  6  5   13
     R*   3 15 44 38  100
     C*   9 11 16 12   13
     *
   3 *    7 48 78161  294
     T*   0  3  5 11   20
     R*   2 16 27 55  100
     C*  13 17 14 26   20
     *
   2 *   23 64107 77  271
     T*   2  4  7  5   18

     R*   8 24 39 28  100
     C*  42 23 20 13   18
     *
   1 *    4  8 13 66   88
     T*   0  5  1  4    6
     R*   5  6 15 75  100
     C*   7  2  2 11    6
     *
     **********
  (12)    1     3
Q63       2     4

COLUMN   55   345
 TOTAL  262   613

PERCENT   4    30
 TOTAL   19    41

GRAND TOTAL=  1495

CHI-SQUARE (OF TABLE)       138.48610
DF=  18

VALUES NOT ENTERED   5
 CASE NO.     VARIABLE  3     VARIABLE 12
    385           0              3
    390           0              3
    399           0              4
    [illegible]   0              2
    46.           0              3

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0257
MEAN( 12)=        3.14733    SD( 12)=        0.85055
MEAN(  3)=        4.01733    SD(  3)=        1.79755
```

(Question 5)

| | | |
|---|---|---|
| I. | (7) | Hardware |
| II. | (1) | Technical data or information |
| III. | (6) | A design (includes specifications) |
| IV. | (2) | A finding |
| V. | (3) | A recommendation |
| VI. | (4) | A decision |
| VII. | (5) | A plan |

(Question 63)

| | | |
|---|---|---|
| I. | (1) | Communication of existing information |
| II. | (2) | Rearrangement of existing information, with little evaluation or analysis |
| III. | (3) | Extensive evaluation and analysis of existing data |
| IV. | (4) | Creation of new information, systems, or hardware |

## Table 3-13. Task Recipient vs. Formality of Task Output

```
     Q7      IS CROSS TABULATED WITH      Q6       BY,

VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  4

NUMBER OF REPLICATIONS= 1590

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     5       5       1
     4       5       1


( 5)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q7
   5 •   1  2  2  1 16   22
    T•   0  0  0  0  1    1
    R•   5  9  9  5 73  100
    C•   7  2  1  2  2    1
     •
   4 •         2    43   45
    T•         0     3    3
    R•         4    96  100
    C•         1     4    3
     •
   3 •   1  9 33 31444  516
    T•   0  1  2  2 30   35
    R•   0  2  6  6 86  100
    C•   7  9 10 50 45   35
     •
   2 •  13 83285 30478  889
    T•   1  6 19  2 32   59
    R•   1  9 32  3 54  100
    C•  87 83 87 48 48   59
     •
   1 •      6  7     9   22
    T•      0  0     1    1
    R•     27 32    41  100
    C•      6  2     1    1
     •
      ••••••••••••••••••••••
 ( 4)    1     3     5
```

(Question 7
I. (1) Individual's own use
II. (2) Individual(s) within the respondent's company
III. (5) A particular contractor o contractors
III. (6) Department of Defense
III. (7) NASA
IV. (3) Members of the respondent's profession
V. (4) A major segment of an industry

(Question 6)
I. (5) Hardware
II. (4) Informal briefing or discussion
III. (3) Informal document or memorandum
IV. (2) Formal briefing or demonstration
V. (1) Formal document

```
Q6          2     4

COLUMN  15   329   990
 TOTAL     100    62

PERCENT   1    22    66
 TOTAL      7     4

GRAND TOTAL=  1496

CHI-SQUARE (OF TABLE)       450.30327
DF=   16

VALUES NOT ENTERED   4
  CASE NO.      VARIABLE  5     VARIABLE  4
    390              2              0
    828              0              5
    916              0              5
   1446              0              4

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2996
MEAN( 4)=        4.27600   SD( 4)=        1.08287
MEAN( 5)=        3.43067   SD( 5)=        0.65941
```

Table 3-14. Kind of Work Position vs. Task Recipient

Q55 IS CROSS TABULATED WITH Q7 BY.

VARIABLE 9 IS CROSS TABULATED WITH VARIABLE 2

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 9 | 12 | 1 |
| 2 | 5 | 1 |

( 9)
Q55 (EXTREME RIGHT VALUE IS ROW TOTAL)

| | | | | | | |
|---|---|---|---|---|---|---|
| 12 | • | 11 | 13 | 2 | | 26 |
| | T• | 1 | 1 | 0 | | 2 |
| | R• | 42 | 50 | 8 | | 100 |
| | C• | 1 | 3 | 9 | | 2 |
| 11 | • | 2 | 41 | 15 | 3 | 2 | 63 |
| | T• | 0 | 3 | 1 | 0 | 0 | 4 |
| | R• | 3 | 65 | 24 | 5 | 3 | 100 |
| | C• | 9 | 5 | 3 | 7 | 9 | 4 |
| 10 | • | 2 | 25 | 15 | | | 42 |
| | T• | 0 | 2 | 1 | | | 3 |
| | R• | 5 | 60 | 36 | | | 100 |
| | C• | 9 | 3 | 3 | | | 3 |
| 9 | • | | 56 | 12 | | 1 | 69 |
| | T• | | 4 | 1 | | 0 | 5 |
| | R• | | 81 | 17 | | 1 | 100 |
| | C• | | 6 | 7 | | 5 | 5 |
| 8 | • | 2 | 84 | 37 | | | 123 |
| | T• | 0 | 8 | 2 | | | 8 |
| | R• | 2 | 68 | 30 | | | 100 |
| | C• | 9 | 9 | 7 | | | 8 |
| 7 | • | 3 | 98 | 41 | 4 | 3 | 149 |
| | T• | 0 | 7 | 3 | 0 | 0 | 10 |
| | R• | 2 | 66 | 28 | 3 | 2 | 100 |
| | C• | 14 | 11 | 8 | 9 | 14 | 10 |
| 6 | • | | 79 | 56 | 1 | 2 | 138 |
| | T• | | 5 | 4 | 0 | 0 | 9 |
| | R• | | 57 | 41 | 1 | 1 | 100 |
| | C• | | 9 | 11 | 2 | 9 | 9 |
| 5 | • | 1 | 179 | 96 | 1 | 5 | 282 |
| | T• | 0 | 12 | 6 | 0 | 0 | 19 |
| | R• | 0 | 63 | 34 | 0 | 2 | 100 |
| | C• | 5 | 20 | 19 | 2 | 23 | 19 |
| 4 | • | 4 | 72 | 67 | 1 | 2 | 146 |
| | T• | 0 | 5 | 4 | 0 | 0 | 10 |
| | R• | 3 | 49 | 46 | 1 | 1 | 100 |
| | C• | 18 | 8 | 13 | 2 | 9 | 10 |
| 3 | • | 3 | 82 | 62 | | 2 | 149 |
| | T• | 0 | 5 | 4 | | 0 | 10 |
| | R• | 2 | 55 | 42 | | 1 | 100 |
| | C• | 14 | 9 | 12 | | 9 | 10 |
| 2 | • | 4 | 144 | 82 | 14 | | 244 |
| | T• | 0 | 10 | 5 | 1 | | 16 |
| | R• | 2 | 59 | 34 | 6 | | 100 |
| | C• | 18 | 16 | 16 | 31 | | 16 |
| 1 | • | 1 | 18 | 22 | 21 | 3 | 65 |
| | T• | 0 | 1 | 1 | 1 | 0 | 4 |
| | R• | 2 | 28 | 34 | 32 | 5 | 100 |
| | C• | 5 | 2 | 4 | 47 | 14 | 4 |

( 2) 1 3 5
Q7 2 4

| | | | |
|---|---|---|---|
| COLUMN TOTAL | 22 | 518 | 22 |
| | 889 | 45 | |
| PERCENT TOTAL | 1 | 35 | 1 |
| | 59 | 3 | |

(Question 55)
I. (02) Research - basic
II. (01) Research - applied
III. (11) System analysis
IV (03) Development - advanced
V (04) Development - engineering
VI. (05) Development - operational system
VII (06) R&D support
VIII. (07) Test or evaluation
IX. (08) Production processes
X. (09) Production end-items
XI. (10) Reliability or quality control
XII. (12) Customer relations

(Question 7)
I. (1) Individual's own use
II. (2) Individual(s) within the respondent's company
III. (5) A particular contractor or contractors
III. (6) Department of Defense
III. (7) NASA
IV. (3) Members of the respondent's profession
V. (4) A major segment of an industry

GRAND TOTAL= 1496

CHI-SQUARE (OF TABLE) 293.92255
DF= 44

VALUES NOT ENTERED 4

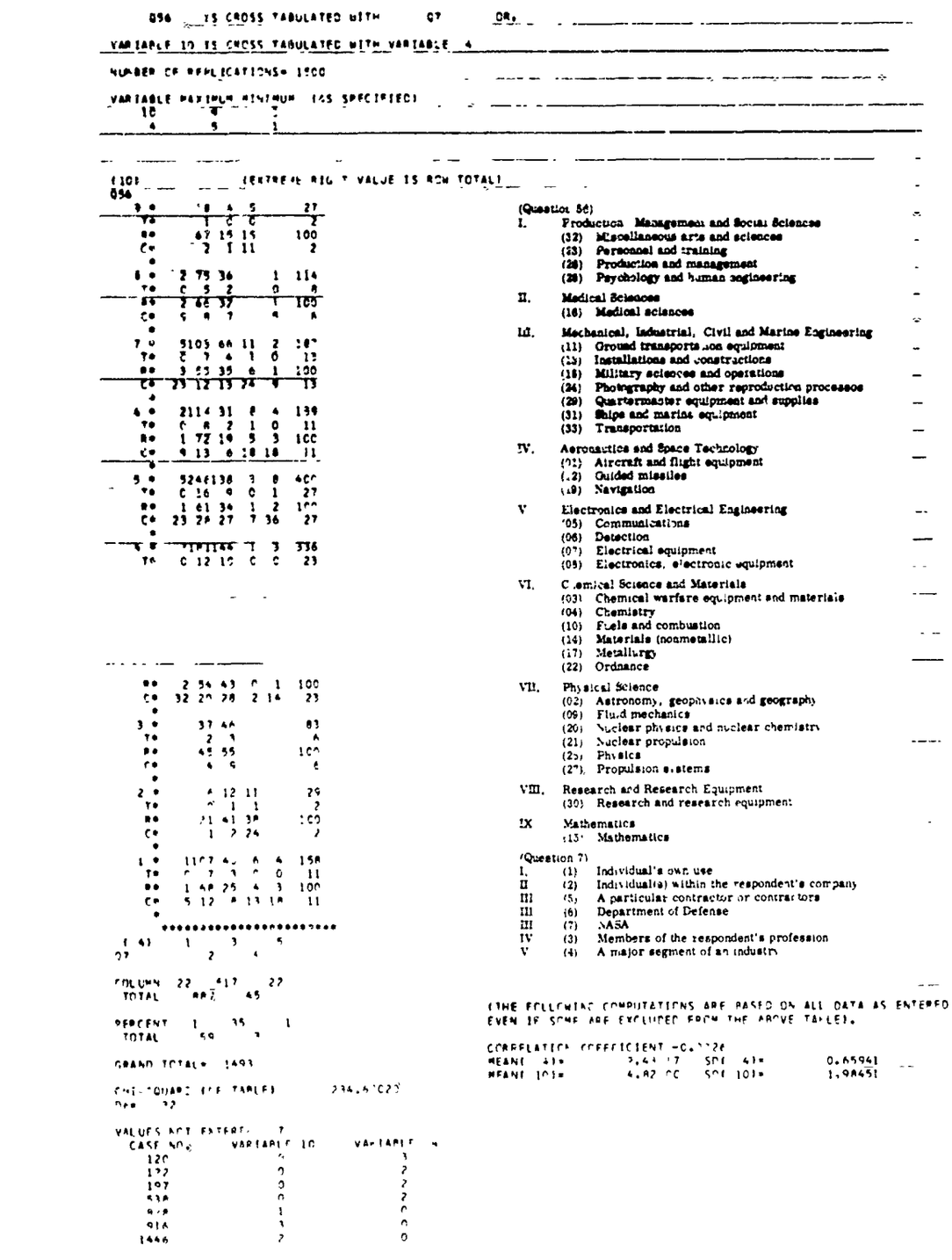
| CASE NO. | VARIABLE 9 | VARIABLE 2 |
|---|---|---|
| 340 | 0 | 2 |
| 828 | 7 | 0 |
| 918 | 6 | 0 |
| 1448 | 7 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.1131

| | | | |
|---|---|---|---|
| MEAN( 2)= | 2.43067 | SD( 2)= | 0.65941 |
| MEAN( 9)= | 5.27667 | SD( 9)= | 2.76186 |

# Table 3-15. Field of Work Position vs. Task Recipient



```
 056    IS CROSS TABULATED WITH      07      OR,
VARIABLE 10 IS CROSS TABULATED WITH VARIABLE  4
NUMBER OF REPLICATIONS= 1000
VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    10       6       1
     4       5       1

(101                (ENTRIES BIG * VALUE IS ROW TOTAL)
056
   5 *      18   4   5      27
    Y*       1   0   0       2
    R*      67  15  15     100
    C*       2   1  11       2
     *
   6 *       2  75  36       1  114
    Y*       0   5   2       0    8
    R*       2  66  32       1  100
    C*       5   8   7       4    8
     *
   7 *       5 105  66  11   2  189
    Y*       2   7   4   1   0   13
    R*       3  53  35   6   1  100
    C*      25  12  15  24   9   15
     *
   4 *      21 114  31   8   4  139
    Y*       0   8   2   1   0   11
    R*       1  72  19   5   3  100
    C*       4  13   6  28  18   11
     *
   5 *       5 246 138   3   8  400
    Y*       0  16   9   0   1   27
    R*       1  61  34   1   2  100
    C*      25  29  27   7  36   27
     *
   6 *       7 191 106   1   3  336
    Y*       0  12  10   0   0   23

    R*       2  54  43   0   1  100
    C*      32  20  28   2  14   23
     *
   3 *      37  46                83
    Y*       2   3                 4
    R*      45  55               100
    C*       4   6                 6
     *
   2 *       4  12  11            29
    Y*       0   1   1             2
    R*      21  41  38           100
    C*       1   2  24             2
     *
   1 *     110  27  12   6   4  158
    Y*       0   2   3   0   0   11
    R*       1  48  25   4   3  100
    C*       5  12   8  13  18   11
     *
      **********
 (  4)     1     3     5
07         2     4

COLUMN   22   417    27
 TOTAL      882    45

PERCENT   1    35     1
 TOTAL    59     3

GRAND TOTAL= 1493

CHI-SQUARE (FOR TABLE)        234.6023
DF=   32

VALUES NOT ENTERED
  CASE NO.      VARIABLE 10      VARIABLE  4
     120              0              3
     172              0              2
     197              0              2
     538              0              2
     618              1              0
     918              1              0
    1446              2              0
```

(Question 8d)

I. Production Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (33) Personnel and training
- (38) Production and management
- (39) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (15) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (09) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX Mathematics
- (13) Mathematics

(Question 7)

I. (1) Individual's own use
II (2) Individual(s) within the respondent's company
III (5) A particular contractor or contractors
III (6) Department of Defense
III (7) NASA
IV (3) Members of the respondent's profession
V (4) A major segment of an industry

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.3126
MEAN( 4)= 3.44 17  SD( 4)= 0.65941
MEAN( 10)= 4.82 00  SD( 10)= 1.98451

## Table 3-16. User's Equivalent GS Rating vs. Task Recipient

```
   058    IS CROSS TABULATED WITH      07      OR,
VARIABLE 11 IS CROSS TABULATED WITH    TABLE  4
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    11      13       1
     4       9       1

(11)              (EXTREME RIGHT VALUE IS ROW TOTAL)
058
 13 *      1       3       4
    T*     0       0       0
    R*    25      75     100
    C*     3       7       3
     *
 12 *      1       2       1       4
    T*     0       0       0       0
    R*    25      50      25     100
    C*     0       2       2       0
     *
 11 *      3       4       1       8
    T*     0       0       0       1
    R*    38      50      13     100
    C*     1       2       2       1
     *
 10 *  1  11       7       5       1      25
    T*  0  1       0       0       0       2
    R*  4  44      28      20       4     100
    C*  5  1       1      11       5       2
     *
  9 *     21      23       4       1      49
    T*     1       2       0       0       3
    R*    43      47       8       2     100
    C*     2       4       9       5       3
     *
  8 *  2  41      35       4       1      93
    T*  0  2       2       0       0       5
    R*  3  44      46       6       1     100
    C*  9  3       6       9       5       5
     *
  7 *  1  96      75       7       6     185
    T*  0  6       9       0       0      12
    R*  1  52      41       4       2     100
    C*  5  11      14      16      18      12
     *
  6 *  7157115      9       6     254
    T*  0  10      8       1       0      20
    R*  2  53      39       3       2     100
    C*  32 18      22      20      27      20
     *
  5 *  3137104      5       3     265
    T*  0  11      7       0       0      19
    R*  1  60      34       2       1     100
    C*  14 15      20      11      14      15
     *
  4 *  2186 92      5       4     289
    T*  0  12      6       0       0      19
    R*  1  64      32       2       1     100
    C*  9  27      18      11      18      19
     *
  3 *  4195 56      1       2     259
    T*  0  13      4       0       0      17
    R*  2  74      22       0       1     100
    C*  18 22      11       2       9      17
     *
  2 *  2 16  8                      26
    T*  0  1       1                       2
    R*  7  64      29                     100
    C*  9  2       2                       2
     *
      **********
 ( 4)     1       3       5
07            2       4

COLUMN   22    518      22
 TOTAL      990      45

PERCENT   1     75       1
 TOTAL      55       3
```

(Question 58)

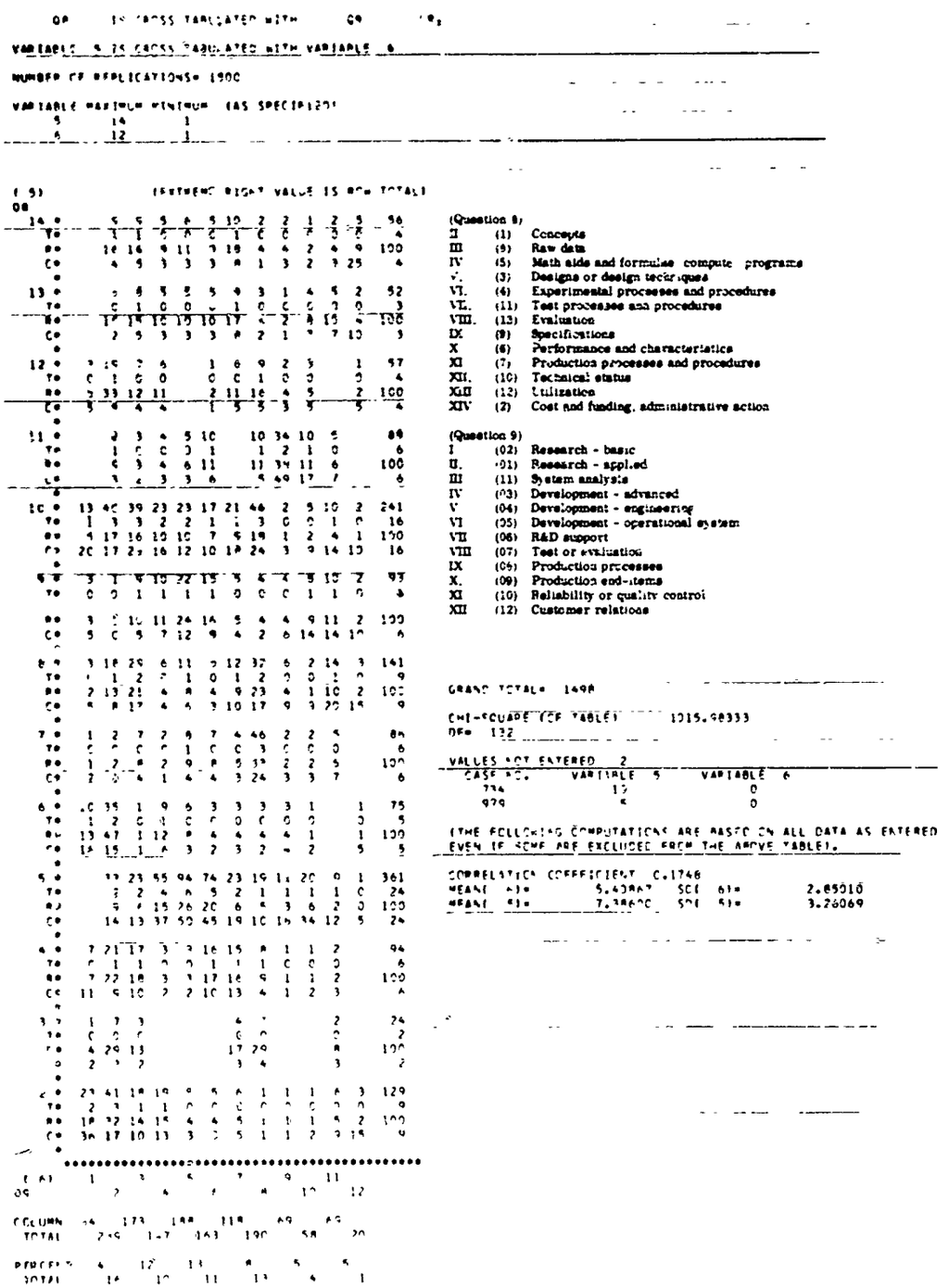
| | | |
|---|---|---|
| I. | (01) | GS-6 (under 6,000) |
| II. | (02) | GS-7 (6,000 - 7,999) |
| III. | (03) | GS-11 (8,000 - 10,349) |
| IV. | (04) | GS-12 (10,350 - 12,999) |
| V. | (05) | GS-13 (13,000 - 15,999) |
| VI. | (06) | GS-14 (16,000 - 18,199) |
| VII. | (07) | GS-15 (18,500 - 18,999) |
| VIII. | (08) | GS-16 (19,000 - 20,999) |
| IX | (09) | GS-17 (21,000 - 23,999) |
| X | (10) | GS-18 (24,000 - 26,999) |
| XI. | (11) | Sp A (27,000 - 29,999) |
| XII. | (12) | Sp B (30,000 - 34,999) |
| XIII. | (13) | Sp C (over 35,000) |

(Question 7)

| | | |
|---|---|---|
| I. | (1) | Individual's own use |
| II. | (2) | Individual(s) within the respondent's company |
| III | (5) | A particular contractor or contractors |
| III. | (6) | Department of Defense |
| III. | (7) | NASA |
| IV | (3) | Members of the respondent's profession |
| V. | (4) | A major segment of an industry |

```
GRAND TOTAL=  1497

CHI-SQUARE (OF TABLE)      184.94922
DF=   44

VALUES NOT ENTERED    3
  CASE NO.    VARIABLE 11    VARIABLE  4
    828             7             0
    916             5             0
   1446            12             0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1943
MEAN( 4)=        2.43067    SD( 4)=        0.69941
MEAN( 11)=       5.27933    SD( 11)=       1.88282
```

## Table 3-17. Class of Task Output vs. Kind of Task Output



| | | |
|---|---|---|
| (Question 8) | | |
| I | (1) | Concepts |
| III | (9) | Raw data |
| IV | (5) | Math aids and formulae compute programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX | (9) | Specifications |
| X | (6) | Performance and characteristics |
| XI | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII | (12) | Utilization |
| XIV | (2) | Cost and funding, administrative action |

| | | |
|---|---|---|
| (Question 9) | | |
| I | (02) | Research - basic |
| II. | (01) | Research - applied |
| III | (11) | System analysis |
| IV | (03) | Development - advanced |
| V | (04) | Development - engineering |
| VI | (05) | Development - operational system |
| VII | (06) | R&D support |
| VIII | (07) | Test or evaluation |
| IX | (08) | Production processes |
| X. | (09) | Production end-items |
| XI | (10) | Reliability or quality control |
| XII | (12) | Customer relations |

GRAND TOTAL= 1498

CHI-SQUARE (OF TABLE) = 1015.98333
DF= 132

VALUES NOT ENTERED 2

| CASE NO. | VARIABLE 5 | VARIABLE 6 |
|---|---|---|
| 774 | 13 | 0 |
| 979 | 6 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT = 0.1746

| | | | |
|---|---|---|---|
| MEAN( 5)= | 5.43847 | SD( 5)= | 2.85010 |
| MEAN( 6)= | 7.38800 | SD( 6)= | 3.26069 |

# Table 3-18. Class of Task Output vs. Field of Task Output

Q8 IS CROSS TABULATED WITH Q10 ER.

VARIABLE 6 IS CROSS TABULATED WITH VARIABLE 8

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 6 | 14 | 1 |
| 8 | 11 | 1 |

| ( 6) | (EXTREME RIGHT VALUE is ROW TOTAL) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Q8 | | | | | | | | | | |
| 14 • | 14 | 1 | 8 | 17 | 9 | 3 | | 3 | | 35 |
| T• | 1 | 0 | 1 | 1 | 1 | 0 | | 0 | | 4 |
| R• | 25 | 2 | 15 | 31 | 16 | 5 | | 5 | | 100 |
| C• | 10 | 3 | 9 | 5 | 3 | 2 | | 2 | | 4 |
| 13 • | 8 | 1 | 6 | 16 | 13 | 4 | | 5 | | 53 |
| T• | 1 | 0 | 6 | 1 | 1 | 0 | | 0 | | 4 |
| R• | 15 | 2 | 11 | 30 | 25 | 8 | | 9 | | 100 |
| C• | 6 | 3 | 6 | 5 | 4 | 2 | | 4 | | 4 |
| 12 • | 8 | 4 | 2 | 9 | 9 | 12 | 11 | 1 | | 56 |
| T• | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | | 4 |
| R• | 14 | 7 | 4 | 16 | 16 | 21 | 20 | 2 | | 100 |
| C• | 8 | 12 | 2 | 5 | 3 | 7 | 6 | 1 | | 4 |
| 11 • | 28 | | 3 | 9 | 17 | 23 | 6 | 3 | | 89 |
| T• | 2 | | 0 | 1 | 1 | 2 | 0 | 0 | | 6 |
| R• | 31 | | 3 | 10 | 19 | 26 | 7 | 3 | | 100 |
| C• | 20 | | 3 | 3 | 5 | 13 | 3 | 2 | | 6 |
| 10 • | 10 | 6 | 6 | 63 | 63 | 35 | 43 | 12 | 2 | 240 |
| T• | 1 | 0 | 0 | 4 | 4 | 2 | 3 | 1 | 0 | 16 |
| R• | 4 | 3 | 3 | 26 | 26 | 15 | 18 | 5 | 1 | 100 |
| C• | 7 | 18 | 6 | 18 | 18 | 19 | 22 | 9 | 14 | 16 |
| 9 • | 10 | | 8 | 13 | 26 | 11 | 8 | 12 | | 93 |
| T• | 1 | | 1 | 1 | 2 | 1 | 1 | 1 | | 6 |
| R• | 11 | | 9 | 19 | 28 | 12 | 9 | 13 | | 100 |
| C• | 7 | | 9 | 5 | 7 | 6 | 4 | 9 | | 6 |
| 8 • | 16 | 2 | 15 | 37 | 27 | 10 | 12 | 5 | 1 | 141 |
| T• | 1 | 0 | 1 | 2 | 2 | 1 | 1 | 0 | 0 | 9 |
| R• | 11 | 1 | 11 | 26 | 19 | 11 | 18 | 4 | 1 | 100 |
| C• | 11 | 6 | 16 | 11 | 8 | 9 | 11 | 4 | 7 | 9 |
| 7 • | 8 | | 3 | 29 | 23 | 7 | 7 | 9 | | 86 |
| T• | 1 | | 0 | 2 | 2 | 0 | 0 | 1 | | 6 |
| R• | 9 | | 3 | 34 | 27 | 8 | 8 | 10 | | 100 |
| C• | 8 | | 3 | 8 | 6 | 4 | 4 | 7 | | 6 |
| 6 • | 3 | 7 | 3 | 8 | 14 | 29 | 7 | 4 | | 75 |
| T• | 0 | 0 | 0 | 1 | 1 | 2 | 0 | 0 | | 5 |
| R• | 4 | 9 | 4 | 11 | 19 | 39 | 9 | 5 | | 100 |
| C• | 2 | 21 | 3 | 2 | 4 | 16 | 4 | 3 | | 5 |
| 5 • | 2. | 4 | 25 | 106 | 124 | 15 | 46 | 19 | 4 | 359 |
| T• | 1 | 6 | 2 | 7 | 8 | 1 | 3 | 1 | 0 | 24 |
| R• | 6 | 1 | 7 | 30 | 35 | 4 | 13 | 5 | 0 | 100 |
| C• | 15 | 6 | 27 | 30 | 35 | 8 | 24 | 15 | 7 | 24 |
| 4 • | 2 | 1 | | 11 | 5 | 4 | 10 | 51 | 10 | 94 |
| T• | 0 | 0 | | 1 | 0 | 0 | 1 | 3 | 1 | 6 |
| R• | 2 | 1 | | 12 | 5 | 4 | 11 | 54 | 11 | 100 |
| C• | 1 | 3 | | 3 | 1 | 2 | 5 | 39 | 71 | 6 |
| 3 • | 1 | 2 | 1 | 6 | 3 | 5 | 4 | 2 | | 24 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 2 |
| R• | 4 | 8 | 4 | 25 | 13 | 21 | 17 | 8 | | 100 |
| C• | 1 | 6 | 1 | 2 | 1 | 3 | 2 | 2 | | 2 |
| 2 • | 14 | 7 | 14 | 22 | 21 | 17 | 29 | 5 | | 129 |
| T• | 1 | 0 | 1 | 1 | 1 | 1 | 2 | 0 | | 9 |
| R• | 11 | 5 | 11 | 17 | 16 | 13 | 22 | 4 | | 100 |
| C• | 10 | 21 | 14 | 6 | 6 | 9 | 15 | 4 | | 9 |
| ( 8) | 1 | | 3 | | 5 | | 7 | | 9 | |
| Q10 | | 2 | | 4 | | 6 | | 8 | | |
| COLUMN TOTAL | 149 | | 94 | | 354 | | 193 | | 14 | |
| | 33 | | 351 | | 181 | | 131 | | | |
| PERCENT TOTAL | 10 | | 6 | | 24 | | 13 | | 1 | |
| | 2 | | 23 | | 12 | | 9 | | | |

(Question 8)
I. (1) Concepts
II. (9) Raw data
IV. (5) Math aids and formulas, computer programs
V (3) Designs or design techniques
VI. (4) Experiments: processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (9) Specifications
X. (6) Performance and characteristics
XI. (7) Production processes and procedures
XII (10) T chnical status
XIII. (12) Utilization
XIV. (2) Cost and funding administrative action

(Question 10,
I. Production, Management and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(36) Production and management
(28) Psychology and human engineering

II. Medical Sciences
(18) Medical sciences

III. Mechanical, Industrial, Civil, and Marine Engineering
(11) Ground transportation equipment
(13) Installations and construction
(18) Military sciences and operations
(34) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided Missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII Research and Research Equipment
(30) Research and research equipment

IX Mathematics
(15) Mathematics

GRAND TOTAL= 1494

CHI-SQUARE (OF TABLE) 719.27821
DF= 96

VALUES NOT ENTERED 6

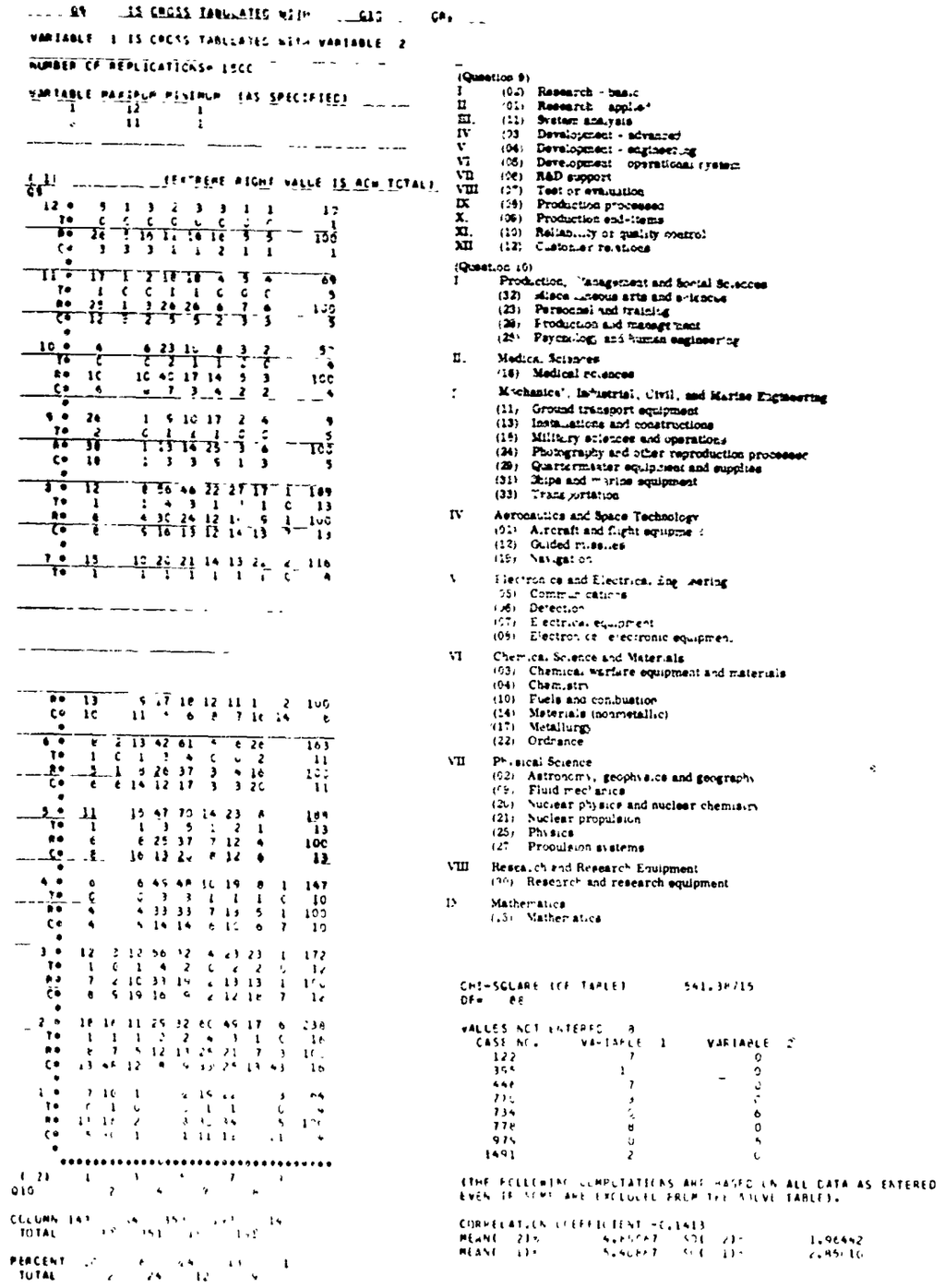
| CASE NO. | VARIABLE 6 | VARIABLE 8 |
|---|---|---|
| 122 | 12 | 0 |
| 395 | 14 | 0 |
| 446 | 10 | 0 |
| 710 | 5 | 0 |
| 778 | 5 | 0 |
| 1491 | 5 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE.

CORRELATION COEFFICIENT -0.1515

| | | | |
|---|---|---|---|
| MEAN( 8)= | 4.85067 | SD( 8)= | 3.96442 |
| MEAN( 6)= | 7.38600 | SD( 6)= | 3.26069 |

# Table 3-19. Kind of Task Output vs. Field of Task Output



Q9 IS CROSS TABULATED WITH Q10

VARIABLE 1 IS CROSS TABULATED WITH VARIABLE 2

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
1 12 1
2 11 1

(EXTREME RIGHT VALUE IS ROW TOTAL)

Q9

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 • | 9 | 1 | 3 | 2 | 3 | 3 | 1 | 1 | | 12 |
| To | C | C | C | C | C | C | C | C | | 1 |
| Ro | 26 | 3 | 16 | 11 | 10 | 16 | 5 | 5 | | 100 |
| Co | 3 | 3 | 3 | 1 | 1 | 2 | 1 | 1 | | 1 |
| • | | | | | | | | | | |
| 11 • | 17 | 1 | 2 | 10 | 10 | 4 | 5 | 4 | | 60 |
| To | 1 | C | C | 1 | 1 | C | C | C | | 5 |
| Ro | 25 | 1 | 3 | 26 | 26 | 6 | 7 | 6 | | 100 |
| Co | 12 | 3 | 2 | 5 | 5 | 2 | 3 | 3 | | 5 |
| • | | | | | | | | | | |
| 10 • | 4 | | 6 | 23 | 16 | 8 | 3 | 2 | | 9 |
| To | C | | C | 2 | 1 | 1 | C | C | | 0 |
| Ro | 10 | | 10 | 40 | 27 | 14 | 5 | 3 | | 100 |
| Co | 6 | | 4 | 7 | 3 | 4 | 2 | 2 | | 4 |
| • | | | | | | | | | | |
| 9 • | 24 | | 1 | 9 | 10 | 17 | 2 | 4 | | 9 |
| To | 2 | | C | 1 | 1 | 1 | C | C | | 5 |
| Ro | 38 | | 1 | 13 | 14 | 25 | 3 | 6 | | 100 |
| Co | 10 | | 1 | 3 | 3 | 5 | 1 | 3 | | 5 |
| • | | | | | | | | | | |
| 8 • | 12 | | 8 | 26 | 46 | 22 | 27 | 17 | 1 | 189 |
| To | 1 | | 1 | 4 | 3 | 1 | 1 | 1 | C | 13 |
| Ro | 6 | | 4 | 30 | 24 | 12 | 14 | 9 | 1 | 100 |
| Co | 8 | | 5 | 16 | 13 | 12 | 14 | 13 | 9 | 13 |
| • | | | | | | | | | | |
| 7 • | 15 | | 10 | 26 | 21 | 14 | 13 | 24 | 4 | 116 |
| To | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | C | 8 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ro | 13 | | 9 | 47 | 18 | 12 | 11 | 1 | 2 | 100 |
| Co | 10 | | 11 | 4 | 6 | 8 | 7 | 10 | 14 | 8 |
| • | | | | | | | | | | |
| 6 • | 8 | 2 | 13 | 42 | 61 | 4 | 8 | 26 | | 163 |
| To | 1 | C | 1 | 3 | 4 | C | C | 2 | | 11 |
| Ro | 5 | 1 | 9 | 26 | 37 | 3 | 5 | 16 | | 100 |
| Co | 6 | 6 | 14 | 12 | 17 | 3 | 3 | 20 | | 11 |
| • | | | | | | | | | | |
| 5 • | 11 | | 15 | 47 | 70 | 14 | 23 | 8 | | 189 |
| To | 1 | | 1 | 3 | 5 | 1 | 2 | 1 | | 13 |
| Ro | 6 | | 8 | 25 | 37 | 7 | 12 | 4 | | 100 |
| Co | 8 | | 10 | 13 | 24 | 8 | 12 | 6 | | 13 |
| • | | | | | | | | | | |
| 4 • | 0 | | 6 | 45 | 48 | 10 | 19 | 8 | 1 | 147 |
| To | C | | C | 3 | 3 | 1 | 1 | 1 | C | 10 |
| Ro | 4 | | 4 | 33 | 33 | 7 | 13 | 5 | 1 | 100 |
| Co | 4 | | 5 | 14 | 14 | 6 | 10 | 6 | 7 | 10 |
| • | | | | | | | | | | |
| 3 • | 12 | 2 | 12 | 56 | 32 | 4 | 23 | 23 | 1 | 172 |
| To | 1 | C | 1 | 4 | 2 | C | 2 | 2 | C | 12 |
| Ro | 7 | 1 | 10 | 33 | 19 | 2 | 13 | 13 | 1 | 100 |
| Co | 8 | 5 | 19 | 16 | 9 | 4 | 12 | 16 | 7 | 12 |
| • | | | | | | | | | | |
| 2 • | 18 | 16 | 11 | 25 | 32 | 60 | 45 | 17 | 6 | 230 |
| To | 1 | 1 | 1 | 2 | 2 | 4 | 3 | 1 | C | 16 |
| Ro | 8 | 7 | 5 | 12 | 13 | 26 | 21 | 7 | 3 | 100 |
| Co | 13 | 46 | 12 | 8 | 9 | 33 | 24 | 13 | 43 | 15 |
| • | | | | | | | | | | |
| 1 • | 7 | 10 | 1 | | 4 | 15 | 44 | | 3 | 84 |
| To | C | 1 | C | | C | 1 | 1 | | C | 6 |
| Ro | 11 | 17 | 2 | | 5 | 25 | 56 | | 5 | 100 |
| Co | 5 | 10 | 1 | | 1 | 11 | 16 | | 11 | 6 |
| • | | | | | | | | | | |

Q10

| | | | | | | |
|---|---|---|---|---|---|---|
| COLUMN TOTAL | 143 | 64 | 351 | 223 | | 14 |
| PERCENT TOTAL | 7 | 4 | 24 | 15 | | 1 |

(Question 9)

I (02) Research - basic
II (01) Research - applied
III. (11) System analysis
IV (03) Development - advanced
V (04) Development - engineering
VI (05) Development - operational system
VII (06) R&D support
VIII (07) Test or evaluation
IX (09) Production processes
X. (08) Production end-items
XI. (10) Reliability or quality control
XII (12) Customer relations

(Question 10)

I Production, Management and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(28) Production and management
(29) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III Mechanical, Industrial, Civil, and Marine Engineering
(11) Ground transport equipment
(13) Installations and construction
(15) Military sciences and operations
(34) Photography and other reproduction processes
(20) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided missiles
(15) Navigation

V Electronics and Electrical Engineering
(35) Communications
(36) Detection
(37) Electronic equipment
(09) Electronic or electronic equipment

VI Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII Research and Research Equipment
(30) Research and research equipment

IX Mathematics
(30) Mathematics

CHI-SQUARE (OF TABLE) 541.39715
DF= 88

VALUES NOT ENTERED 8

| CASE NO. | VARIABLE 1 | VARIABLE 2 |
|---|---|---|
| 122 | 7 | 0 |
| 365 | 1 | 0 |
| 448 | 7 | 0 |
| 730 | 9 | 0 |
| 734 | 5 | 6 |
| 778 | 8 | 0 |
| 975 | 0 | 5 |
| 1491 | 2 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.1413
MEAN (1) 5.46827 STD (1) 1.96442
MEAN (2) 5.46827 STD (2) 2.85116

Table 3-20 Discovery of Information Available, but Unknown, during Task vs. Kind of Task Output

```
Q32    IS CROSS TABULATED WITH      Q9      OR,

VARIABLE  3 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS=  .500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
       3       2       1
       1      12       1

( 3)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q32
   2 =  20  6C  43  23  42  29  23  29  1C  14   6   2   333
     T=   1   4   2   2   3   2   2   2   1   1   1   0    26
     R=   7  2C  13   8  14  1C   8   C   3   5   3   1   100
     C=  31  2?  25  14  22  12  1?  15  14  24  12  1C    2C
     =
   1 =  441751312412446134  95161  59  44  61  18  1195
     T=   3  12   9   3  10   9   6  11   4   3   4   1    80
     R=   4  15  11  1C  12  11   8  13   5   4   5   2   1C0
     C=  69  7?  75  84  78  82  81  85  86  76  9?  9C    8C
     =
( 1)     1       3       5       7       9      11
Q9           2       4       6       8      10      12

COLUMN  84   173   188   118    69    69
 TOTAL     239   147   163   1?C    58    20

PERCENT   4    12    13     8     5     5
 TOTAL      16    1C    11    13     4     1

GRAND TOTAL=  1458

CHI-SQUARE (OF TABLE)        23.C5155
DF=  11

VALUES NOT ENTERED   2
  CASE NO.      VARIABLE  3     VARIABLE  1

    734                2              0
    979                1              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -C.C956
MEAN( 1)=        5.40867   SD( 1)=        2.85010
MEAN( 3)=        1.2C267   SD( 3)=        0.4C212
```

(Question 32)
I. (2, No
II (1) Yes

(Question 9)
I. (02) Research - basic
II (01) Research - applied
III. (11) System analysis
IV. (03) Development - advanced
V (04) Development - engineering
VI. (05) Development - operational system
VII. (06) R&D support
VIII. (07) Test or evaluation
IX. (09) Production processes
X. (08) Production end-items
XI. (10) Reliability or quality control
XII (12) Customer relations

# Table 3-21. Type of Work Activity vs. Kind of Task Output

```
    Q54  IS CROSS TABULATED WITH   Q9   OR:

VARIABLE  8 IS CROSS TABULATED WITH VARIABLE  6

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     8        5        1
     6       12        1

( 8)          (EXTREME RIGHT VALUE IS ROW TOTAL)
Q54
   5 *  13 48 46 28 32 33 28 36 13  6 12  4  295
     T*   1  3  3  2  2  7  1  2  1  0  1  0   20
     R*   4 16 16  9 11 11  6 12  4  2  5  2  100
     C*  20 20 27 19 17 20 15 19 19 10 22 35   20
      *
   4 *   1  1  4  1  5  4  2  1  2  5     2   28
     T*   0  0  0  0  0  0  0  0  0  0     0    2
     R*   4  4 14  4 18 14  7  4  7 18     7  100
     C*   2  0  2  1  3  2  2  1  3  9    10    2
      *
   3 *   4 25 23 21 24 16 10 17  7  8 11      171
     T*   0  2  2  1  2  1  1  1  0  1  1       11
     R*   2 13 13 12 14  9  6 10  4  5  7      100
     C*   6 12 13 14 13 10  8  9 10 14 17       11
      *
   2 *  45146 74 88112 99 73 86 39 30 26  4  822
     T*   3 10  5  6  7  7  5  6  3  2  2  0   55
     R*   5 18  9 11 14 12  9 10  5  4  3  0  100
     C*  70 61 43 60 60 61 62 45 57 52 38 20   55
      *
   1 *   1 14 26  9 15 11 15 50  8  9 16  7  181
     T*   0  1  2  1  1  1  1  3  1  1  1  0   12
     R*   1  8 14  5  8  6  8 28  4  5  9  4  100
     C*   2  6 15  6  8  7 13 26 12 16 23 35   12
      *
 ( 6)   1     3     5     7     9    11

Q9          2     4     6     8    10    12

COLUMN  64   173   188   118    69    69
 TOTAL     238   147   163   190    58    20

PERCENT   4    12    13     9     5     5
 TOTAL     18    10    11    13     4     1

GRAND TOTAL= 1497

CHI-SQUARE (OF TABLE)       145.3709=
DF=   44

VALUES NOT ENTERED   3
  CASE NO.     VARIABLE  8     VARIABLE  6
     734            2              0
     975            1              0
    1044            0              2

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.0515
MEAN( 8)=       5.40867   SD( 8)=       2.85010
MEAN( 6)=       2.61867   SD( 6)=       1.30424
```

(Question 54)

I. (5) Technical evaluation
II. (4) Scientific and Engineering (nonmanagement)
III. (2) Technical management
IV. (1) Administrative management
V. (3) Both administrative and technical management

(Question 9)

I. (02) Research - basic
II. (01) Research - applied
III. (11) System analysis
IV. (03) Development - advanced
V. (04) Development - engineering
VI. (05) Development - operational system
VII. (06) R&D support
VIII. (07) Test or evaluation
IX. (08) Production processes
X. (09) Production end-items
XI. (10) Reliability or quality control
XII. (12) Customer relations

Table 3 22. Kind of Work Position vs. Kind of Task Output

```
 055  IS CROSS TABULATED WITH  09   OR:
VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  6
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    9      12       1
    6      12       1

( 9)                (EXTREME RIGHT VALUE IS ROW TOTAL)
055
 12 *    1  2  2  3  1  4  1  1  1  1  1  9   26
 T*      0  0  0  0  0  0  0  0  0  0  1      2
 R*      4  8  8 12  4 15  4  4  4  4 35    100
 C*      0  1  1  2  1  3  1  1  2  1 45      2
  *
 11 *    3  3     1  3     6  2     45         63
 T*      0  0     0  0     0  0     3          4
 R*      5  5     2  5    15  3    71        100
 C*      1  2     1  2     3  3    65          4
  *
 10 *          1  1     5  2  3  7 19  2  1   41
 T*            0  0     0  0  0  0  1  0  0    3
 R*            2  2    12  5  7 17 46  5  2  100
 C*            1  1     3  2  2 10 33  3  5    3
  *
  9 *    1  2  2  2  1  2 11 36  6  4  1      68
 T*      0  0  0  0  0  0  1  2  0  0  0      5
 R*      1  3  3  3  1  3 16 53  9  6  1    100
 C*      0  1  1  1  1  2  6 22 10  6  5      5
  *
  8 *    6  6     4  5  8 82  2  2 10  1    123
 T*      0  0     0  0  0  5  0  0  1  0      8
 R*      5  5     3  4  4 67  2  2  8  1    100
 C*      3  3     2  3  4 43  3  3 14  5      8
  *
  7 *    4 17 18  2 13  6 64 17  2  5  2  1  151
 T*      0  1  1  0  1  0  4  1  0  0  0  0   10
 R*      3 11 12  1  9  4 42 11  1  3  1  1  100
 C*      6  7 10  1  7  4 54  9  3  9  3  5   10
  *
  6 *    1  3  9  7  8 75  8 14  5  8     1  139
 T*      0  0  1  0  1  5  1  1  0  1     0    9
 R*      1  2  6  5  6 54  6 10  4  6     1  100
 C*      2  4  5  5  4 46  7  7  7 14     5    9
  *
  5 *   13 21 26 24 41 10 25 10  6  4  2  282
 T*      1  1  2  8  3  1  2  1  0  0  0   19
 R*      5  7  9 44 15  4  9  4  2  1  1  100
 C*      5 12 18 66 25  8 13 14 10  6 10   19
  *
  4 *   14  7 87 19  4  2  8  2  2     1  146
 T*      1  0  6  1  0  0  1  0  0     0   10
 R*     10  5 60 13  3  1  5  1  1     1  100
 C*      6  4 59 10  2  2  4  3  3     5   10
  *
  3 *    8 85  7  6 18  9  8     5  1  2  149
 T*      1  6  0  0  1  1  1     0  0  0   10
 R*      5 57  5  4 12  6  5     3  1  1  100
 C*      3 45  5  3 11  8  4     9  1 10   10
  *
  2 *    8 94 19 12  8  4 12 11  2  3     1  244
 T*      1 11  1  1  1  0  1  1  0  0     0   16
 R*      3 67  8  5  3  2  5  5  1  1     0  100
 C*     13 66 11  8  4  2 10  6  3  5     5   16
  *
  1 *   51  9     1           3     1        65
 T*      3  1     0           0     0        4
 R*     78 14     2           5     2      100
 C*     80  4     1           2     2        4
  *
    **********************************************
( 6)    1     3     5     7     9    11.
09      2     4     6     8    10    12

COLUMN  64   173   188   118    69    69
 TOTAL     235   147   163   189    58    20

PERCENT  4    12    13     8     5     5
 TOTAL     16    10    11    13     4     1
```

(Question 58)
I. (02) Research - basic
II. (01) Research - applied
III. (11) System analysis
IV. (03) Development - advanced
V. (04) Development - engineering
VI. (05) Development - operational system
VII. (06) R&D support
VIII. (07) Test or evaluation
IX. (08) Production processes
X. (09) Production end-items
XI. (10) Reliability or quality control
XII. (12) Customer relations

(Question 9)
I. (02) Research - basic
II. (01) Research - applied
III. (11) System analysis
IV. (03) Development - advanced
V (04) Development - engineering
VI. (05) Development - operational system
VII. (06) R&D support
VIII. (07) Test or evaluation
IX. (08) Production processes
X. (09) Production end-items
XI. (10) Reliability or quality control
XII. (12) Customer relations

```
GRAND TOTAL= 1497

CHI-SQUARE (CF TABLE)=    4738.70886
DF= 121

VALUES NOT ENTERED  3
 CASE NO.    VARIABLE  9    VARIABLE  6
    340          0              8
    734          9              0
    979         10              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.6556
MEAN( 6)=      5.40867   SD( 6)=      2.85010
MEAN( 9)=      5.27867   SD( 9)=      2.76196
```

## Table 3-22. Field of Work Position vs. Kind of Task Output

Q5A IS CROSS TABULATED WITH Q9 OR,

VARIABLE 10 IS CROSS TABULATED WITH VARIABLE 6

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 10 | 5 | 1 |
| 6 | 12 | 1 |

(10) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q5A | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 3 | 8 | 5 | 2 | | 5 | 2 | | 1 | 1 | | 27 |
| T% | 5 | 1 | 5 | 0 | | 0 | 0 | | 0 | 0 | | 2 |
| R% | 11 | 30 | 19 | 7 | | 19 | 7 | | 4 | 4 | | 100 |
| C% | 5 | 3 | 3 | 1 | | 4 | 1 | | 2 | 1 | | 2 |
| 8 | 3 | 12 | 22 | 6 | 7 | 24 | 14 | 16 | 3 | 3 | 1 | 1 | 114 |
| T% | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 6 |
| R% | 3 | 11 | 19 | 5 | 6 | 21 | 12 | 16 | 3 | 3 | 1 | 1 | 100 |
| C% | 5 | 5 | 13 | 4 | 4 | 16 | 12 | 9 | 4 | 5 | 1 | 5 | 8 |
| 7 | 19 | 51 | 20 | 19 | 21 | 3 | 15 | 26 | 3 | 5 | 4 | 1 | 187 |
| T% | 1 | 3 | 1 | 1 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 13 |
| R% | 10 | 27 | 11 | 10 | 11 | 2 | 8 | 14 | 2 | 3 | 2 | 1 | 100 |
| C% | 10 | 21 | 12 | 13 | 11 | 2 | 13 | 14 | 4 | 9 | 6 | 5 | 13 |
| 6 | 17 | 54 | 6 | 12 | 11 | 3 | 13 | 15 | 9 | 7 | 6 | 5 | 158 |
| T% | 1 | 4 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 11 |
| R% | 11 | 34 | 4 | 8 | 7 | 2 | 8 | 9 | 6 | 5 | 4 | 3 | 100 |
| C% | 27 | 73 | 3 | 8 | 6 | 2 | 11 | 8 | 13 | 12 | 9 | 25 | 11 |
| 5 | 3 | 29 | 34 | 52 | 71 | 73 | 26 | 59 | 11 | 12 | 26 | 3 | 399 |
| T% | 0 | 2 | 2 | 3 | 5 | 5 | 2 | 4 | 1 | 1 | 2 | 0 | 27 |
| R% | 1 | 7 | 9 | 13 | 18 | 18 | 7 | 15 | 3 | 3 | 7 | 1 | 100 |
| C% | 5 | 12 | 20 | 35 | 38 | 45 | 22 | 31 | 16 | 21 | 38 | 15 | 27 |
| 4 | 8 | 36 | 47 | 47 | 54 | 44 | 19 | 90 | 7 | 18 | 13 | 1 | 336 |
| T% | | 2 | 3 | 3 | 4 | 3 | 1 | 6 | 0 | 1 | 1 | 0 | 22 |
| R% | | 11 | 14 | 14 | 16 | 13 | 6 | 15 | 2 | 5 | 4 | 0 | 100 |
| C% | | 15 | 27 | 32 | 29 | 27 | 16 | 26 | 10 | 31 | 19 | 5 | 22 |
| 3 | 3 | 16 | 18 | 1 | 15 | 6 | 11 | 6 | 1 | 2 | 1 | 4 | 84 |
| T% | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| R% | 4 | 19 | 21 | 1 | 18 | 7 | 13 | 7 | 1 | 2 | 1 | 5 | 100 |
| C% | 5 | 7 | 10 | 1 | 8 | 4 | 9 | 3 | 1 | 3 | 1 | 20 | 4 |
| 2 | 10 | 16 | 1 | | | | | 1 | | | 1 | 1 | 30 |
| T% | 1 | 1 | 0 | | | | | 0 | | | 0 | 0 | 2 |
| R% | 33 | 53 | 3 | | | | | 3 | | | 3 | 3 | 100 |
| C% | 16 | 7 | 1 | | | | | 1 | | | 1 | 5 | 2 |
| 1 | 6 | 17 | 20 | 8 | 9 | 9 | 13 | 13 | 34 | 10 | 16 | 4 | 159 |
| T% | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 11 |
| R% | 4 | 11 | 13 | 5 | 6 | 6 | 8 | 8 | 21 | 6 | 10 | 3 | 100 |
| C% | 9 | 7 | 12 | 5 | 5 | 6 | 11 | 7 | 50 | 17 | 23 | 20 | 11 |

| (6) | 1 | 3 | 5 | 7 | 9 | 11 |
|---|---|---|---|---|---|---|
| Q9 | 2 | 4 | 6 | 8 | 10 | 12 |
| COLUMN TOTAL | 64 239 | 173 147 | 188 162 | 116 190 | 68 58 | 69 20 |
| PERCENT TOTAL | 4 14 | 12 10 | 13 11 | 8 13 | 5 4 | 5 1 |

GRAND TOTAL= 1454

CHI-SQUARE (OF TABLE) 580.35701
DF= 88

VALUES NOT ENTERED 6

| CASE NO. | VARIABLE 10 | VARIABLE 6 |
|---|---|---|
| 120 | 0 | 7 |
| 122 | 0 | 7 |
| 197 | 0 | 6 |
| 238 | 0 | 9 |
| 734 | 6 | 0 |
| 975 | 5 | 0 |

(Question 56)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (35) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (24) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

(Question 9)

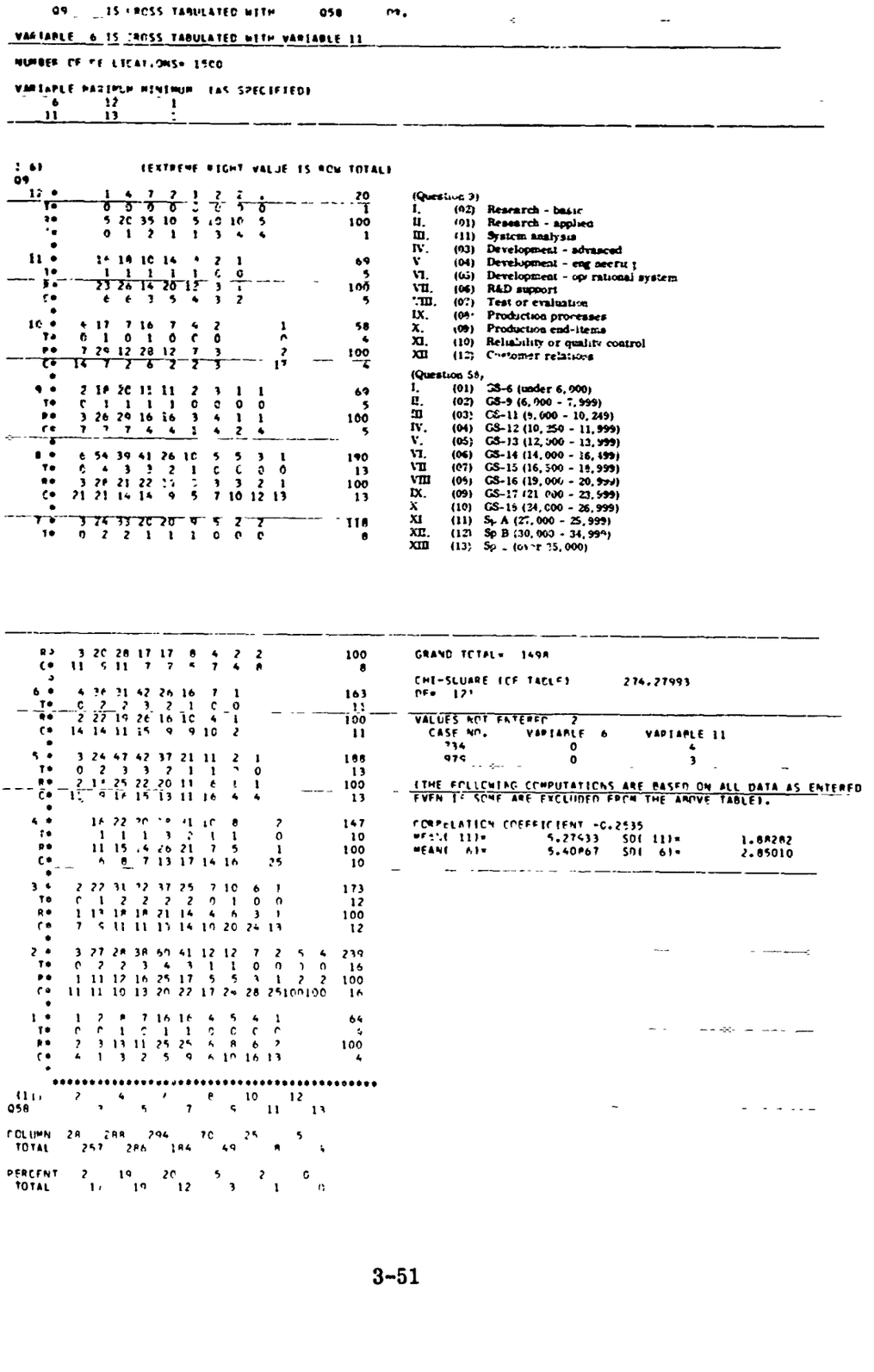
| | | |
|---|---|---|
| I. | (02) | Research - basic |
| II | (01) | Research - applied |
| III. | (11) | System analysis |
| IV | (03) | Development - advanced |
| V | (04) | Development - engineering |
| VI | (05) | Development - operational system |
| VII. | (06) | R&D support |
| VIII | (07) | Test or evaluation |
| IX. | (08) | Production processes |
| X. | (09) | Production end-items |
| XI | (10) | Reliability or quality control |
| XII | (12) | Customer relations |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =-0.1343

MEAN (6)= 5.40867 SD( 6)= 2.85010
MEAN (10)= 4.82200 SD( 10)= 1.98451

## Table 3-24. Kind of Task Output vs. User's Equivalent GS Rating



```
      09    IS CROSS TABULATED WITH      058      ON.

VARIABLE   6 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF OBSERVATIONS= 1500

VARIABLE  MAXIMUM  MINIMUM  (AS SPECIFIED)
    6        12        1
   11        13        1

(EXTREME RIGHT VALUE IS ROW TOTAL)
09
 12 *     1  4  7  2  1  2  2  .                          20
  T*     0  0  0  0  0  0  0  1                           1
  R*     5 20 35 10  5 10 10  5                         100
  C*     0  1  2  1  1  3  4  4                           1
  *
 11 *    14 18 10 14  4  2  1                            69
  T*     1  1  1  1  1  0  0                             5
  R*    23 26 14 20 12  3  1                           100
  C*     6  6  3  5  4  3  2                             5
  *
 10 *    4 17  7 16  7  4  2        1                    58
  T*     0  1  0  1  0  0  0        0                    4
  R*     7 29 12 28 12  7  3        2                  100
  C*    14  7  2  6  2  2  3       17                    4
  *
  9 *    2 18 20 11 11  2  3  1  1                       69
  T*     0  1  1  1  1  0  0  0  0                       5
  R*     3 26 29 16 16  3  4  1  1                     100
  C*     7  7  7  4  4  1  4  2  4                       5
  *
  8 *    6 54 39 41 26 10  5  5  3  1                   190
  T*     0  4  3  3  2  1  0  0  0  0                    13
  R*     3 28 21 22 14  5  3  3  2  1                   100
  C*    21 21 14 14  9  5  7 10 12 13                    13
  *
  7 *    3 24 33 20 20  9  5  2  2                      118
  T*     0  2  2  1  1  1  0  0  0                       8
  R*     3 20 28 17 17  8  4  2  2                     100
  C*    11  9 11  7  7  8  7  4  8                       8
  *
  6 *    4 36 31 42 26 16  7  1                         163
  T*     0  2  2  3  2  1  0  0                         11
  R*     2 22 19 26 16 10  4  1                         100
  C*    14 14 11 15  9  9 10  2                         11
  *
  5 *    3 24 47 42 37 21 11  2  1                      188
  T*     0  2  3  3  2  1  1  0  0                      13
  R*     2 13 25 22 20 11  6  1  1                      100
  C*    11  9 14 15 13 11 16  4  4                      13
  *
  4 *      16 22 20 19 41 10  8        2                147
  T*       1  1  1  3  3  1  1        0                10
  R*      11 15 14 26 21  7  5        1                100
  C*       8  8  7 13 17 14 16       25                10
  *
  3 *    2 22 31 32 37 25  7 10  6  1                   173
  T*     0  1  2  2  2  2  0  1  0  0                    12
  R*     1 13 18 18 21 14  4  6  3  1                   100
  C*     7  9 11 11 13 14 10 20 24 13                    12
  *
  2 *    3 27 28 38 60 41 12 12  7  2  5  4             239
  T*     0  2  2  3  4  3  1  1  0  0  1  0              16
  R*     1 11 12 16 25 17  5  5  3  1  2  2             100
  C*    11 11 10 13 20 22 17 24 28 25100100              16
  *
  1 *    1  2  8  7 16 16  4  5  4  1                    64
  T*     0  0  1  0  1  1  0  0  0  0                    4
  R*     2  3 13 11 25 25  6  8  6  2                   100
  C*     4  1  3  2  5  9  6 10 16 13                    4
  *
 (11)    2     4     7     8    10    12
058        3     5     7     9    11    13

COLUMN  28   288   294    70    25     5
 TOTAL     257   286   184    49     8     4

PERCENT  2    19    20     5     2     0
 TOTAL    17    19    12     3     1     0
```

(Question 9)

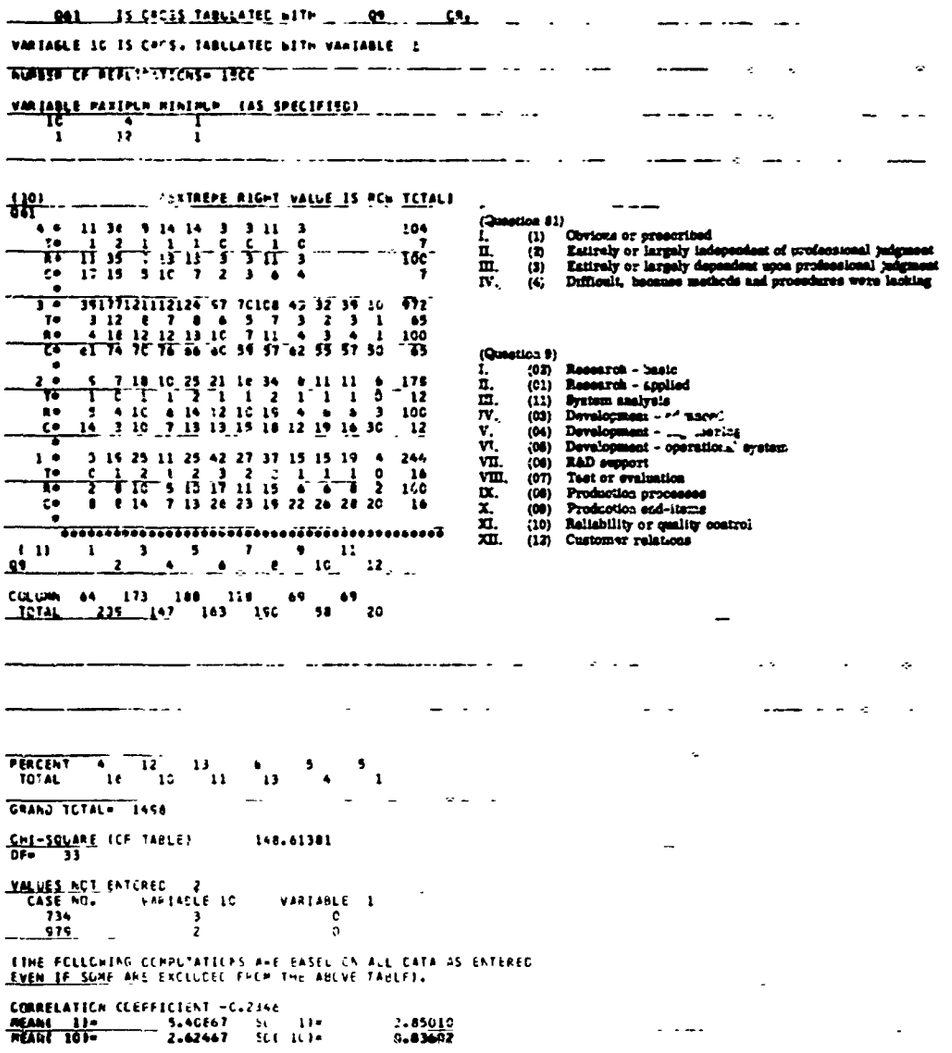
| | | |
|---|---|---|
| I. | (02) | Research - basic |
| II. | (01) | Research - applied |
| III. | (11) | System analysis |
| IV. | (03) | Development - advanced |
| V | (04) | Development - eng neerr j |
| VI. | (05) | Development - op rational system |
| VII. | (06) | R&D support |
| VIII. | (07) | Test or evaluation |
| IX. | (08) | Production processes |
| X. | (09) | Production end-items |
| XI. | (10) | Reliability or quality control |
| XII | (12) | Customer relations |

(Question 58,

| | | |
|---|---|---|
| I. | (01) | GS-6 (under 6,000) |
| II. | (02) | GS-9 (6,000 - 7,999) |
| III | (03) | GS-11 (8,000 - 10,249) |
| IV. | (04) | GS-12 (10,250 - 11,999) |
| V. | (05) | GS-13 (12,000 - 13,999) |
| VI. | (06) | GS-14 (14,000 - 16,499) |
| VII | (07) | GS-15 (16,500 - 18,999) |
| VIII | (08) | GS-16 (19,000 - 20,999) |
| IX. | (09) | GS-17 (21,000 - 23,999) |
| X | (10) | GS-18 (24,000 - 26,999) |
| XI | (11) | Sp A (27,000 - 25,999) |
| XII. | (12) | Sp B (30,000 - 34,999) |
| XIII | (13) | Sp C (over 35,000) |

```
GRAND TOTAL=  1498

CHI-SQUARE (OF TABLE)        274.27993
DF=  121

VALUES NOT ENTERED    2
  CASE NO.      VARIABLE  6     VARIABLE 11
    734              0               4
    979              0               3

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.2535
MEAN( 11)=        5.27433   SD( 11)=        1.88282
MEAN(  6)=        5.40867   SD(  6)=        2.85010
```

Table 3-25 Interviewer's Assessment of Difficulty in Use of Information vs. Kind of Task Output



Q61 IS CROSS TABULATED WITH Q9 CASE

VARIABLE 10 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF OBSERVATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
10 4 1
1 12 1

(10) EXTREME RIGHT VALUE IS ROW TOTAL
Q61

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 11 | 36 | 9 | 14 | 14 | 3 | 3 | 11 | 3 | | | | | 104 |
| T | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | | | | | 7 |
| R | 11 | 35 | 9 | 13 | 13 | 3 | 3 | 11 | 3 | | | | | 100 |
| C | 17 | 19 | 5 | 10 | 7 | 2 | 3 | 4 | 4 | | | | | 7 |
| 3 | 39 | 97 | 21 | 11 | 21 | 24 | 17 | 7 | 10 | 8 | 42 | 32 | 39 | 10 | 472 |
| T | 3 | 12 | 2 | 7 | 8 | 6 | 5 | 7 | 3 | 2 | 3 | 1 | | | 65 |
| R | 4 | 18 | 12 | 12 | 13 | 10 | 7 | 11 | 4 | 3 | 4 | 1 | | | 100 |
| C | 61 | 74 | 70 | 78 | 86 | 80 | 56 | 57 | 62 | 55 | 57 | 50 | | | 65 |
| 2 | 5 | 7 | 18 | 10 | 25 | 21 | 16 | 34 | 8 | 11 | 11 | 6 | | | 178 |
| T | 1 | 0 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | | | 12 |
| R | 2 | 4 | 10 | 6 | 14 | 12 | 10 | 19 | 4 | 6 | 6 | 3 | | | 100 |
| C | 14 | 3 | 10 | 7 | 13 | 13 | 15 | 18 | 12 | 19 | 16 | 30 | | | 12 |
| 1 | 3 | 16 | 25 | 11 | 25 | 42 | 27 | 37 | 15 | 15 | 19 | 4 | | | 244 |
| T | 0 | 1 | 2 | 1 | 2 | 3 | 2 | 3 | 1 | 1 | 1 | 0 | | | 16 |
| R | 2 | 8 | 16 | 5 | 15 | 17 | 11 | 15 | 6 | 6 | 8 | 2 | | | 160 |
| C | 8 | 8 | 14 | 7 | 13 | 26 | 23 | 19 | 22 | 26 | 28 | 20 | | | 16 |

(11) 1 3 5 7 9 11
Q9 2 4 6 8 10 12

COLUMN 64 173 188 118 69 69
TOTAL 235 147 163 150 58 20

(Question 61)
I. (1) Obvious or prescribed
II. (2) Entirely or largely independent of professional judgment
III. (3) Entirely or largely dependent upon professional judgment
IV. (4) Difficult, because methods and procedures were lacking

(Question 9)
I. (02) Research - basic
II. (01) Research - applied
III. (11) System analysis
IV. (03) Development - advanced
V. (04) Development - engineering
VI. (05) Development - operational system
VII. (09) R&D support
VIII. (07) Test or evaluation
IX. (08) Production processes
X. (09) Production end-items
XI. (10) Reliability or quality control
XII. (12) Customer relations

PERCENT 4 12 13 6 5 5
TOTAL 16 10 11 13 4 1

GRAND TOTAL= 1498

CHI-SQUARE (OF TABLE) 148.61381
DF= 33

VALUES NOT ENTERED 2
CASE NO. VARIABLE 10 VARIABLE 1
734 3 0
975 2 0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.2346
MEAN( 1)= 5.40667 SD( 1)= 2.85010
MEAN( 10)= 2.62467 SD( 10)= 0.83682

## Table 3-26. Interviewer's Assessment of Difficulty in Acquisition of Information vs. Kind of Task Output

```
Q62   IS CROSS TABULATED WITH   Q9        OR,

VARIABLE 11 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 1500

VARIABLE PARTIPLE MINIMUM  (AS SPECIFIED)
    11          3          1
     1         12          1

(111                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q62
   3 *  16 67 28 28 39 10 15 20  6  5  6  1  237
    T*   1  4  2  2  3  1  1  1  0  0  0  0   16
    R*   7 26 11 11 16  4  6  8  3  2  3       102
    C*  25 26 15 18 21  6 13 11  9  9  9  5    16
     *
   2 *  25115 53 75 82 98 55 58 35 27 38 11   764
    T*   2  8  4  5  5  7  4  7  2  2  3  1    51
    R*   4 16 12 10 11 13  7 13  5  4  5  1   100
    C*  45 50 54 54 44 60 47 52 51 47 55 55    51
     *
   1 *  15 43 54 42 67 55 48 72 28 26 25  8   497
    T*   1  4  4  3  4  4  3  5  2  2  2  1    33
    R*   4 11 11  5 13 11 10 14  6  5  5  2   100
    C*  30 22 31 25 36 34 41 38 41 45 36 40    33
     *
     ********************************************
  ( 11    1    3    5    7    9   11
Q9        2    4    6    8   10   12

COLUMN  64  173  188  118   65   69
 TOTAL 235  147  163  150   38   20

PERCENT  4   12   13    8    5    5
 TOTAL  16   10   11   13    4    1

GRAND TOTAL= 1456

CHI-SQUARE (OF TABLE)        75.08003
DF=  22

VALUES NOT ENTERED   2
  CASE NO.     VARIABLE 11     VARIABLE  1
   734             2              0
   979             1              0

(THE FOLLOWING CORRELATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.1620
MEAN( 11)=        5.40967    SD( 11)=        2.85010
MEAN(111)=        1.82400    SD(111)=        0.67826
```

Q62 (Question 62)
- I. (1) Quite clear or obvious
- II. (2) Fairly clear or obvious
- III. (3) Neither clear nor obvious

Q9 (Question 9)
- I. (02) Research - basic
- II. (01) Research - applied
- III. (11) System analysis
- IV. (03) Development - advanced
- V. (04) Development - engineering
- VI. (05) Development - operational system
- VII. (06) R&D support
- VIII (07) Test or evaluation
- IX. (08) Production processes
- X. (09) Production end-items
- XI. (10) Reliability or quality control
- XII. (12) Customer relations

# Table 3-27. Interviewer's Assessment of Task Creativity vs. Kind of Task Output

```
     Q63    IS CROSS TABULATED WITH      Q9      OR,

VARIABLE 12 IS CROSS TABULATED WITH VARIABLE  6

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    12       4       1
     6      12       1
```

(12)  (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q63 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | * | 46 | 127 | 42 | 81 | 86 | 78 | 35 | 59 | 25 | 20 | 7 | 7 | 615 |
| | T* | 3 | 8 | 3 | 5 | 6 | 5 | 2 | 4 | 2 | 1 | 1 | 0 | 41 |
| | R* | 7 | 21 | 7 | 13 | 14 | 13 | 6 | 10 | 4 | 3 | 2 | 1 | 100 |
| | C* | 72 | 53 | 24 | 55 | 45 | 48 | 30 | 31 | 36 | 14 | 14 | 35 | 41 |
| | * | | | | | | | | | | | | | |
| 3 | * | 14 | 88 | 98 | 52 | 71 | 40 | 49 | 63 | 21 | 17 | 36 | 4 | 548 |
| | T* | 1 | 6 | 7 | 3 | 5 | 3 | 3 | 4 | 1 | 1 | 2 | 0 | 37 |
| | R* | 3 | 16 | 18 | 9 | 13 | 7 | 9 | 11 | 4 | 3 | 7 | 1 | 100 |
| | C* | 22 | 37 | 57 | 35 | 38 | 25 | 42 | 33 | 30 | 21 | 52 | 20 | 37 |
| | * | | | | | | | | | | | | | |
| 2 | * | 3 | 21 | 27 | 12 | 29 | 38 | 28 | 61 | 15 | 21 | 18 | 8 | 281 |
| | T* | 0 | 1 | 2 | 1 | 2 | 3 | 2 | 4 | 1 | 1 | 1 | 1 | 19 |
| | R* | 1 | 7 | 10 | 4 | 10 | 14 | 10 | 22 | 5 | 7 | 6 | 3 | 100 |
| | C* | 5 | 9 | 16 | 8 | 15 | 23 | 24 | 12 | 22 | 36 | 26 | 40 | 19 |
| | * | | | | | | | | | | | | | |
| 1 | * | 1 | 2 | 6 | 2 | 4 | 7 | 6 | 7 | 8 | 5 | 5 | 1 | 55 |
| | T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 |
| | R* | 2 | 5 | 11 | 4 | 7 | 13 | 11 | 13 | 15 | 9 | 9 | 2 | 100 |
| | C* | 2 | 1 | 3 | 1 | 2 | 4 | 5 | 4 | 12 | 9 | 7 | 5 | 4 |
| | * | | | | | | | | | | | | | |
| | | ********** | | | | | | | | | | | | |
| (61) | | 1 | | 3 | | 5 | | 7 | | 9 | | 11 | | |
| Q9 | | | 2 | | 4 | | 6 | | 8 | | 10 | | 12 | |
| COLUMN | | 64 | 173 | | 188 | | 114 | | 61 | | 69 | | | |
| TOTAL | | 232 | | 147 | | 163 | | 190 | | 58 | | 20 | | |

(Question 63)
- I. (1) Communication of existing information
- II. (2) Rearrangement of existing information, with little evaluation or analysis
- III. (3) Extensive evaluation and analysis of existing data
- IV. (4) Creation of new information, systems, or hardware

(Question 9)
- I. (02) Research - basic
- II. (01) Research - applied
- III. (11) System analysis
- IV. (03) Development - advanced
- V. (04) Development - engineering
- VI. (05) Development - operational system
- VII. (06) R&D support
- VIII. (07) Test or evaluation
- IX. (08) Production processes
- X. (09) Production end-items
- XI. (10) Reliability or quality control
- XII. (12) Customer relations

| | | | | | | |
|---|---|---|---|---|---|---|
| PERCENT | 4 | 12 | 13 | 8 | 5 | 5 |
| TOTAL | 16 | 10 | 11 | 13 | 4 | 1 |

GRAND TOTAL= 1498

CHI-SQUARE (OF TABLE) 202.98752
DF= 77

VALUES NOT ENTERED 2

| CASE NO. | VARIABLE 12 | VARIABLE 6 |
|---|---|---|
| 736 | 2 | 0 |
| 979 | 2 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.2354

| | | | |
|---|---|---|---|
| MEAN( 61)= | 5.40867 | SD( 61)= | 2.85010 |
| MEAN( 12)= | 3.14733 | SD( 12)= | 0.95055 |

## Table 3-28. Discovery of Information Availability, but Unknown, during Task vs. Field of Task Output

```
     Q32    IS CROSS TABULATED WITH      Q10    OR.
VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  3
NUMBER OF REPLICATIONS USED 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     5        2        1
     3        9        1

( 5)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q32
   2 =  24   8 18 69 75 37 41 28   5   382
     T=   2   1   1   5   5   2   3   2   0    20
     R=   6   3   5  23  25  12  14   9   2   100
     C=  17  24  19  20  21  20  21  20  36    20
      .
   1 = 119  25 76 282 299 144 152 105   9  1191
     T=   8   2   5  19  19  10  10   7   1    80
     R=  10   2   6  24  25  12  13   9   1   100
     C=  83  76  81  80  79  80  79  80  64    80
      .
      .....................................9999
  ( 3)   1     3     5     7     9
Q10        2     4     6     8
COLUMN 143    94   356   193    14
  TOTAL     33   951   181   131
PERCENT  10     6    24    13     1
  TOTAL      2    23    12     9
GRAND TOTAL= 1494

CHI-SQUARE (OF TABLE):          3.93187
DF=    8

VALUES NOT ENTERED   6
  CASE NO.    VARIABLE  5    VARIABLE  3

   122            1            0
   395            1            0
   446            2            0
   710            1            0
   778            1            0
  1491            1            0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0274
MEAN( 3)=       4.85067   SD( 3)=       1.96442
MEAN( 5)=       1.20267   SD( 5)=       0.40212
```

(Question 32)
I. (2) No
II. (1) Yes

(Question 10)
I. Production, Management and Socio. Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(30) Production and training
(28) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III. Mechanical, Industrial, Civil, and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and [illegible] equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided missiles
(19) Navigation

V. Electronics and Electrical Engineering
(06) Communications
(08) Detection
(07) Electrical equipment
(09) Electronics, electronic equipment

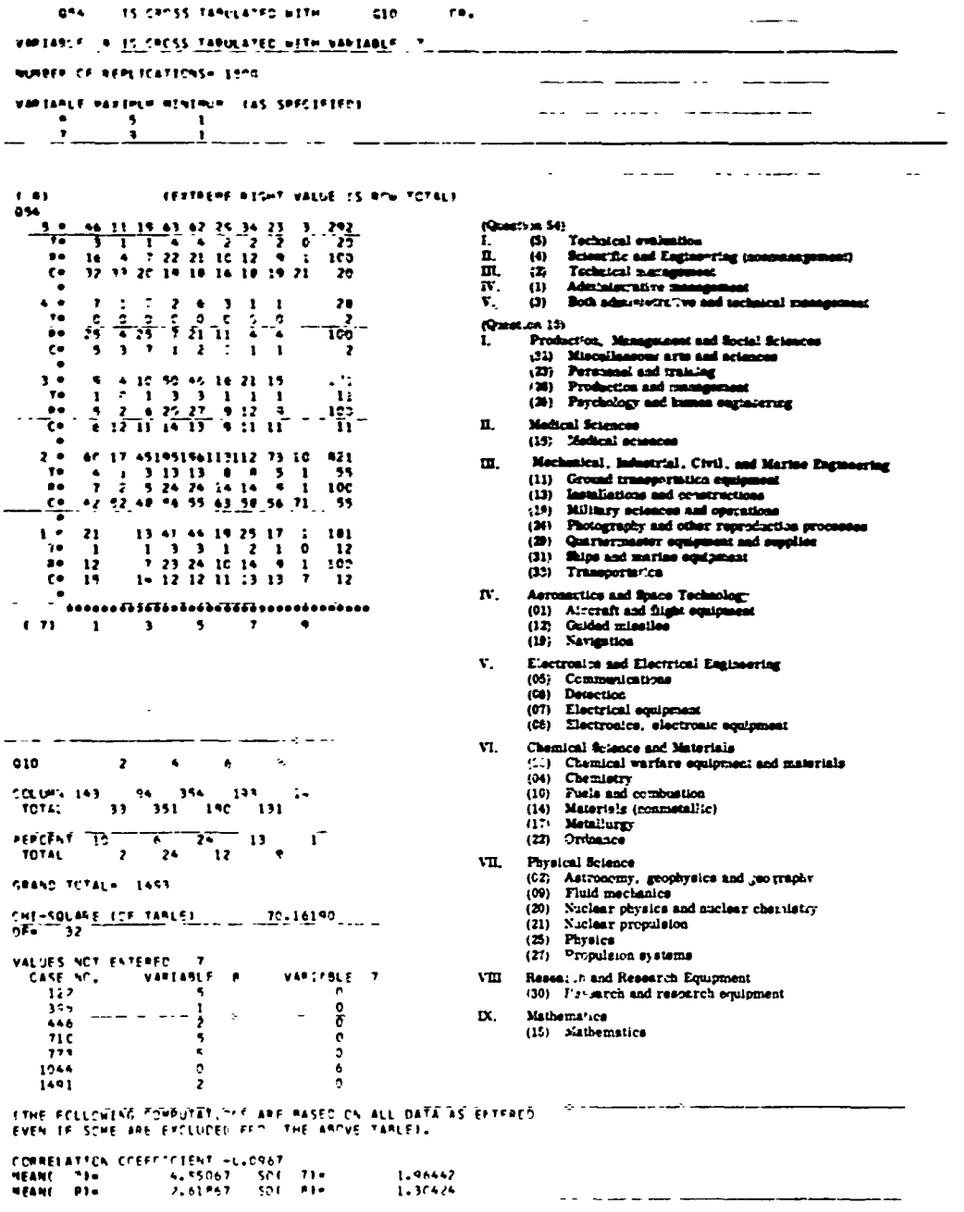
VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(08) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(26) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

Table 3-29. Type of Work Activity vs. Field of Task Output



```
     094    IS CROSS TABULATED WITH      010      IN.

VARIABLE  6 IS CROSS TABULATED WITH VARIABLE  7

NUMBER OF REPLICATIONS= 1000

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     6        5        1
     7        3        1

( 6)              (EXTREME RIGHT VALUE IS 8% TOTAL)
094
   5 *  46 11 19 63 62 25 34 23  3  292
     %   5  1  1  4  4  2  2  2  0   29
     R   16  4  7 22 21 10 12  9  1  100
     C   32 33 20 19 18 16 18 19 21   20
     *
   4 *   7  1  2  2  6  3  1  1       28
     %   0  0  2  0  0  0  2  0       7
     R   25  4 25  7 21 11  4  4      100
     C    5  3  7  1  2  1  1  1        2
     *
   3 *   6  4 10 92 46 16 21 15       .1
     %   1  2  1  3  3  1  1  1       11
     R   5  2  6 25 27  9 12  8      103
     C   4 12 11 14 13  9 11 11       11
     *
   2 *  60 17 45105196113112 73 10  821
     %   4  1  3 13 13  8  8  5  1   55
     R   7  2  5 24 24 14 14  4  1  100
     C  42 52 40 44 55 63 50 56 71   55
     *
   1 *  21    13 41 44 19 25 17  1  181
     %   1     1  3  3  1  2  1  0   12
     R  12     7 23 24 10 14  9  1  105
     C  15    14 12 12 11 13 13  7   12
     *
     ********************************
( 71    1     3     5     7     9

010          2     4     6     8

COLUMN 143     94   354   139     1
 TOTAL      33   351   140   131

PERCENT  10      6    24    13     1
 TOTAL     2    24    12     9

GRAND TOTAL= 1493

CHI-SQUARE (OF TABLE)        70.161900
DF=  32

VALUES NOT ENTERED    7
  CASE NO.      VARIABLE  6      VARIABLE  7
    122                 5              0
    365                 1              0
    446                 2              0
    710                 5              0
    771                 5              0
   1044                 0              6
   1491                 2              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.0967
MEAN( 6)=        4.955067    SD( 6)=        1.96442
MEAN( 8)=        2.617957    SD( 8)=        1.30424
```

(Question 56)

I. (5) Technical evaluation
II. (4) Scientific and Engineering (nonmanagement)
III. (2) Technical management
IV. (1) Administrative management
V. (3) Both administrative and technical management

(Question 15)

I. Production, Management and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(28) Production and management
(26) Psychology and human engineering

II. Medical Sciences
(19) Medical sciences

III. Mechanical, Industrial, Civil, and Marine Engineering
(11) Ground transportation equipment
(13) Installations and construction
(19) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(35) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided missiles
(18) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(08) Detection
(07) Electrical equipment
(06) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

# Table 3-30. Kind of Work Position vs. Field of Task Output

095 IS CROSS TABULATED WITH 010 OR.

VARIABLE 9 IS CROSS-TABULATED WITH VARIABLE 7

NUMBER OF REPLICATIONS= 1.00

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
9 12 1
7 9 1

(ENTRY ONE RIGHT VALUE IS ROW TOTAL)

| 095 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 | C | 5 | 5 | 2 | 6 | 4 | 1 | 1 | | 26 |
| | To | 2 | C | 0 | 0 | C | 0 | 0 | | 2 |
| | Ro | 19 | 19 | 8 | 23 | 23 | 4 | 4 | | 100 |
| | Co | 3 | 5 | 1 | 2 | 3 | 1 | 1 | | 7 |
| 11 | C | 17 | 2 | 20 | 17 | 1 | 3 | 2 | 1 | 63 |
| | To | 1 | C | 1 | 1 | 0 | 0 | 0 | 0 | 4 |
| | Ro | 27 | 3 | 32 | 27 | 2 | 5 | 3 | 2 | 100 |
| | Co | 12 | 2 | 6 | 5 | 1 | 2 | 2 | 1 | 4 |
| 10 | C | 10 | 3 | 15 | 7 | 3 | 3 | 1 | | 42 |
| | To | 1 | 0 | 1 | 0 | C | 0 | 0 | | 3 |
| | Ro | 24 | 7 | 36 | 17 | 7 | 7 | 2 | | 100 |
| | Co | 7 | 3 | 6 | 2 | 2 | 2 | 1 | | 3 |
| 9 | C | 28 | 3 | 9 | 6 | 12 | 6 | 5 | | 69 |
| | To | 2 | 0 | 1 | 0 | 1 | 0 | 0 | | 5 |
| | Ro | 41 | 4 | 13 | 9 | 17 | 9 | 7 | | 100 |
| | Co | 20 | 3 | 3 | 2 | 7 | 3 | 4 | | 7 |
| 8 | C | 6 | 3 | 40 | 32 | 9 | 20 | 12 | | 122 |
| | To | C | 0 | 3 | 2 | 1 | 1 | 1 | | 8 |
| | Ro | 5 | 2 | 33 | 26 | 7 | 16 | 10 | | 100 |
| | Co | 4 | 3 | 11 | 9 | 5 | 10 | 9 | | 8 |
| 7 | C | 10 | 4 | 11 | 27 | 28 | 21 | 16 | 20 | 3 | 149 |
| | To | 1 | C | 1 | 2 | 2 | 1 | 1 | 1 | 0 | 10 |
| | Ro | 13 | 3 | 7 | 18 | 19 | 14 | 11 | 13 | 2 | 100 |
| | Co | 13 | 12 | 12 | 8 | 8 | 13 | 9 | 15 | 21 | 10 |
| 6 | C | 10 | 2 | 8 | 35 | 42 | 9 | 9 | 23 | | 139 |
| | To | 1 | C | 1 | 2 | 3 | 1 | 1 | 2 | | 9 |
| | Ro | 7 | 1 | 6 | 25 | 31 | 6 | 6 | 17 | | 100 |
| | Co | 7 | 4 | 9 | 10 | 12 | 5 | 5 | 18 | | 9 |
| 5 | C | 11 | 23 | 74 | 105 | 22 | 34 | 11 | | | 280 |
| | To | 1 | 2 | 5 | 7 | 1 | 2 | 1 | | | 19 |
| | Ro | 4 | 8 | 26 | 38 | 8 | 12 | 4 | | | 100 |
| | Co | 8 | 24 | 21 | 55 | 17 | 18 | 8 | | | 19 |
| 4 | C | 5 | 4 | 49 | 49 | 10 | 19 | 7 | 2 | | 145 |
| | To | 0 | 0 | 3 | 3 | 1 | 1 | 0 | 0 | | 10 |
| | Ro | 3 | 3 | 34 | 34 | 7 | 13 | 5 | 1 | | 100 |
| | Co | 3 | 4 | 14 | 14 | 6 | 10 | 5 | 14 | | 10 |
| 3 | C | 10 | 2 | 19 | 45 | 24 | 3 | 15 | 30 | 1 | 149 |
| | To | 1 | 0 | 1 | 3 | 2 | 0 | 1 | 2 | 0 | 10 |
| | Ro | 7 | 1 | 13 | 30 | 16 | 2 | 10 | 20 | 1 | 100 |
| | Co | 7 | 6 | 20 | 13 | 7 | 2 | 8 | 25 | 7 | 10 |
| 2 | C | 18 | 14 | 11 | 34 | 37 | 62 | 45 | 17 | 6 | 244 |
| | To | 1 | 1 | 1 | 2 | 2 | 4 | 3 | 1 | 0 | 16 |
| | Ro | 7 | 6 | 5 | 14 | 15 | 25 | 18 | 7 | 2 | 100 |
| | Co | 13 | 42 | 14 | 10 | 10 | 34 | 23 | 13 | 49 | 16 |
| 1 | C | 4 | 11 | 2 | 1 | | 23 | 21 | 2 | 1 | 65 |
| | To | 0 | 1 | 0 | 0 | | 2 | 1 | 0 | 0 | 4 |
| | Ro | 6 | 17 | 3 | 2 | | 35 | 32 | 3 | 2 | 100 |
| | Co | 3 | 33 | 2 | 0 | | 13 | 11 | 2 | 7 | 4 |
| | | ********** | | | | | | | | | |
| ( 7) | | 1 | | 3 | | 5 | | 7 | | 9 | |
| 010 | | 2 | | 4 | | 6 | | 8 | | | |
| COLUMN TOTAL | | 143 | | 64 | | 354 | | 192 | | 14 | |
| | | 33 | | 351 | | 181 | | 131 | | | |
| PERCENT TOTAL | | 10 | | 6 | | 24 | | 13 | | 1 | |
| | | 2 | | 24 | | 12 | | 9 | | | |

(Question 88)
I. (02) Research - basic
II. (01) Research - applied
III. (11) System analysis
IV. (03) Development - advanced
V. (04) Development - engineering
VI. (08) Development - operational system
VII. (09) R&D support
VIII. (07) Test or evaluation
IX. (06) Production prototypes
X. (05) Production end-items
XI. (10) Reliability or quality control
XII. (12) Consumer relations

(Question 10)
I. Production, Management, and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(20) Production and management
(25) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III. Mechanical, Industrial, Civil, and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(26) Photography and other reproduction processes
(28) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided Missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(08) Detection
(07) Electrical equipment
(06) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

GRAND TOTAL= 1493

CHI-SQUARE (OF TABLE) 575.01430
DF= 88

VALUES NOT ENTERED 7

| CASE NO. | VARIABLE 9 | VARIABLE 7 |
|---|---|---|
| 122 | 7 | 0 |
| 340 | 0 | 7 |
| 395 | 7 | 0 |
| 466 | 5 | 0 |
| 710 | 5 | 0 |
| 778 | 8 | 0 |
| 1491 | 4 | 0 |

THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EXCEPT SOME ARE EXCLUDED FROM THE ABOVE TABLE.

CORRELATION COEFFICIENT -0.1725
MEAN( 7)= 4.95067 SD( 7)= 1.96442
MEAN( 9)= 5.27657 SD( 9)= 2.76186

Table 3-11. Field of Work Relation vs. Field of Task Output

```
     056    IS CROSS TABULATED WITH     Q10     OR,

VARIABLE 10 I        ABULATED WITH VARIABLE  7

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    10       9       1
     7       9       1

(10)                 (EXTREME RIGHT VALUE IS ROW TOTAL)
056
   9 *    1       1  5  3  2  1  2 12    27
     Y*   0       0  0  0  0  0  0  1     2
     R*   4       4 19 11  7  4  7 44   100
     C*   1       1  1  1  1  1  2 86     2
      *
   8 *    5  2    5  8  5  5  6 80       114
     Y*   0  0    0  1  0  0  0  5         8
     R*   4  2    4  7  3  4  5 70       100
     C*   3  6    5  2  1  3  3 61         8
      *
   7 *    4       2 10  9 14141  7       187
     Y*   6       0  1  1  1  9  0        13
     R*   2       1  5  5  7 75  5       100
     C*   3       2  3  3  8 75  5        13
      *
   6 *    2  2    2  9  4131  7  1       158
     Y*   0  0    0  1  0  9  0  0        11
     R*   1  1    1  6  3 83  4  1       100
     C*   1  6    2  3  1 73  4  1        11
      *
   5 *    8  1    8 45308  7  7 14  1   399
     Y*   1  0    1  3 21  0  0  1  0    27
     R*   2  0    2 11 77  2  2  4  0   100
     C*   6  3    9 13 87  4  4 11  7    27
      *
   4 *    9  1    9252 16 10 20 15  1   333
     Y*   1  0    1 17  1  1  1  1  0    22
     R*   3  0    3 76  5  3  6  5  0   100
     C*   6  3 10 72  5  5 10 11  7    22
      *
   3 *    5       52 10  6  5  4  2       9
     Y*   0       3  1  0  0  0  0        6
     R*   6       62 12  7  6  5  2      100
     C*   3       56  3  2  3  2  2        6
      *
   2 *    1 26      2     1              30
     Y*   0  2      0     0               2
     R*   3 87      7     3             100
     C*   1 78      1     1               2
      *
   1 *  108  1 14  9  5  5  7 10       159
     Y*   7  0  1  1  0  0  0  1        11
     R*  68  1  9  6  3  3  4  6       100
     C*  76  3 15  3  1  2  1  1        11
      *
      ************************************
 ( 7)    1     3     5     7     9
Q10          2     4     6     8

COLUMN 143    93   354   193    14
 TOTAL   33   330   140   151

PERCENT 10     6    24    13     1
 TOTAL    2    23    12     9

GRAND TOTAL= 1491

CHI-SQUARE (OF TABLE)       5710.17653
DF=  64

VALUES NOT ENTERED   9
  CASE NO.     VARIABLE 10     VARIABLE  7
    120             0              9
    122             0              0
    197             0              4
    395             6              0
    446             5              0
    538             0              6
    710             4              0
    778             4              0
   1491             4              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.4488
MEAN( 7)=      4.49867   SD( 7)=      1.96442
MEAN( 10)=     4.82200   SD( 10)=     1.98451
```

(Question 10)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil, and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided Missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

(Question 56)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

Table 3-32. Field of Task Output vs. User's Equivalent GS Rating

010 IS CROSS TABULATED WITH 058 OR;

VARIABLE 7 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 7 | 9 | 1 |
| 11 | 13 | 1 |

( 7) (EXTREME RIGHT VALUE IS ROW TOTAL)
010

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 3 | 1 | 1 | 3 | 1 | 2 | 1 | 2 | | | 14 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 1 |
| R | 21 | 7 | 7 | 21 | 7 | 14 | 7 | 14 | | | 100 |
| C | 1 | 0 | 0 | 1 | 1 | 3 | 2 | 8 | | | 1 |
| 8 | 2 | 29 | 31 | 24 | 16 | 15 | 10 | 2 | 1 | 1 | 131 |
| T | 0 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 9 |
| R | 2 | 22 | 24 | 18 | 12 | 11 | 8 | 2 | 1 | 1 | 100 |
| C | 7 | 11 | 11 | 8 | 6 | 8 | 14 | 4 | 4 | 13 | 9 |
| 7 | 1 | 32 | 26 | 45 | 41 | 26 | 9 | 6 | 4 | 1 | 1 | 193 |
| T | 0 | 2 | 2 | 3 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 13 |
| R | 1 | 17 | 13 | 23 | 21 | 13 | 5 | 3 | 2 | 1 | 1 | 100 |
| C | 4 | 13 | 9 | 16 | 14 | 14 | 13 | 12 | 16 | 13 | 20 | 13 |
| 6 | 1 | 20 | 26 | 38 | 40 | 26 | 8 | 6 | 3 | 1 | | 181 |
| T | 0 | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 0 | 0 | | 12 |
| R | 1 | 17 | 14 | 21 | 22 | 14 | 4 | 4 | 2 | 1 | | 100 |
| C | 4 | 12 | 9 | 13 | 14 | 14 | 11 | 16 | 12 | 13 | | 12 |
| 5 | 15 | 65 | 75 | 65 | 70 | 37 | 12 | 10 | 5 | | | 334 |
| T | 1 | 4 | 5 | 4 | 5 | 2 | 1 | 1 | 0 | | | 24 |
| R | 4 | 18 | 21 | 18 | 20 | 10 | 3 | 3 | 1 | | | 100 |
| C | 54 | 25 | 24 | 23 | 24 | 20 | 17 | 20 | 20 | | | 24 |
| 4 | 2 | 62 | 68 | 63 | 70 | 55 | 16 | 9 | 2 | 3 | | 351 |
| T | 0 | 4 | 5 | 4 | 5 | 4 | 1 | 1 | 0 | 0 | | 23 |
| R | 1 | 18 | 19 | 18 | 20 | 16 | 5 | 3 | 1 | 1 | | 100 |
| C | 7 | 24 | 24 | 22 | 24 | 30 | 23 | 18 | 12 | 38 | | 23 |
| 3 | 3 | 12 | 27 | 20 | 14 | 8 | 5 | 1 | 4 | | | 94 |
| T | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | | | 6 |
| R | 3 | 13 | 29 | 21 | 15 | 9 | 5 | 1 | 4 | | | 100 |
| C | 11 | 5 | 9 | 7 | 5 | 4 | 7 | 2 | 16 | | | 6 |
| | 2 | 5 | 4 | 9 | 3 | 2 | | | 1 | 3 | 4 | 33 |
| | 0 | 0 | 0 | 1 | 0 | 0 | | | 0 | 0 | 0 | 2 |
| | 6 | 15 | 12 | 27 | 9 | 6 | | | 3 | 9 | 12 | 100 |
| C | 1 | 2 | 1 | 3 | 2 | 3 | | | 13 | 60 | 100 | 2 |
| 1 | 4 | 22 | 30 | 25 | 26 | 13 | 6 | 12 | 3 | 1 | 1 | 143 |
| T | 0 | 1 | 2 | 2 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 10 |
| R | 3 | 16 | 21 | 17 | 18 | 9 | 4 | 8 | 2 | 1 | 1 | 100 |
| C | 14 | 5 | 10 | 9 | 9 | 7 | 9 | 24 | 12 | 13 | 20 | 10 |

(11) 2 4 6 8 10 12
058 3 5 7 9 11 13

| | | | | | | |
|---|---|---|---|---|---|---|
| COLUMN TOTAL | 28 | 289 | 289 | 184 | 70 | 25 | 5 |
| | 258 | 285 | 184 | 49 | 8 | 4 | |
| PERCENT TOTAL | 2 | 19 | 19 | 12 | 5 | 2 | 0 |
| | 17 | 19 | 12 | 3 | 1 | 0 | |

GRAND TOTAL= 1494

CHI-SQUARE (OF TABLE) 367.56555
DF= 88

VALUES NOT ENTERED 6

| CASE NO. | VARIABLE 7 | VARIABLE 11 |
|---|---|---|
| 122 | 0 | 6 |
| 395 | 0 | 6 |
| 446 | 0 | 6 |
| 710 | 0 | 6 |
| 778 | 0 | 5 |
| 1491 | 0 | 6 |

(Question 10)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil, and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided Missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII Physical Science
- (02) Astronomy, geophysics and geography
- (03) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

(Question 58)

I. (01) GS-6 (under 6,000)
II. (02) GS-9 (6,000 - 7,999)
III. (03) GS-11 (8,000 - 10,249)
IV. (04) GS-12 (10,250 - 11,999)
V. (05) GS-13 (12,000 - 13,999)
VI. (06) GS-14 (14,000 - 16,499)
VII. (07) GS-15 (16,500 - 18,999)
VIII. (08) GS-16 (19,000 - 20,999)
IX. (09) GS-17 (21,000 - 23,999)
X. (10) GS-18 (24,000 - 26,999)
XI. (11) Sp A (27,000 - 29,999)
XII. (12) Sp B (30,000 - 34,999)
XIII. (13) Sp C (over 35,000)

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE)

CORRELATION COEFFICIENT -0.0390

| | | | |
|---|---|---|---|
| MEAN( 11)= | 5.27943 | SD( 11)= | 1.88292 |
| MEAN( 7)= | 4.45067 | SD( 7)= | 1.96442 |

# Table 3-33. Interviewer's Assessment of Difficulty in Use of Information vs. Field of Task Output

Q61 IS CROSS TABULATED WITH Q10 OR

VARIABLE 10 IS CROSS TABULATED WITH VARIABLE 2

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 10 | 4 | 1 |
| 2 | 11 | 1 |

| (10) | | (EXTREME RIGHT VALUE IS ROW TOTAL) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Q61 | | | | | | | | | | |
| 4 | 14 | 5 | 24 | 14 | 10 | 24 | 2 | 3 | 103 |
| T= | 1 | 0 | 2 | 1 | 1 | 2 | 0 | 0 | 7 |
| R= | 14 | 5 | 23 | 14 | 10 | 23 | 2 | 3 | 100 |
| C= | 10 21 | 5 | 7 | 4 | 8 | 12 | 2 | 21 | 7 |
| 3 | 76 15 | 63 | 230 | 241 | 115 | 127 | 88 | 9 | 966 |
| T= | 5 1 | 4 | 15 | 16 | 8 | 9 | 6 | 1 | 65 |
| R= | 8 2 | 7 | 24 | 25 | 12 | 13 | 9 | 1 | 100 |
| C= | 53 58 | 67 | 66 | 68 | 64 | 66 | 67 | 64 | 65 |
| 2 | 23 3 | 5 | 41 | 35 | 25 | 22 | 16 | 1 | 179 |
| T= | 2 0 | 1 | 3 | 2 | 2 | 1 | 1 | 0 | 12 |
| R= | 13 2 | 5 | 23 | 20 | 14 | 12 | 9 | 1 | 100 |
| C= | 16 9 | 10 | 12 | 10 | 16 | 11 | 12 | 7 | 12 |
| 1 | 30 4 | 17 | 56 | 64 | 27 | 20 | 25 | 1 | 244 |
| T= | 2 0 | 1 | 4 | 4 | 2 | 1 | 2 | 0 | 16 |
| R= | 12 2 | 7 | 23 | 26 | 11 | 8 | 10 | 0 | 100 |
| C= | 21 12 | 18 | 16 | 18 | 15 | 10 | 19 | 7 | 16 |
| (2) | 1 | 3 | 5 | 7 | 9 | | | | |
| Q10 | 2 | 4 | 6 | 8 | | | | | |
| COLUMN TOTAL | 143 | 54 | 354 | 193 | 14 | | | | |
| | 32 | 351 | 181 | 131 | | | | | |
| PERCENT TOTAL | 10 | 6 | 24 | 13 | 1 | | | | |
| | 2 | 23 | 12 | 9 | | | | | |

GRAND TOTAL= 1494

CHI-SQUARE (FROM TABLE) = 55.18600
DF= 24

VALUES NOT ENTERED 6

| CASE NO. | VARIABLE 10 | VARIABLE 2 |
|---|---|---|
| 122 | 3 | 0 |
| 355 | 3 | 0 |
| 446 | 3 | 0 |
| 710 | 3 | 0 |
| 778 | 3 | 0 |
| 1491 | 4 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE VALUE TABLE).

CORRELATION COEFFICIENT 0.025

| | | | |
|---|---|---|---|
| MEAN( 2)= | 4.856067 | SD( 2)= | 1.96442 |
| MEAN( 10)= | 2.662467 | SD( 10)= | 0.83602 |

(Question 61)
I. (1) Obvious or prescribed
II. (2) Entirely or largely independent of professional judgment
III (3) Entirely or largely dependent upon professional judgment
IV. (4) Difficult, because methods and procedures were lacking

(Question 10)
I. Production, Management and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(26) Production and management
(28) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III. Mechanical, Industrial, Civil, and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided Missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX Mathematics
(15) Mathematics

# Table 3-34. Interviewer's Assessment of Difficulty in Acquisition of Information vs. Field of Task Output

```
Q62    IS CROSS TABULATED WITH    Q10    OR,

VARIABLE 11 IS CROSS TABULATED WITH VARIABLE  2

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    11       3       1
     2      11       1

(11)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q62
   3 *  19   7  13  52  55  24  45  16   5   236
    T*   1   0   1   3   4   2   3   1   0    16
    R*   8   3   6  22  23  10  19   7   2   100
    C*  13  21  14  15  16  13  23  12  36    16
     *
   2 *  71  21  46 184 189  90  91  61   8   781
    T*   5   1   3  12  13   6   6   4   1    51
    R*   9   3   6  24  25  12  12   8   1   100
    C*  50  64  49  52  53  50  47  47  57    51
     *
   1 *  53   5  35 115 110  67  57  54   1   497
    T*   4   0   2   8   7   4   4   4   0    33
    R*  11   1   7  23  22  13  11  11   0   100
    C*  37  15  37  33  31  37  30  41   7    33
     *
     ********************************************
  ( 2)    1       3       5       7       9
Q10         2       4       6       8

COLUMN 143      54     354     193      14
 TOTAL          33     351     161     131

PERCENT  10       6      24      13       1
 TOTAL            2      23      12       9

GRAND TOTAL= 1494

CHI-SQUARE (OF TABLE)          28.59258
OF=  16

VALUES NOT ENTERED  6
  CASE NO.      VARIABLE 11      VARIABLE  2
     122              2               0
     365              1               0
     446              2               0
     717              2               0
     778              3               0
    1491              2               0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
 EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

 CORRELATION COEFFICIENT  0.0165
 MEAN( 2)=       4.85067   SD( 2)=       1.96442
 MEAN( 11)=      1.62600   SD( 11)=      0.67826
```

(Question 62)
- I. (1) Quite clear or obvious
- II. (2) Fairly clear or obvious
- III. (3) Neither clear nor obvious

(Question 10)
- I. Production, Management and Social Sciences
  - (32) Miscellaneous arts and sciences
  - (23) Personnel and training
  - (26) Production and management
  - (28) Psychology and human engineering
- II. Medical Sciences
  - (16) Medical sciences
- III. Mechanical, Industrial, Civil, and Marine Engineering
  - (11) Ground transportation equipment
  - (12) Installations and constructions
  - (25) Military sciences and operations
  - (24) Photography and other reproduction processes
  - (29) Quartermaster equipment and supplies
  - (31) Ships and marine equipment
  - (33) Transportation
- IV. Aeronautics and Space Technology
  - (01) Aircraft and flight equipment
  - (12) Guided Missiles
  - (19) Navigation
- V. Electronics and Electrical Engineering
  - (05) Communications
  - (06) Detection
  - (07) Electrical equipment
  - (08) Electronics, electronic equipment
- VI. Chemical Science and Materials
  - (03) Chemical warfare equipment and materials
  - (04) Chemistry
  - (10) Fuels and combustion
  - (14) Materials (nonmetallic)
  - (17) Metallurgy
  - (22) Ordnance
- VII. Physical Science
  - (02) Astronomy, geophysics and geography
  - (09) Fluid mechanics
  - (20) Nuclear physics and nuclear chemistry
  - (21) Nuclear propulsion
  - (25) Physics
  - (27) Propulsion systems
- VIII. Research and Research Equipment
  - (30) Research and research equipment
- IX. Mathematics
  - (15) Mathematics

# Table 3-35. Interviewer's Assessment of Task Creativity vs. Field of Task Output

Q63 IS CROSS TABULATED WITH Q10 OR,

VARIABLE 12 IS CROSS TABULATED WITH VARIABLE 7

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
12 4 1
7 9 1

(12) (EXTREME RIGHT VALUE IS ROW TOTAL)
Q63

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 59 | 23 | 33 | 115 | 48 | 87 | 92 | 49 | 5 | 511 |
| To | 4 | 2 | 2 | 8 | 10 | 6 | 6 | 3 | 0 | 41 |
| Ro | 10 | 4 | 5 | 15 | 24 | 14 | 15 | 8 | 1 | 100 |
| Co | 41 | 92 | 35 | 33 | 42 | 48 | 48 | 39 | 36 | 41 |
| 3 | 43 | 9 | 34 | 31 | 31 | 58 | 65 | 44 | 8 | 545 |
| To | 3 | 1 | 2 | 10 | 9 | 4 | 4 | 3 | 1 | 36 |
| Ro | 8 | 2 | 6 | 28 | 24 | 11 | 12 | 8 | 1 | 100 |
| Co | 30 | 27 | 36 | 44 | 31 | 32 | 34 | 34 | 57 | 36 |
| 2 | 34 | | 24 | 66 | 65 | 27 | 31 | 35 | 1 | 283 |
| To | 2 | | 2 | 4 | 4 | 2 | 2 | 2 | 0 | 19 |
| Ro | 12 | | 8 | 23 | 23 | 10 | 11 | 12 | 0 | 100 |
| Co | 24 | | 26 | 19 | 16 | 15 | 16 | 27 | 7 | 19 |
| 1 | 7 | 1 | 3 | 17 | 10 | 7 | 5 | 3 | | 55 |
| To | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | | 4 |
| Ro | 15 | 2 | 5 | 31 | 18 | 16 | 9 | 5 | | 100 |
| Co | 5 | 3 | 3 | 5 | 3 | 5 | 3 | 2 | | 4 |

| | | | | | | |
|---|---|---|---|---|---|---|
| (7) | 1 | 3 | 5 | 7 | 9 | |
| Q10 | 2 | 4 | 6 | 8 | | |
| COLUMN TOTAL | 143 | 94 | 354 | 193 | 14 | 131 |
| PERCENT TOTAL | 10 | 6 | 24 | 13 | 1 | 9 |

GRAND TOTAL= 1444

CHI-SQUARE (OF TABLE) 51.89079
DF= 24

VALUES NOT ENTERED 6

| CASE NO. | VARIABLE 12 | VARIABLE 7 |
|---|---|---|
| 122 | 3 | 0 |
| 395 | 3 | 0 |
| 446 | 3 | 0 |
| 710 | 4 | 0 |
| 778 | 4 | 0 |
| 1491 | 4 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0295

| | | | |
|---|---|---|---|
| MEAN( 7)= | 4.85067 | SD( 7)= | 1.96442 |
| MEAN( 12)= | 3.14733 | SD( 12)= | 0.85053 |

(Question 63)
I. (1) Communication of existing information
II. (2) Rearrangement of existing information, with little evaluation or analysis
III. (3) Extensive evaluation and analysis of existing data
IV. (4) Creation of new information, systems, or hardware

(Question 10)
I. Production, Management, and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(26) Production and management
(28) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III Mechanical, Industrial, Civil, and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided Missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

## Table 3-36. Discovery of Information Available, but Unknown, during Task vs. Type of Work Activity

```
     Q32   IS CROSS TABULATED WITH      Q54      ON:

VARIABLE  5 IS CROSS TABULATED WITH VARIABLE 10

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     5        2        1
    10        5        1

( 5)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q32
   2 *  271EC 41 10 65  3C3
     1     2 11  3  1  4   20
     R*    6 53 14  3 21  1CC
     C*   15 19 24 36 22   ..
     *
   1 *  15 ?F2139 18230 11?6
     T*   1' 44  6  1 15   80
     R*   13 55 11  2 19  1C0
     C*   85 81 76 64 78   80
     *
     **********************
 (10)    1     3     5
Q54        2     4

COLUMN 182   171   295
 TOTAL     823    2R

PERCENT  12    11    20
 TOTAL    "5     2

GRAND TOTAL= 1459

CHI-SQUARE (OF TABLE)          5.E479R
DF=  4

VALUES NOT ENTERED   1
  CASE NO.      VARIABLE  5     VARIABLE 10

   1044          2              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0495
MEAN( 10)=       2.61867    SDE( 10)=      1.30424
MEAN(  5)=       1.20267    SDE(  5)=      0.40212
```

(Question 32)
I. (2) No
II. (1) Yes

(Question 54)
I. (5) Technical evaluation
II. (4) Scientific and Engineering (nonmanagement)
III. (3) Technical management
IV. (1) Administrative management
V. (3) Both administrative and technical management

## Table 3-37. Kind of Work Position vs. Discovery of Information Available, but Unknown, during Task

```
     Q55    IS CROSS TABULATED WITH      Q32    OR
VARIABLE  6  IS CROSS TABULATED WITH VARIABLE  3
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     6       12       1
     3        2       1

( 6)          (EXTREME RIGHT VALUE IS ROW TOTAL)
Q55
  12 *  20   6   26
    T*   1   1    2
    R*  77  23  100
    C*   2   2    2
     *
  11 *  54   5   59
    T*   4   1    4
    R*  86  14  100
    C*   5   3    4
     *
  10 *  33   9   42
    T*   2   1    3
    R*  79  21  100
    C*   2   3    3
     *
   9 *  58  11   69
    T*   4   1    5
    R*  84  16  100
    C*   5   4    5
     *
   8 * 109  14  123
    T*   7   1    8
    R*  89  11  100
    C*   9   5    8
     *
   7 * 117  34  151
    T*   8   2   10

    R*  77  23  100
    C*  10   1   10
     *
   6 * 112  27  139
    T*   7   2    9
    R*  81  19  100
    C*   9   9    9
     *
   5 * 219  63  282
    T*  15   4   19
    R*  78  22  100
    C*  18  21   19
     *
   4 * 121  25  146
    T*   8   2   10
    R*  83  17  100
    C*  10   8   10
     *
   3 * 119  30  149
    T*   8   2   10
    R*  80  20  100
    C*  10  10   10
     *
   2 * 186  58  244
    T*  12   4   16
    R*  76  24  100
    C*  16  19   16
     *
   1 *  47  18   65
    T*   3   1    4
    R*  72  28  100
    C*   4   6    4
     *
 ( 3)    1
Q32      2

COLUMN TOTAL    300

PERCENT  80
 TOTAL    20
```

(Question 55)
I. (02) Research - basic
II. (01) Research - applied
III. (11) System analysis
IV. (03) Development - advanced
V. (04) Development - engineering
VI (05) Development - operational system
VII. (06) R&D support
VIII (07) Test or evaluation
IX. (08) Production processes
X. (09) Production end-items
XI. (10) Reliability or quality control
XII. (12) Customer relations

(Question 32)
I. (2) No
II. (1) Yes

```
GRAND TOTAL=  1499

CHI-SQUARE (OF TABLE)        14.6C690
DF=  11

VALUES NOT ENTERED  1
   CASE NO.      VARIABLE  6      VARIABLE  3
      34C             0               1

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =C.0359
MEAN( 3)=        1.20267    SD( 3)=        0.4C212
MEAN( 6)=        5.27667    SD( 6)=        2.76186
```

## Table 3-38. Field of Work Position vs. Discovery of Information Available, but Unknown, during Task

Q56 IS CROSS TABULATED WITH Q32 Q6.

VARIABLE 9 IS CROSS TABULATED WITH VARIABLE 5

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 4 | 11 | 1 |
| 3 | 2 | 1 |

( 9) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q56 | | | |
|---|---|---|---|
| C • | 22 | 5 | 27 |
| T• | 1 | 0 | 2 |
| R• | 81 | 19 | 100 |
| C• | 2 | 2 | 2 |
| 8 • | 90 | 24 | 114 |
| T• | 8 | 2 | 8 |
| R• | 79 | 21 | 100 |
| C• | 8 | 8 | 8 |
| 7 • | 144 | 43 | 187 |
| T• | 10 | 3 | 13 |
| R• | 77 | 23 | 100 |
| C• | 12 | 14 | 13 |
| 6 • | 130 | 29 | 159 |
| T• | 9 | 2 | 11 |
| R• | 82 | 18 | 100 |
| C• | 11 | 10 | 11 |
| 5 • | 316 | 84 | 400 |
| T• | 21 | 6 | 27 |
| R• | 79 | 21 | 100 |
| C• | 26 | 28 | 27 |
| 4 • | 273 | 63 | 336 |
| T• | 18 | 4 | 22 |
| R• | 81 | 19 | 100 |
| C• | 23 | 21 | 22 |
| 3 • | 71 | 13 | 84 |
| T• | 5 | 1 | 6 |
| R• | 85 | 15 | 100 |
| C• | 6 | 4 | 6 |
| 2 • | 23 | 7 | 30 |
| T• | 2 | 0 | 2 |
| R• | 77 | 23 | 100 |
| C• | 2 | 2 | 2 |
| 1 • | 124 | 35 | 159 |
| T• | 6 | 2 | 11 |
| R• | 78 | 22 | 100 |
| C• | 10 | 12 | 11 |

(Question 56)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (33) Personnel and training
- (38) Production and management
- (39) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (34) Photography and other reproduction processes
- (36) Quartermaster equipment and supplies
- (37) Ships and marine equipment
- (38) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical sciences
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

(Question 32)

I. (2) No

II. (1) Yes

( 3) 1

Q32 2

| | | | |
|---|---|---|---|
| COLUMN | 1193 | | |
| TOTAL | 303 | | |
| PERCENT | 80 | | |
| TOTAL | 20 | | |

GRAND TOTAL= 1496

CORRELATION COEFFICIENT 0.0051

MEAN( 3)= 1.20267 SD( 3)= 0.40212

MEAN( 9)= 4.82200 SD( 9)= 1.98451

CHI-SQUARE (OF TABLE) 3.64081

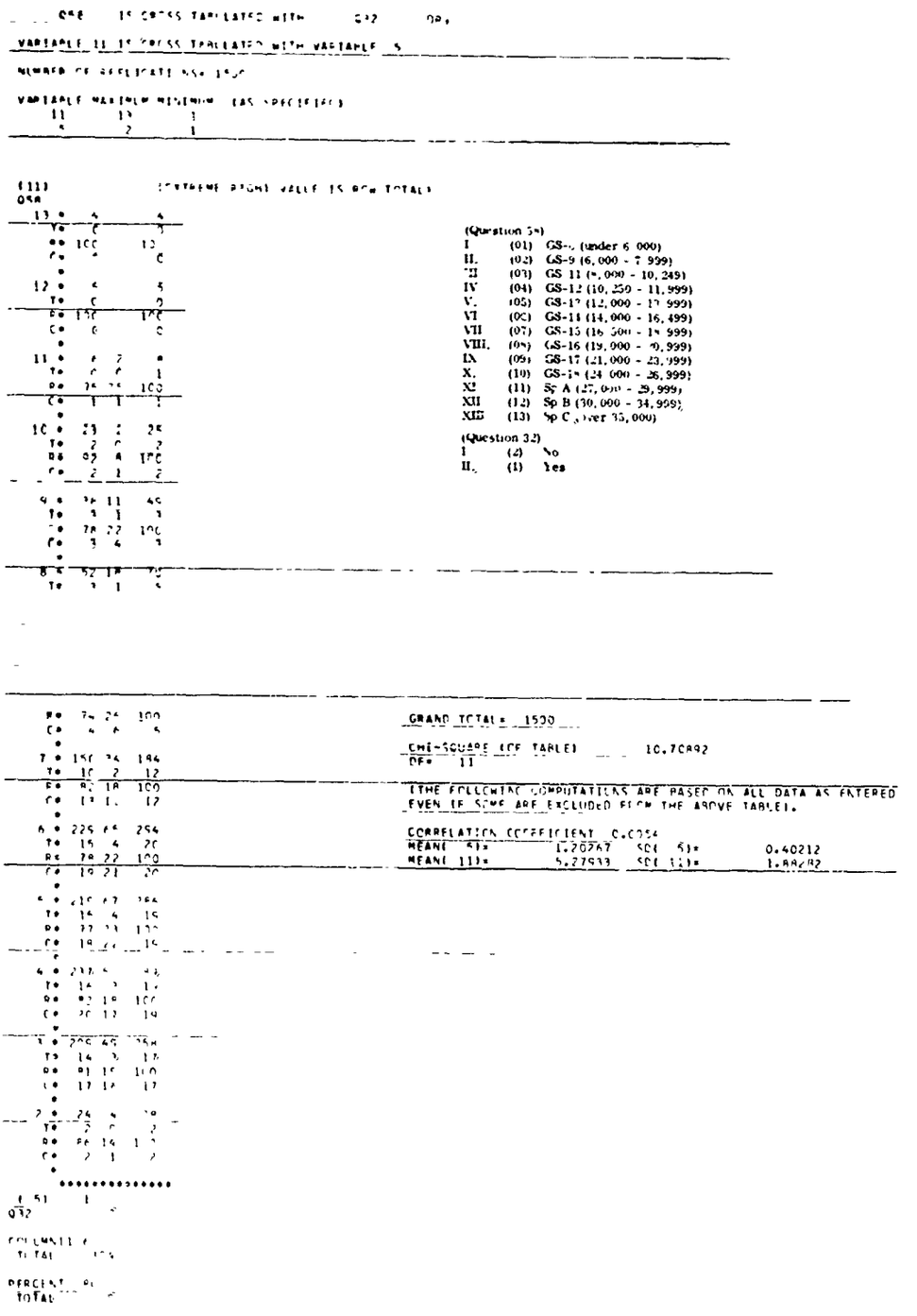
DF= 8

VALUES NOT ENTERED 4

| CASE NO. | VARIABLE 5 | VARIABLE 3 |
|---|---|---|
| 120 | 0 | 1 |
| 122 | 0 | 1 |
| 197 | 0 | 1 |
| 536 | 0 | 2 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

Table 3-39. User's Equivalent GS Rating vs. Discovery of Information Available, but Unknown, during Task



(Question 5a)
I (01) GS-5 (under 6,000)
II. (02) GS-9 (6,000 - 7,999)
III (03) GS-11 (8,000 - 10,249)
IV (04) GS-12 (10,250 - 11,999)
V. (05) GS-13 (12,000 - 13,999)
VI (06) GS-14 (14,000 - 16,499)
VII (07) GS-15 (16,500 - 19,999)
VIII. (08) GS-16 (19,000 - 20,999)
IX (09) GS-17 (21,000 - 23,999)
X. (10) GS-18 (24,000 - 26,999)
XI (11) Sp A (27,000 - 29,999)
XII (12) Sp B (30,000 - 34,999)
XIII (13) Sp C (over 35,000)

(Question 32)
I (2) No
II. (1) Yes

GRAND TOTAL= 1530

CHI-SQUARE (OF TABLE) = 10.70892
DF= 11

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0054
MEAN( 4)= 1.20967 SD( 4)= 0.40212
MEAN( 11)= 5.27933 SD( 11)= 1.88682

Table 3-40. Evaluation of Company TIC vs. Use of Company TIC

```
Q36    IS CROSS TABULATED WITH     Q35    ON.

VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  4

NUMBER OF REPLICATIONS= 150

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     5        5        1
     4        4        1

( 5)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q36
   5 *   12  10  11  55  20    946
    T*    6  17   9  42        68
    R*    9  25  16  61       100
    C*    2  63  65  77        58
      *
   4 *    6   0  36  69       105
    T*    1   0   3   6        13
    R*    5   0  22  42       100
    C*    1   0  20  10        13
      *
   3 *    3   3   6  15  74    122
    T*    0   2   1   6        10
    R*    2  25  12  61       100
    C*    5   5   8  11        10
      *
   2 *    4  22   9  15        50
    T*    0   2   1   1         4
    R*    8  44  18  30       100
    C*    7   7   5   2         4
      *
   1 *   53  12   2   1        68
    T*    4   1   0   0         5
    R*   78  18   3   1       100
    C*   87   4   1   0         5
      *
      ********************
( 4)    1    3

Q35         2    4

COLUMN  61  177
 TOTAL     334  679

PERCENT   5   14
 TOTAL     27   54

GRAND TOTAL=  1251

CHI-SQUARE (OF TABLE)       877.00759
DF=

VALUES NOT ENTERED 249

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2467
MEAN( 4)=        3.14800    SD( 4)=       1.01980
MEAN( 5)=        3.61933    SD( 5)=       1.92099
```

(Question 36)
I. (5) Never use information center
II. (3) Center is too far from my work location
III. (4) Takes too long to get available information
IV. (2) Seldom get what is needed
V. (1) Almost always find needed information

(Question 35)
I. (4) Never
II. (3) Only on an as-needed basis
III. (2) Regularly-infrequently (once a month)
IV. (1) Regularly-frequently (twice or more a month)

Table 3-41. Nature of Restrictions vs. Use of Company TIC

043 IS CROSS TABULATED WITH 035 ON,

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 3 | 1 |
| 1 | 4 | 1 |

( 2)
043

(EXTREME RIGHT VALUE IS ROW TOTAL)

| | | | | | |
|---|---|---|---|---|---|
| 3 • | 2 | 11 | 12 | 40 | 65 |
| To | 0 | 2 | 2 | 8 | 12 |
| Ro | 3 | 17 | 18 | 62 | 100 |
| Co | 12 | 9 | 17 | 12 | 12 |
| 2 • | 7 | 46 | 32 | 156 | 235 |
| To | 1 | 8 | 6 | 30 | 45 |
| Ro | 3 | 17 | 14 | 66 | 100 |
| Co | 41 | 34 | 46 | 44 | 45 |
| 1 • | 8 | 65 | 26 | 125 | 224 |
| To | 2 | 12 | 5 | 24 | 43 |
| Ro | 4 | 29 | 12 | 56 | 100 |
| Co | 47 | 56 | 37 | 39 | 43 |

( 1) 1 3
035 2 4

| | | |
|---|---|---|
| COLUMN TOTAL | 17 116 | 70 326 |
| PERCENT TOTAL | 3 22 | 13 61 |

GRAND TOTAL= 524

(Question 43)
I. (1) Proprietary
II. (2) Industrial Security
III. (3) Both (1) and (2)

(Question 35)
I. (4) Never
II. (3) Only on an as-needed basis
III. (2) Regularly-infrequently (once a month)
IV. (1) Regularly-frequently (twice or more a month)

CHI-SQUARE FOR TABLE 12.39715
DF= 6

VALUES NOT ENTERED 976

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.1315

| | | | |
|---|---|---|---|
| MEAN( 1)= | 3.14800 | SD( 1)= | 1.01986 |
| MEAN( 2)= | 0.59467 | SD( 2)= | 0.90494 |

Table 3-42. Nature of Difficulties vs. Use of Company TIC

```
    046    IS CROSS TABULATED WITH      035      OR,

VARIABLE  1 IS CROSS TABULATED WITH VARIABLE  2

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
       1       3       1
       2       4       1

( 1)            (EXTREME RIGHT VALUE IS ROW TOTAL)
046
   3 *   6 61 37142  246
     T*   1 10  6 23   39
     R*   2 25 15 58  100
     C*  29 44 17 39   59
      *
   2 *  14 72 50198  336
     T*   2 11  8 32   53
     R*   4 22 15 59  100
     C*  67 51 50 54   53
      *
   1 *   1  7 13 27   48
     T*   0  1  2  4    8
     R*   2 15 27 56  100
     C*   5  5 13  7    8
      *
       ********************
  : 21     1     3
035          2     4

COLUMN  21   106
 TOTAL    140   367

PERCENT   3    16
 TOTAL     22    58

GRAND TOTAL=   628

CHI-SQUARE (OF TABLE)         7.76770
DF=    6

VALUES NOT ENTERED 872

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE CHI TABLE).

CORRELATION COEFFICIENT  0.1114
MEAN( 2)=          1.14800    SD( 2)=          1.01984
MEAN( 1)=          1.06933    SD( 1)=          1.20837
```

(Question 46)
I. Utility of Information
   (1) Attributable to inside of company
   (2) Attributable to outside of company
   (3) Attributable to both
II. Timely Acquisition of Information
   (4) Attributable to inside of company
   (5) Attributable to outside of company
   (6) Attributable to both
III. Timely Awareness of Information
   (7) Attributable to inside of company
   (8) Attributable to outside of company
   (9) Attributable to both

(Question 35)
I. (4) Never
II. (3) Only on an as-needed basis
III. (2) Regularly-infrequent, (once a month)
IV. (1) Regularly-frequently (twice or more a month)

Table 3-43. Use of Company TIC vs. User's Highest Degree

```
     035    IS CROSS TABULATED WITH      050A     OR,

VARIABLE  1 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     1        4        1
    11        6        1

( 1)              (EXTREME RIGHT VALUE IS ROW TOTAL)
035
   4 *  75 11378183 15138   800
    T*   5  1 25 12  1  9    54
    R*   9  1 47 23  2 17   100
    C*  39 41 48 62 58 88    54
     *
   3 *  26  4131 43  2  9   217
    T*   2  0  9  7  0  1    15
    R*  12  3 60 20  1  4   100
    C*  14 22 16 15  8  6    15
     *
   2 *  71  8242 61  8 10   400
    T*   5  1 14  4  1  1    27
    R*  18  2 60 15  2  2   100
    C*  37 30 30 21 31  6    27
     *
   1 *  19  2 43  6  1        71
    T*   1  0  3  0  0         5
    R*  27  3 61  8  1       100
    C*  10  7  5  2  4         5
     *
      **************************
 (11)     1     3     5
050A          2     4     6

COLUMN 191   794    26
 TOTAL      27   293   157

PERCENT  13    53     2
 TOTAL        2    20    11

GRAND TOTAL=  1488

CHI-SQUARE (OF TABLE)        128.66700
DF=   15

VALUES NOT ENTERED  62
  CASE NO.      VARIABLE  1     VARIABLE 11
        44                0              4
        68                0              1
       105                0              1
       116                0              3
       363                0              3
       696                0              3
       697                0              4
       698                0              3
       803                0              4
      1310                0              2
      1315                0              1
      1324                0              1

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2685
MEAN (1)=        3.26733    SDE (1)=        1.29498
MEAN (11)=       3.14900    SDE (11)=       1.01988
```

(Question 35)
I. (4) Never
II. (3) Only on an as-needed basis
III. (2) Regularly-infrequently (once a month)
IV. (1) Regularly-frequently (twice or more a month)

(Question 50A)
I. (6) None
II. (1) Associate's
III. (2) Bachelor's
IV. (3) Master's
V. (4) Professional
VI. (5) Doctor's

Table 3-44. Use of Company TIC vs. Kind of Work Position

```
Q35    IS CROSS TABULATED WITH    Q55    OR,

VARIABLE  1 IS CROSS TABULATED WITH VARIABLE  7

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    1       4       1
    7      12       1

( 1)              (EXTREME RIGHT VALUE IS ROW TOTAL
Q35
   4 *   61 55  77  51 29  66  66  34  25  11  33  12   800
    T*    4 13   5   6  9   4   4   2   2   1   2   1    54
    R*    8 24  10  11 16   8   8   4   3   1   4   1   100
    C*   94 81  52  62 40  48  44  28  37  27  52  50    54
    *
   3 *    1 15  10  14 57  22  25  31  10   7   7   2   217
    T*    0  1   1   1  4   1   2   2   1   0   0   0    15
    R*    0  9   8   6 26  10  13  14   5   3   3   1   100
    C*    2  8  12  10 20  16  15  25  15  17  11   8    15
    *
   2 *    2 25  47  36 85  45  45  47  28  15  19   5   400
    T*    0  2   3   2  6   3   3   3   2   1   1   0    27
    R*    0  6  12   9 21  11  11  12   7   4   5   1   100
    C*    3 10  32  25 30  33  30  39  41  37  30  25    27
    *
   1 *    1  2   6   5  9   5  11  10   5   8   4   4    70
    T*    0  0   1   0  1   0   1   1   0   1   0   0     5
    R*    1  3   9   7 13   7  16  14   7  11   6   6   100
    C*    2  1   4   2  3   4   7   8   7  20   6  17     5
    *
    ********************************************************
( 7)    1       3       5       7       9      11
Q55          2       4       6       8      10      12

COLUMN  65   148   280   151    68    63
 TOTAL     241   146   138   122    41    24

PERCENT  4    10    19    10     5     4
 TOTAL     16    10     9     8     3     2

GRAND TOTAL= 1497

CHI-SQUARE (OF TABLE)       724.38956
DF=  33

VALUES NOT ENTERED  13
  CASE NO.      VARIABLE  1     VARIABLE  7
     64             0              2
     69             0              5
    105             0              5
    115             0             12
    340             1              0
    363             0              8
    694             0              6
    697             1              2
    698             0              3
    803             0              2
   1310             0             10
   1315             0              9
   1324             0             12

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.2668
MEAN( 7)=       4.27667   SD( 7)=       2.76186
MEAN( 1)=       3.14806   SD( 1)=       1.01986
```

(Question 35)
- I. (4) Never
- II. (3) Only on an as-needed basis
- III. (2) Regularly-infrequently (once a month,
- IV. (1) Regularly-frequently (twice or more a month)

(Question 55)
- I. (02) Research - basic
- II. (01) Research - applied
- III. (11) System analysis
- IV. (03) Development - advanced
- V. (04) Development - engineering
- VI. (05) Development - operational system
- VII (06) R&D support
- VIII. (07) Test or evaluation
- IX. (08) Production processes
- X. (09) Production end items
- XI. (10) Reliability or quality control
- XII. (12) Customer relations

## Table 3-45. Use of Company TIC vs. Field of Work Position

Q35 IS CROSS TABULATED WITH Q56 OR,

VARIABLE 1 IS CROSS TABULATED WITH VARIABLE R

NUMBER OF REPLICATIONS= 1900

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 1 | 4 | 1 |
| R | 5 | 1 |

( 11 (EXTREME RIGHT VALUE IS ROW TOTAL)
Q35

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 75 | 27 | 38 | 162 | 191 | 124 | 105 | 52 | 20 | 798 |
| T* | 5 | 2 | 3 | 11 | 13 | 8 | 7 | 4 | 1 | 54 |
| R* | 5 | 3 | 4 | 20 | 24 | 14 | 14 | 7 | 3 | 100 |
| C* | 47 | 64 | 40 | 43 | 48 | 28 | 55 | 47 | 74 | 54 |
| 3 * | 13 | | 9 | 40 | 61 | 17 | 28 | 21 | 2 | 216 |
| T* | 1 | | 1 | 4 | 4 | 1 | 2 | 1 | 0 | 15 |
| R* | 6 | | 4 | 28 | 28 | 8 | 13 | 10 | 1 | 100 |
| C* | 11 | | 11 | 18 | 15 | 11 | 15 | 19 | 7 | 15 |
| 2 * | 57 | 3 | 32 | 56 | 120 | 15 | 40 | 34 | 3 | 400 |
| T* | 4 | 0 | 2 | 5 | 6 | 1 | 3 | 2 | 0 | 27 |
| R* | 14 | 1 | 8 | 24 | 30 | 4 | 10 | 8 | 1 | 100 |
| C* | 14 | 16 | 32 | 29 | 30 | 5 | 22 | 31 | 11 | 27 |
| 1 * | 9 | | 4 | 18 | 22 | 3 | 9 | 3 | 2 | 70 |
| T* | 1 | | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 5 |
| R* | 13 | | 6 | 26 | 31 | 4 | 13 | 4 | 3 | 100 |
| C* | 6 | | 5 | 5 | 6 | 2 | 5 | 3 | 7 | 5 |

( 85 1 3 5 7 9
Q56 2 4 6 8

| | | | | | |
|---|---|---|---|---|---|
| COLUMN TOTAL | 155 | 83 | 394 | 186 | 27 |
| PERCENT TOTAL | 11 | 6 | 27 | 13 | 2 |

GRAND TOTAL= 1484

CHI-SQUARE (IF TABLE) 61.68832
DF= 24

VALUES NOT ENTERED IN

| CASE NO. | VARIABLE 1 | VARIABLE R |
|---|---|---|
| 64 | 0 | * |
| 68 | 0 | 5 |
| 109 | 0 | 5 |
| 115 | 0 | 3 |
| 120 | 1 | 0 |
| 122 | 4 | 0 |
| 197 | 3 | 0 |
| 363 | 0 | 5 |
| 538 | * | 0 |
| 651 | 0 | 8 |
| 657 | 0 | 8 |
| 698 | 0 | 8 |
| 803 | 0 | 7 |
| 1310 | 0 | 5 |
| 1315 | 0 | 5 |
| 1346 | 2 | 5 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0654

| | | | |
|---|---|---|---|
| MEAN R)* | 4.87200 | SDE R)* | 1.98451 |
| MEAN 1)* | 3.14900 | SDE 1)* | 1.01986 |

(Question 35)
I. (4) Never
II. (3) Only on an as-needed basis
III. (2) Regularly-infrequently (once a month)
IV (1) Regularly-frequently (twice or more a month)

(Question 56)
I. Production, Management and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(26) Production and management
(28) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(23) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

## Table 3-46. Interviewer's Assessment of User's Information Needs vs. Use of Company TIC

```
     Q55    IS CROSS TABULATED WITH      Q35     OR,

VARIABLE 10 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    10       5       1
     1       4       1


(10)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q59
   3 *   6 6P 52155  481
    T*   0  5  3 24   32
    P*   1 14 11 74  100
    C*   2 17 24 44   32
         *
   2 *  252C511637E  724
    T*   2 14  8 25   49
    R*   3 2P 16 52  100
    C*  35 51 53 47   49
         *
   1 *  40127 49 67  283
    T*   3  5  3  5   19
    P*  14 4E 17 24  100
    C*  5E 32 23  E   19
         *
         **********
  (1)    1     3
Q35      2     4

COLUMN   71   217
 TOTAL  4CC   900

PERCENT   5    15
 TOTAL    27   54

GRAND TOTAL=  1498

CHI-SQUARE (CF TABLE)      221.93657
DF=    6

VALUES NOT ENTERED  12
  CASE NO.      VARIABLE 10      VARIABLE  1
     64              1              0
     6P              2              0
    1C9              2              0
    115              1              0
    363              1              0
    65E              1              0
    657              1              0
    69P              1              0
    803              3              0
   131C              1              0
   1319              2              0
   1324              2              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.3748
MEAN( 1)=       3.14800   SD( 1)=      1.01986
MEAN( 10)=      2.12800   SD( 10)=     0.70613
```

(Question 59)
I. (3) Insignificant need
II. (2) Moderate need
III. (1) Large nee

(Question 35)
I. (4) Never
II. (3) Only on an as-needed basis
III. (2) Regularly-infrequently (once a month)
IV. (1) Regularly-frequently (twice or more a month)

## Table 3-47. Use of STAR vs. Use of TAB

```
     Q3A    IS CROSS TABULATED WITH    Q37     OR,

VARIABLE  3 IS CROSS TABULATED WITH VARIABLE  2

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     3       5       1
     2       5       1

( 3)          (EXTREME RIGHT VALUE IS ROW TOTAL)
Q3A
   5 *  10   3   4   7  70    54
     T*   1   0   0   0   5     6
     R*  11   3   4   7  74   100
     C*   2   1   2   6  34     6
     *
   4 *  11   2   7  27  18    70
     T*   1   0   0   2   1     5
     R*  14  10  10  39  26   100
     C*   2   2   *  23   9     5
     *
   3 *  18   9  51  13  21   112
     T*   1   1   3   1   1     7
     R*  16   8  46  12  19   100
     C*   3   *  25  11  10     7
     *
   2 *  36147  35  23  30   269
     T*   2  10   2   2   2    18
     R*  13  55  13   9  11   100
     C*   5  45   .  20  15    18
     *
   1 *  *761**1C6  47  67   555
     T*  38  11   7   3   4    64
     R*  AC  17  11   5   7   100
     C*  89  46  52  40  33    64
     *
     **********
( 2)    1       3       5


Q37        2       4

COLUMN  645     203     206
 TOTAL      334     117

PERCENT  43      14      14
 TOTAL      22      8

GRAND TOTAL=  1500

CHI-SQUARE (OF TABLE)       839.53193
DF=   16

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.*049
MEAN( 2)=       2.27667   SD( 2)=       1.42972
MEAN( 3)=       1.71933   SD( 3)=       1.17650
```

(Question 38)
I. (5) Do not know of STAR
II. (4) Never
III. (3) About once every six months
IV. (2) Once every 2 or 3 months
V (1) Every issue or almost every issue

(Question 37)
I. (5) Do not know of TAB
II. (4) Never
III. (3) About once every 6 months
IV. (2) Once every 2 or 3 months
V. (1) Every issue or almost every issue

## Table 3-48. Use of DDC vs. Use of TAB

```
     Q39    IS CROSS TABULATED WITH     Q37     OR,

VARIABLE  4 IS CROSS TABULATED WITH VARIABLE  2

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    4        3        1
    2        5        1

( 4)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q39
   3 * 142142136 50175  679
    T*   9  9  9  6 12   45
    R*  21 21 19 13 26  100
    C*  22 44 64 77 85   45
     *
   2 * 137132 41 18 20  348
    T*   9  9  3  1  1   23
    R*  39 38 12  5  6  100
    C*  21 41 20 15 10   23
     *
   1 * 370 51 32  9 11  473
    T*  25  3  2  1  1   32
    R*  78 11  7  2  2  100
    C*  57 16 16  8  5   32
     *
     **********************
 ( 2)    1     3     5
Q37          2     4

COLUMN  645   203   206
 TOTAL      325   117

PERCENT  43    14    14
 TOTAL       22     8

GRAND TOTAL=  1500

CHI-SQUARE (OF TABLE)      497.08937
DF=    8

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.4981
MEAN( 2)=        2.27067   SD( 2)=       1.42972
MEAN( 4)=        2.13733   SD( 4)=       0.86582
```

(Question 39)

| | | |
|---|---|---|
| I. | (3) | Do not know of DDC |
| II. | (2) | Know of DDC, but do not use it |
| II. | (5) | Use other sources instead |
| II. | (4) | Not relevant |
| III. | (1) | Yes |

(Question 37)

| | | |
|---|---|---|
| I. | (5) | Do not know of TAB |
| II. | (4) | Never |
| III. | (3) | About once every 6 months |
| IV. | (2) | Once every 2 or 3 months |
| V. | (1) | Every issue or almost every issue |

## Table 3-49. Use of DOD Specialized Information Centers vs. Use of TAB

```
Q4C     IS CROSS TABULATED WITH      Q37     OR,

VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  2

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     5       3       1
     2       5       1

( 5)          (EXTREME RIGHT VALUE IS ROW TOTAL)
Q4C
   3 *  2161   110  6313S   661
     T*   14     9     7     6     9    44
     R*   33    21    17    10    20   100
     C*   33    42    54    46    66    44
      *
   2 *   111    82    37    30    30   290
     T*    7     5     2     2     2    19
     R*   38    28    13    10    10   100
     C*   17    25    18    20    15    19
      *
   1 *  3221C6   56    24    41   545
     T*   21     7     4     2     3    37
     R*   59    19    10     4     7   100
     C*   50    33    SR    21    20    37
      *
      **********************
 ( 2)     1     3     5
Q37       2     4

COLUMN  645   203   205
 TOTAL   32*   117

PERCENT   43    14    14
 TOTAL    22     8

GRAND TOTAL=  1500

CHI-SQUARE (OF TABLE)        118.59422
DF=     8

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2552
MEAN( 2)=        2.27067    SD( 2)=        1.42972
MEAN( 5)=        2.07447    SD( 5)=        0.89534
```

(Question 40)
I. (29) Do not know of such centers
II. (31) Use other sources instead
III (30) Not relevant
IV. (1-28) Use centers

(Question 37)
I. (5) Do not know of TAB
II. (4) Never
III. (3) About once every 6 months
IV. (2) Once every 2 or 3 months
V. (1) Every issue or almost every issue

## Table 3-50. Use of TAB vs. Nature of Restrictions

```
     Q37    IS CROSS TABULATED WITH     Q43    OR,
VARIABLE  3 IS CROSS TABULATED WITH VARIABLE  5
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     3       5       1
     5       3       1

( 3)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q37
   5 *  27 57 23  107
    T*   5 11  4   20
    R*  25 53 21  100
    C*  12 24 35   20
      *
   4 *  15 29 11   55
    T*   3  6  2   10
    R*  27 53 20  100
    C*   7 12 17   10
      *
   3 *  28 43  9   80
    T*   5  9  2   15
    R*  35 54 11  100
    C*  13 18 14   15
      *
   2 *  41 55 11  107
    T*   8 10  2   20
    R*  38 51 10  100
    C*  18 21 17   20
      *
   1 * 113 51 12  176
    T*  22 10  2   34
    R*  64 29  7  100
    C*  50 22 18   34
      *
      ****************
( 5)    1     3
```

(Question 37)

| | | |
|---|---|---|
| I. | (5) | Do not know of TAB |
| II. | (4) | Never |
| III. | (3) | About once every 6 months |
| IV. | (2) | Once every 2 or 3 months |
| V. | (1) | Every issue or almost every issue |

(Question 43)

| | | |
|---|---|---|
| I. | (1) | Proprietary |
| II. | (2) | Industrial Security |
| III. | (3) | Both (1) and (2) |

```
Q43          7

COLUMN 224    66
 TOTAL    235

PERCENT  43    13
 TOTAL     45

GRAND TOTAL=   525

CHI-SQUARE (OF TABLE)      60.57660
DF=    9

VALUES NOT ENTERED 975

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2529
MEAN( 5)=        0.59467   SD( 5)=        0.90494
MEAN( 3)=        2.27067   SD( 3)=        1.42972
```

## Table 3-51. Use of TAB vs. Nature of Difficulties

```
    Q37    IS CROSS TABULATED WITH     Q46    OR,
VARIABLE  3 IS CROSS TABULATED WITH VARIABLE  2
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     3        5        1
     2        3        1

( 3)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q37
   5 *    5 52 38   95
     T*   1  8  6   15
     R*   5 55 40  100
     C*  10 16 15   15
      *
   4 *    5 37 18   60
     T*   1  6  3   10
     R*   8 62 30  100
     C*  10 11  7   10
      *
   3 *    6 50 51  107
     T*   1  8  8   17
     R*   5 47 48  100
     C*  13 14 21   17
      *
   2 *    9 78 44  131
     T*   1 12  7   21
     R*   7 60 34  100
     C*  19 23 18   21
      *
   1 *   23117 95  235
     T*   4 19 15   37
     R*  10 50 40  100
     C*  48 35 39   37
      *
    **********
( 2)    1     3

Q46          2

COLUMN   48   246
 TOTAL      334

PERCENT    8    39
 TOTAL      53

GRAND TOTAL=   628

CHI-SQUARE (OF TABLE)        10.44790
DF=     8

VALUES NOT ENTERED 872

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0998
MEAN( 2)=        0.9693    SD( 2)=        1.20832
MEAN( 3)=        2.27057   SD( 3)=        1.42972
```

(Question 37)
I. (5) Do not know of TAB
II. (4) Never
III. (3) About once every 6 months
IV. (2) Once every 2 or 3 months
V. (1) Every issue or almost every issue

(Question 43)
I. Utility of Information
(1) Attributable to inside of company
(2) Attributable to outside of company
(3) Attributable to both
II. Timely Acquisition of Information
(4) Attributable to inside of company
(5) Attributable to outside of company
(6) Attributable to both
III. Timely Awareness of Information
(7) Attributable to inside of company
(8) Attributable to outside of company
(9) Attributable to both

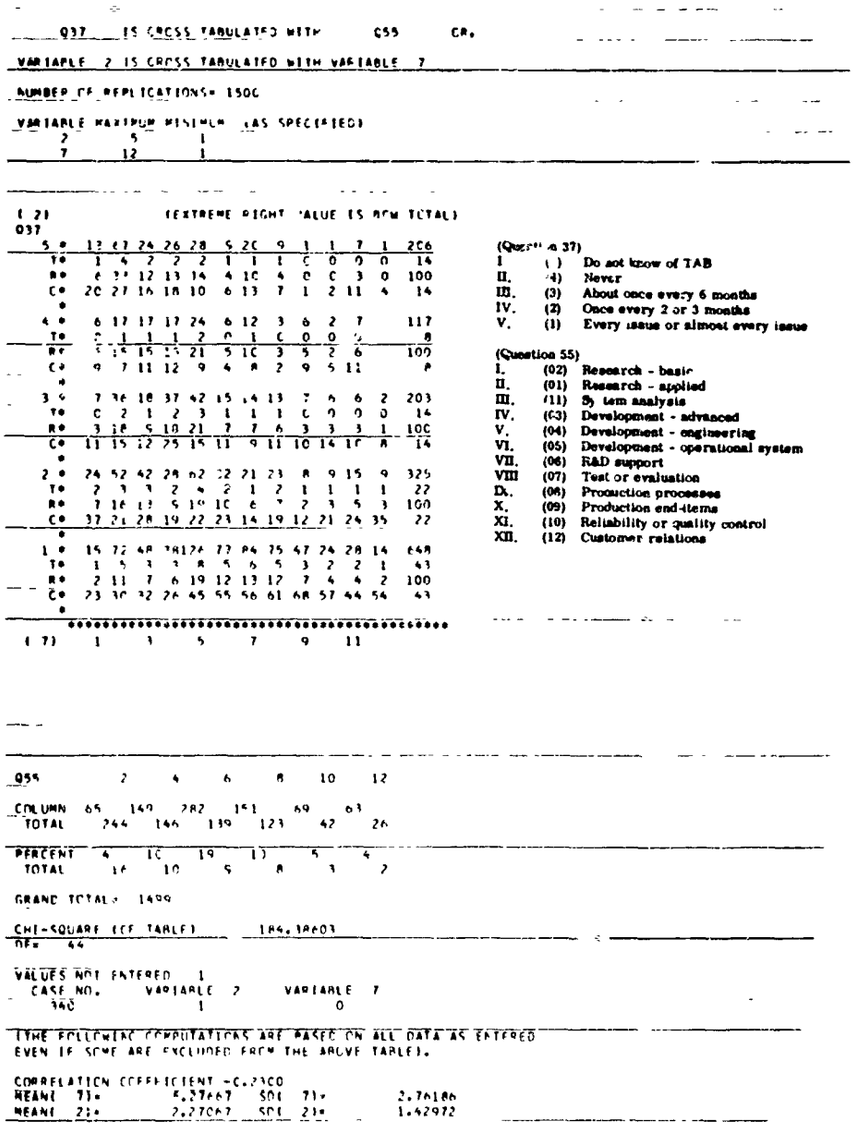
Table 3-52. User's Highest Degree vs. Use of TAB

```
Q50A   IS CROSS TABULATED WITH     Q37     OR.

VARIABLE 11 IS CROSS TABULATED WITH VARIABLE  3

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM N   MIN   (AS SPECIFIED)
   11        6        1
    3        5        1

(11)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q50A
   6 *   44 42 23 12 36  157
     T*   3  3  2  1  2   10
     R*  28 27 15  8 23  100
     C*   7 13 11 10 17   10
      *
   5 *    9 13  1     5   26
     T*   1  1  0     0    2
     R*  35 50  4    12  100
     C*   1  4  0     1    2
      *
   4 *   77 67 46 34 72  296
     T*   5  4  3  2  5   20
     R*  26 23 16 11 24  100
     C*  17 21 23 29 35   20
      *
   3 *  384157112 60 85  798
     T*  26 10  7  4  6   53
     R*  48 20 14  8 11  100
     C*  59 48 55 51 41   53
      *
   2 *   20  2  3  2  1   28
     T*   1  0  0  0  0    2
     R*  71  7 11  7  4  100
     C*   3  1  1  2  0    2
      *
   1 *  115 44 18  9  9  195
     T*   8  3  1  1  1   13

     R*  59 23  9  5  5  100
     C*  18 14  9  8  4   13
      *
       ********(***************
(37)     1     3     5
037          2     4

COLUMN 649   203   206
 TOTAL   325   117

PERCENT  43    14    16
 TOTAL   22     8

GRAND TOTAL= 1500

CHI-SQUARE (OF TABLE)       134.73241
DF=  20

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2138
MEAN( 3)=       2.27067   SD( 3)=       1.42972
MEAN(11)=       3.26733   SD(11)=       1.29498
```

(Question 50A)
I. (6) None
II. (1) Associate's
III. (2) Bachelor's
IV. (3) Master's
V. (4) Professional
VI. (5) Doctor's

(Question 37)
I. (5) Do not know of TAB
II. (4) Never
III. (3) About once every 6 months
IV. (2) Once every 2 or 3 months
V. (1) Every issue or almost every issue

## Table 3-53. Use of TAB vs. Kind of Work Position



```
Q37    IS CROSS TABULATED WITH      Q55      OR.
VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  7

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    2       5       1
    7      12       1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q37
   5 *  13 67 24 26 28  5 20  9  1  1  7  1  206
    T*   1  4  2  2  2  1  1  1  0  0  0  0   14
    R*   6 33 12 13 14  4 10  4  0  0  3  0  100
    C*  20 27 16 18 10  6 13  7  1  2 11  4   14
     *
   4 *   6 17 17 17 24  6 12  3  6  2  7      117
    T*   2  1  1  1  2  0  1  0  0  0  1       8
    R*   5 15 15 15 21  5 10  3  5  2  6      109
    C*   9  7 11 12  9  4  8  2  9  5 11        8
     *
   3 *   7 36 18 37 42 15 14 13  7  6  6  2  203
    T*   0  2  1  2  3  1  1  1  0  0  0  0   14
    R*   3 18  9 18 21  7  7  6  3  3  3  1  100
    C*  11 15 12 25 15 11  9 11 10 14 10  8   14
     *
   2 *  24 52 42 29 62 22 21 23  8  9 15  9  325
    T*   2  3  3  2  4  2  1  2  1  1  1  1   22
    R*   7 16 13  9 19 10  6  7  2  3  5  3  100
    C*  37 24 28 19 22 23 14 19 12 21 24 35   22
     *
   1 *  15 72 48 38124 72 24 25 47 24 28 14  648
    T*   1  5  3  3  8  5  2  2  3  2  2  1   43
    R*   2 11  7  6 19 12 13 12  7  4  4  2  100
    C*  23 30 32 26 45 55 56 61 68 57 44 54   43
     *
      ********************************************
( 7)   1     3     5     7     9    11


Q55          2     4     6     8    10    12

COLUMN  65   149   282   151    69    63
 TOTAL     244   146   139   123    42    26

PERCENT   4    10    19    10     5     4
 TOTAL    16    10     9     8     3     2

GRAND TOTAL= 1499

CHI-SQUARE (OF TABLE)      184.18603
DF=  44

VALUES NOT ENTERED   1
  CASE NO.      VARIABLE  2      VARIABLE  7
    340              1                0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.23C0
MEAN( 7)=       5.27667    SD( 7)=       2.76186
MEAN( 2)=       2.27067    SD( 2)=       1.42972
```

(Question 37)
I. (5) Do not know of TAB
II. (4) Never
III. (3) About once every 6 months
IV. (2) Once every 2 or 3 months
V. (1) Every issue or almost every issue

(Question 55)
I. (02) Research - basic
II. (01) Research - applied
III. (11) Systems analysis
IV. (03) Development - advanced
V. (04) Development - engineering
VI. (05) Development - operational system
VII. (06) R&D support
VIII (07) Test or evaluation
IX. (08) Production processes
X. (09) Production end-items
XI. (10) Reliability or quality control
XII. (12) Customer relations

## Table 3-54. Usc of TAB vs. Field cf Work Position

```
     037    IS CROSS TABULATED WITH      056      .

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  8

NUMBER OF APPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
       2       5       1
       8       5       1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
037
   5 *  20   3   9  33  53  32  35  15   5   205
   Y*   1   0   1   2   4   2   2   1   0    14
   P*  10   1   4  16  26  16  17   7   2   100
   C*  13  10  11  10  13  20  19  13  10    14
    .
   4 *  13   5   5  24  32  13  17   5   3   117
   Y*   1   0   0   2   2   1   1   0   0     8
   P*  11   4   4  21  27  11  15   4   3   100
   C*   8  17   6   7   5   8   5   4  11     8
    .
   3 *  17      11  55  56  15  31  10   2   201
   Y*   1       1   4   4   1   2   1   0    13
   P*   8       5  25  28   7  15   5   1   100
   C*  11      13  18  14   5  17   9   7    13
    .
   2 *  36   3  15  75  81  32  49  25   6   325
   Y*   2   0   1   5   5   2   3   2   0    22
   P*  11   1   4  23  25  10  15   8   2   100
   C*  23  10  23  22  20  20  26  22  22    22
    .
   1 *  72  15  40 145 178  67  96  59  11   648
   Y*   5   1   3  10  12   4   6   4   1    45
   P*  11   3   6  22  27  10   9   6   2   100
   C*  46  63  43  43  44  42  30  52  41    43
    .
  ( 8)   1       3       5       7       9

OF5          2       4       6       8

COLUMN 155      84     400     187      27
  TOTAL         30     336     159     114

PERCENT  11       6      27      13       2
  TOTAL           2      22      11       8

GRAND TOTAL=  1496

CHI SQUARE (OF TABLE)          =1.86257
DF=  3

VALUES NOT ENTERED   4
  CASE NO.      VARIABLE  2      VARIABLE
    120             1              0
    124             3              0
    157             3              0
    538             5              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0516
MEANS  B1=        4.42200     SDS  B1=        1.98451
MEANS  Z1=        2.27047     SDS  Z1=        1.43972
```

(Question 37)
- I. (5) Do not know of TAB
- II. (4) Never
- III. (3) About once every 6 months
- IV. (2) Once every 2 or 3 months
- V. (1) Every issue or almost every issue

(Question 56)
- I. Production, Management, and Social Sciences
  - (32) Miscellaneous arts and sciences
  - (23) Personnel and training
  - (26) Production and management
  - (28) Psychology and human engineering
- II. Medical Sciences
  - (16) Medical sciences
- III. Mechanical, Industrial, Civil and Marine Engineering
  - (11) Ground transportation equipment
  - (13) Installations and construction
  - (18) Military sciences and operations
  - (24) Photography and other reproduction processes
  - (29) Quartermaster equipment and supplies
  - (31) Ships and marine equipment
  - (33) Transportation
- IV. Aeronautics and Space Technology
  - (01) Aircraft and flight equipment
  - (12) Guided missiles
  - (19) Navigation
- V. Electronics and Electrical Engineering
  - (05) Communications
  - (06) Detection
  - (07) Electrical equipment
  - (08) Electronics, electronic equipment
- VI. Chemical Science and Materials
  - (03) Chemical warfare equipment and materials
  - (04) Chemistry
  - (10) Fuels and combustion
  - (14) Materials (nonmetallic)
  - (17) Metallurgy
  - (22) Ordnance
- VII. Physical Science
  - (02) Astronomy, geophysics and geography
  - (09) Fluid mechanics
  - (20) Nuclear physics and nuclear chemistry
  - (21) Nuclear propulsion
  - (25) Physics
  - (27) Propulsion systems
- VIII. Research and Research Equipment
  - (30) Research and research equipment
- IX Mathematics
  - (15) Mathematics

Table 3-55. Use of TAR vs. User's Equivalent GS Rating

```
    Q37    IS CROSS TABULATED WITH      Q58      BY.

VARIABLE  1 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    1        5       1
   11       15       1


( 1)              (EXTREME RIGHT VALUE IS ROW TOTAL)
237
   5 *   2 17 21 30 35 34 21  9  6  1  1      206
    T*   0  1  1  3  4  2  1  1  0  0  0       14
    R*   1  8 10 19 27 17 10  4  3  0  0      100
    C*   7  7  7 14 10 18 30 18 24 13 20        14
     *
   4 *      12 21 24 27 19  6  5  2  1        117
    T*       1  1  2  2  1  0  0  0  0         8
    R*      10 18 21 23 16  5  4  2  1       100
    C*       5  7  8  9 10  9 10  8 20         8
     *
   3 *   1 23 31 36 56 33  9 11  2  1        203
    T*   0  2  2  2  4  2  1  1  0  0         14
    R*   0 11 15 18 28 16  4  5  1  0        100
    C*   4  9 11 13 19 18 13 22  8 40         14
     *
   2 *   4 44 65 65 56 50 15 16  7  3        325
    T*   0  3  4  4  4  3  1  1  0  0         22
    R*   1 14 20 20 17 15  5  5  2  1        100
    C*  14 17 22 23 19 27 21 33 28 30         22
     *
   1 *  21 62 51 122 100 48 19  8  8  4  2  4 649
    T*   1 11 10  8  7  3  1  1  0  0  0       43
    R*   3 25 23 19 15  7  3  1  1  1  0  1  100
    C*  75 63 52 43 34 26 27 16 32 50 40 100  43
     *
     ********************************************
(11)    2     4     6     8    10    12
```

(Question 37)

| | | |
|---|---|---|
| I. | (5) | Do not know of TAB |
| II. | (4) | Never |
| III. | (3) | About once every 6 months |
| IV. | (2) | Once every 2 or 3 months |
| V. | (1) | Every issue or almost every issue |

(Question 58)

| | | |
|---|---|---|
| I. | (01) | GS-6 (under 6,000) |
| II. | (02) | GS-9 (6,000 - 7,999) |
| III. | (03) | GS-11 (8,000 - 10,249) |
| IV. | (04) | GS-12 (10,250 - 11,999) |
| V. | (05) | GS-13 (12,000 - 13,999) |
| VI. | (06) | GS-14 (14,000 - 16,499) |
| VII. | (07) | GS-15 ,16,500 - 18,999) |
| VIII. | (08) | GS-16 (19,000 - 20,999) |
| IX. | (09) | GS-17 (21,000 - 23,999) |
| X. | (10) | GS-18 (24,000 - 26,999) |
| XI. | (11) | Sp A (27,000 - 29,999) |
| XII. | (12) | Sp B (30,000 - 34,999) |
| XIII. | (13) | Sp C (over 35,000) |

```
Q58          3     5     7     9    11    13

COLUMN  28   289   294    170    25     5
 TOTAL     258   286   184    49     8     4

PERCENT   2    19    20     5     2     0
 TOTAL     17    19    12     3     1     0

GRAND TOTAL= 1500

CHI-SQUARE (OF TABLE)       159.48614
DF=   44

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2284
MEAN( 11)=        5.27933    SD( 11)=        1.98262
MEAN(  1)=        2.27067    SD(  1)=        1.42972
```

Table 3-56. Interviewer's Assessment of User's Information Needs vs. Use of TAB

```
     Q59    IS CROSS TABULATED WITH   Q37    OR:

VARIABLE 12 IS CROSS TABULATED WITH VARIABLE  3

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    12       5       1
     3       5       1

(12)          (EXTREME RIGHT VALUE IS ROW TOTAL)
Q59
   3 * 129116 65 55117  482
    I*   9  8  4  -  8   32
    R*  27 24 15 11 24  100
    C*  20 36 32 47 57   32
     *
   2 * 322157116 54 79  728
    I*  21 10  8  4  5   49
    R*  44 22 16  7 11  100

(Question 59)
I.    (3)  Insignificant need
II.   (2)  Moderate need
III.  (1)  Large need

(Question 37)
I     (5)  Do not know of TAB
II.   (4)  Never
III.  (2)  About once every 6 months
IV.   (2)  Once every 2 or 3 months
V.    (1)  Every issue or almost every issue

    C*  50 48 57 46 38   49
     *
   1 * 198 52 22  8 10  290
    I*  13  3  1  1  1   19
    R*  68 18  8  3  3  100
    C*  31 16 11  7  5   19
     *
     **********************
 ( 3)    1     3     5
Q37          2     4

COLUMN 649   203   206
 TOTAL   325   317

PERCENT  43    14    14
 TOTAL    22     8

GRAND TOTAL= 1500

CHI-SQUARE (OF TABLE)       169.62781
DF=   8

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.3139
MEAN( 31)=        2.27067   SD( 31)=       1.42972
MEAN( 12)=        2.12800   SD( 12)=       0.70613
```

# Tabie 3-57. Use of STAR vs. Use of DDC

```
     Q3P     IS CROSS TABULATED WITH      Q39      QP,

VARIABLE   3 IS CROSS TABULATED WITH VARIABLE   4

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     3       5       1
     4       5       1

( 3)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q3P
     4 *    7  11  26    54
       T*   0   1   5     6
       R*   7  12  81   100
       C*   1   1  11     6
            *
     4 *    6  11  53    70
       T*   0   1   5     5
       R*   9  16  76   100
       C*   1   1   8     5
            *
     3 *   21  17  74   112
       T*    1   1   5     7
       R*   15  15  66   100
       C*    4   6  11     7
            *
     2 *   54  87 128   269
       T*    4   6   9    18
       R*   20  32  48   100
       C*   11  25  19    18
            *
     1 *  385 223 216   824
       T*   26  15  23    66
       R*   47  27  26   100
       C*   81  64  51    44
            *
          ***********************
  ( 4)     1       3

(Question 39)
I.    (3)  Do not know of DDC
II    (2)  Know of DDC, but do not use it
II.   (5)  Use other sources instead
II.   (4)  Not relevant
III.  (1)  Yes

(Question 38)
I     (5)  Do not know of STAR
II.   (4)  Never
III.  (2)  About once every 6 months
'V    (2)  Once every 2 or 3 months
V     (1)  Every issue or almost every issue

Q39          2

COLUMN 473   679
 TOTAL      348

PERCENT  32    45
 TOTAL       23

GRAND TOTAL=  1500

CHI-SQUARE (OF TABLE)        157.26656
DF=    9

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  -.2939
MEAN( 4)=        2.13737   SDE( 4)=        0.86580
MEAN( 3)=        1.71933   SDE( 3)=        1.17653
```

Table 3-58. Use of English Abstracts or Translations vs. Use of STAR

```
     Q44    IS CROSS TABULATED WITH      Q38      BY,
VARIABLE  6 IS CROSS TABULATED WITH VARIABLE  2

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
       6        2        1
       2        5        1


( 6)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q44
   2 * 31Y112 62 38 67  596
     T*  21  7  4  3  4   40
     R*  53 19 10  6 11  100
     C*  33 42 55 54 71   40
       *
   1 * 638:57 50 32 27  904
     T*  43 10  3  2  2   60
     R*  71 17  6  4  3  100
     C*  67 58 45 46 29   60
       *
         ********************2***
( 2)     1        3        5
Q38              2        4

COLUMN 955   112     94
 TOTAL   269    70

PERCENT  64     7      6
 TOTAL   18     5

GRAND TOTAL= 1500

CHI-SQUARE (OF TABLE)        74.12820
DF=   4

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).



CORRELATION COEFFICIENT  0.2193
MEAN( 2)=        1.71933    SD( 2)=        1.17650
MEAN( 6)=        1.39733    SD( 6)=        0.48951
```

(Question 44)
I. (2) No
II. (1) Yes

(Question 38)
I. (5) Do not know of STAR
II. (4) Never
III. (3) About once every 6 months
IV. (2) Once every 2 or 3 months
V. (1) Every issue or almost every issue

Table 3-59. Use of STAR vs. User's Highest Degree

```
     Q38    IS CROSS TABULATED WITH      Q50A     OR.
VARIABLE  3 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    3          5         1
   11          6         1


( 3)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q38
    5 *   3   1  48  25   1  12    94
     T*   0   0   3   2   0   1     6
     R*   3   1  51  31   1  13   100
     C*   2   4   6  10   4   8     6
      *
    4 *   7      35  15      13    70
     T*   0      2   1       1     5
     R*  10     50  21      19   100
     C*   4      4   5       8     5
      *
    3 *   9   1  57  27   2  16   112
     T*   1   0   4   2   0   1     7
     R*   8   1  51  24   2  14   100
     C*   5   4   7   9   8  10     7
      *
    2 *  32      127  67   9  29   269
     T*   2   0   8   4   1   2    18
     R*  12   2  47  25   3  11   100
     C*  16  18  16  23  35  18    19
      *
    1 * 144  21 311 15   14  87   955
     T*  10   1  35  11   1   6    64
     R*  15   2  56  17   1   9   100
     C*  74  75  67  53  54  55    64
      *
      ****************************
(11)    1    3    5


Q50A         2     4     6

COLUMN 195    798    26
 TOTAL      28   296   157

PERCENT  13     51     2
 TOTAL    2     20    10

GRAND TOTAL= 1500

CHI-SQUARE (OF TABLE)       48.55758
DF=   20

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CC RELATION COEFFICIENT  0.1250
MEAN( 11)=        3.26733    SD( 11)=       1.29498
MEAN( 3)=         1.71933    SD( 3)=        1.17650
```

(Question 38)
I. (5) Do not know of STAR
II. (4) Never
III. (3) About once every 6 months
IV. (2) Once every 2 or 3 months
V. (1) Every issue or almost every issue

(Question 50A)
I. (6) None
II. (1) Associate's
III. (2) Bachelor's
IV. (3) Master's
V. (4) Professional
VI. (5) Doctor's

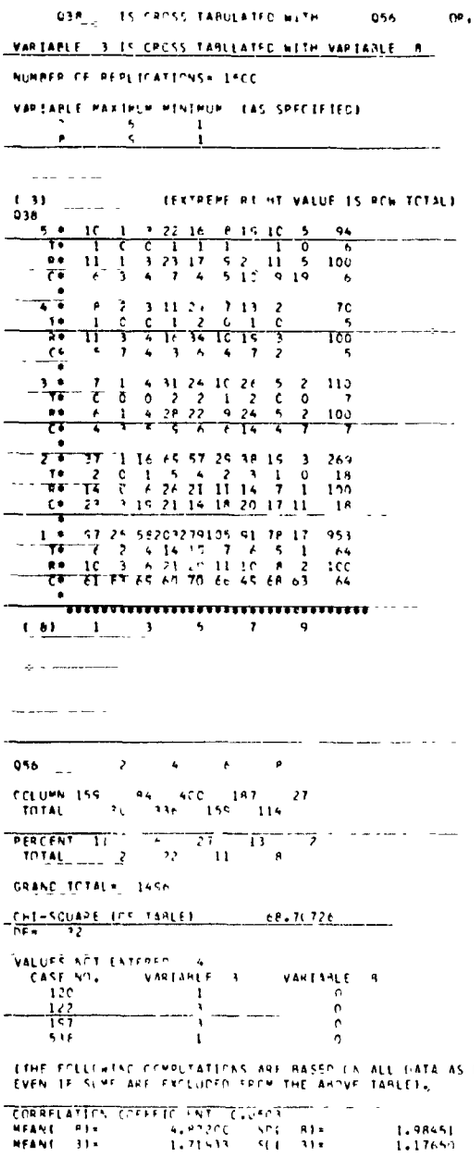
## Table 3-60. Use of STAR vs. Kind of Work Position

```
     038    IS CROSS TABULATED WITH    055    OR,

VARIABLE  3 IS CROSS TABULATED WITH VARIABLE  7

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    3        5        1
    7       12        1

( 3)              (EXTREME RIGHT VALUE IS ROW TOTAL)
038
   5 *   4 28 10 11 12  6 16  4        3      94
    T*   0  2  1  1  1  0  1  0        0       6
    R*   4 30 11 12 13  6 17  4        3     100
    C*   6 11  7  8  4  4 11  3        5       6
     *
   4 *   8 17  4 15 14  4  6  1  3  1  3  1   70
    T*   0  1  0  1  1  0  0  0  0  0  0  0    5
    R*   9 17  6 21 20  6  9  1  4  1  4  1  100
    C*   9  5  3 10  5  3  4  1  4  2  5  4    5
     *
   3 *   3 19 10 31 15  4  7 11        3  9     112
    T*   0  1  1  2  1  0  0  1        0  1       7
    R*   3 17  9 28 13  4  6 10        3  8     100
    C*   5  3  7 21  5  3  5  9        7 14       7
     *
   2 *  16 47 33 25 52 24 20 16  9 12 10  5   269
    T*   1  3  2  2  3  2  1  1  1  1  1  0    18
    R*   6 17 12  9 19  9  7  6  3  4  4  2   100
    C*  25 15 22 17 18 17 13 13 13 29 16 19    18
     *
   1 *  36 13 8 92 64 18 9 10 10 2 91 57 26 38 20   954
    T*   2  5  6  4 13  7  7  6  4  2  3  1    64
    R*   4 14 10  7 20 11 11 10  6  3  4  2   100
    C*  55 57 62 44 67 73 66 74 83 62 60 77    64
     *
( 7)   1     3     5     7     9    11

055        2     4     6     8    10     2

COLUMN  65   149   292   151    69    33
 TOTAL     244   146   139   123    42    26

PERCENT   4    10    19    10     5     4
 TOTAL    16    10     9     8     3     2

GRAND TOTAL=  1499

CHI-SQUARE (FROM TABLE)       136.77541
DF=  44

VALUES NOT ENTERED  1
  CASE NO.     VARIABLE  3    VARIABLE  7
    340            1              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =-0.1251
MEAN( 7)=      5.27667    SD( 7)=      2.76186
MEAN( 3)=      1.71933    SD( 3)=      1.17650
```

(Question 38)
- I. (5) Do not know of STAR
- II. (4) Never
- III. (3) About once every 6 months
- IV (2) Once every 2 or 3 months
- V. (1) Every issue or almost every issue

(Question 55)
- I. (02) Research - basic
- II. (01) Research - applied
- III. (11) System analysis
- IV. (03) Development - advanced
- V. (04) Development - engineering
- VI. (05) Development - operational system
- VII. (06) R&D support
- VIII. (07) Test or evaluation
- IX. (08) Production processes
- X. (09) Production end-items
- XI. (10) Reliability or quality control
- XII. (12) Customer relations

# Table 3-61. Use of STAR vs. Field of Work Position



Q38 IS CROSS TABULATED WITH Q56 OF.

VARIABLE 3 IS CROSS TABULATED WITH VARIABLE 8

NUMBER OF REPLICATIONS= 1000

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 3 | 5 | 1 |
| 8 | 5 | 1 |

( 3) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q38 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 5 * | 10 | 1 | 2 | 22 | 16 | 8 | 15 | 10 | 5 | 94 |
| T* | 1 | 0 | 0 | 1 | 1 | 1 | | 1 | 0 | 6 |
| R* | 11 | 1 | 3 | 23 | 17 | 9 | 2 | 11 | 5 | 100 |
| C* | 6 | 3 | 4 | 7 | 4 | 5 | 13 | 9 | 19 | 6 |
| 4 * | 8 | 2 | 3 | 11 | 24 | 7 | 13 | 2 | | 70 |
| T* | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | | 5 |
| R* | 11 | 3 | 4 | 16 | 34 | 10 | 19 | 3 | | 100 |
| C* | 5 | 7 | 4 | 3 | 5 | 4 | 7 | 2 | | 5 |
| 3 * | 7 | 1 | 4 | 31 | 24 | 10 | 26 | 5 | 2 | 110 |
| T* | 0 | 0 | 0 | 2 | 2 | 1 | 2 | 0 | 0 | 7 |
| R* | 6 | 1 | 4 | 28 | 22 | 9 | 24 | 5 | 2 | 100 |
| C* | 4 | 3 | 8 | 5 | 6 | 6 | 14 | 4 | 7 | 7 |
| 2 * | 37 | 1 | 16 | 65 | 57 | 29 | 38 | 15 | 3 | 269 |
| T* | 2 | 0 | 1 | 5 | 4 | 2 | 3 | 1 | 0 | 18 |
| R* | 14 | 0 | 6 | 24 | 21 | 11 | 14 | 7 | 1 | 100 |
| C* | 23 | 3 | 19 | 21 | 14 | 18 | 20 | 17 | 11 | 18 |
| 1 * | 57 | 24 | 58 | 203 | 279 | 105 | 91 | 78 | 17 | 953 |
| T* | 7 | 2 | 6 | 14 | 15 | 7 | 6 | 5 | 1 | 64 |
| R* | 10 | 3 | 9 | 21 | 29 | 11 | 10 | 8 | 2 | 100 |
| C* | 61 | 67 | 69 | 69 | 70 | 66 | 69 | 68 | 63 | 64 |

( 8) 1 3 5 7 9

| Q56 | 2 | 4 | 6 | 8 |
|---|---|---|---|---|
| COLUMN TOTAL | 94 | 400 | 187 | 27 |
| | 20 | 338 | 159 | 114 |
| PERCENT | 11 | 47 | 23 | 3 |
| TOTAL | 2 | 22 | 11 | 8 |

GRAND TOTAL= 1486

CHI-SQUARE (FS TABLE) 68.70726

DF= 32

VALUES NOT ENTERED 4

| CASE NO. | VARIABLE 3 | VARIABLE 8 |
|---|---|---|
| 120 | 1 | 0 |
| 122 | 1 | 0 |
| 157 | 1 | 0 |
| 518 | 1 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT .00403

| | | | |
|---|---|---|---|
| MEAN R1= | 4.83200 | STD R1= | 1.98451 |
| MEAN 31= | 1.71533 | STD 31= | 1.17650 |

(Question 38)
I. (5) Do not know of STAR
II. (4) Never
III. (3) About once every 6 months
IV. (2) Once every 2 or 3 months
V. (1) Every issue or almost every issue

(Question 56)
I Production, Management and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(26) Production and management
(38) Psychology and human engineering

II Medical Sciences
(16) Medical sciences

III Mechanical, Industrial, Civil and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided missiles
(19) Navigation

V Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

VI Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

Table 3-62. Use of DOD Specialized Information Centers vs. Use of DDC

```
Q40   IS CROSS TABULATED WITH   Q39   OR,
VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  4
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     5       2       1
     4       3       1

( 5)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q40
   3 * 1321134151  661
    T*   9  8 28   44
    R*  2C 17 53  100
    C*  28 32 61   44
        *
   2 *  63 84113  290
    T*   6  6  8   19
    R*  32 25 35  100
    C*  2C 24 17   19
        *
   1 * 2471*1151  545
    T*  16 1C 10   37
    R*  45 28 28  1C0
    C*  52 4? 22   37
        *
        ****************
 ( 4)    1     3
Q39          2

COLUMN 473  675
 TOTAL   34P

PERCENT  32    4?
 TOTAL   23

GRAND TOTAL=  1500

CHI-SQUARE (OF TABLE)       163.62961
DF=  4

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  C.3121
MEAN( 4)=      2.13733   SD( 4)=      C.86582
MEAN( 5)=      2.C74e7   SD( 5)=      C.89534
```

(Question 40)
I. (29) Do not know of such centers
II. (31) Use other sources instead
II. (30) Not relevant
III. (1-28) Use centers

(Question 39)
I. (3) Do not know of DDC
II. (2) Know of DDC, but do not use it
II. (5) Use other sources instead
II. (4) Not relevant
III. (1) Yes

# Table 3-63. Use of DDC vs. Nature of Restrictions

```
     Q39    IS CROSS TABULATED WITH      Q43     OR,

VARIABLE   4 IS CROSS TABULATED WITH VARIABLE   5

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     4        3       1
     5        3       1

( 4)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q39
    3 *  101  66  54   321
    T*   19  32  10    61
    R*   31  52  17   100
    C*   45  71  82    61
    *
    2 *   41  41   6    88
    T*    8   8   1    17
    R*   47  47   7   100
    C*   18  17   9    17
    *
    1 *   82  28   6   116
    T*   16   5   1    22
    R*   71  24   5   100
    C*   37  12   9    22
    *
    **********
 ( 5)    1   3
Q43          2

COLUMN 224    66
 TOTAL    235

PERCENT  43    13
 TOTAL    45

GRAND TOTAL=   525

CHI-SQUARE (OF TABLE)       57.64601
DF=   4

VALUES NOT ENTERED 975

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2695
MEAN( 51=       0.39467   SD( 51=       0.90494
MEAN( 41=       2.13733   SD( 41=       0.86582
```

(Question 39)
I. (3) Do not know of DDC
IV. (2) Know of DDC, but do not use it
II. (5) Use other sources instead
II (4) Not relevant
III. (1) Yes

(Question 43)
I. (1) Proprietary
II (2) Industrial Security
III (3) Both (1) and (2)

Table 3-64. Use of DDC vs. Nature of Difficulties

```
Q39   IS CROSS TABULATED WITH   Q46   OR:
VARIABLE  4 IS CROSS TABULATED WITH VARIABLE  2
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     4       3       1
     2       3       1

( 4)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q39
    3 *  19 181 134   334
    T*   3  29  21    53
    R*   6  54  40   100
    C*  40  54  54    53
     *
    2 *  14  69  50   133
    T*   2  11   8    21
    R*  11  52  38   100
    C*  29  21  20    21
     *
    1 *  15  84  62   161
    T*   2  13  10    26
    R*   9  52  39   100
    C*  31  2*  25    26
     *
      ****************
 ( 2)    1       3
Q46      2*

COLUMN   48   246
 TOTAL  334

PERCENT   8    39
 TOTAL   53

GRAND TOTAL=   628

CHI-SQUARE (OF TABLE)        4.02221
DF=   4

VALUES NOT ENTERED A?2

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1367
MEAN( 2)=        0.96933   SD( 2)=        1.20832
MEAN( 4)=        2.13733   SD( 4)=        0.86582
```

(Question 39)
I. (3) Do not know of DDC
II. (2) Know of DDC, but do not use it
II. (5) Use other sources instead
II. (4) Not relevant
III. (1) Yes

(Question 46)
I. Utility of Information
- (1) Attributable to inside of company
- (2) Attributable to outside of company
- (3) Attributable to both

II. Timely Acquisition of Information
- (4) Attributable to inside of company
- (5) Attributable to outside of company
- (6) Attributable to both

III. Timely Awareness of Information
- (7) Attributable to inside of company
- (8) Attributable to outside of company
- (9) Attributable to both

Table 3-65. Use of DDC vs. User's Highest Degree

```
     039    IS CROSS TABULATED WITH      0504     ON.

VARIABLE  4 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     4       3       1
    11       6       1


( 4)              (EXTREME RIGHT VALUE IS ROW TOTAL)
039
   3 *  56  7309202 15 50  679
    Y*   4   P 21 15  1  6   65
    R*   8  1 46 30  2 13  100
    C*  29 25 39 68 50 57   45
     *
   2 *  42  3204 58  6 35  348
    Y*   3  0 14  4  0  2   23
    R*  12  1 59 17  2 10  100
    C*  22 11 26 20 23 22   23
     *
   1 *  97 18285 72  5 32  473
    Y*   6  1 19  2  0  2   32
    R*  21  4 60  8  1  7  100
    C*  52 64 36 12 10 20   32
     *
     - 888888888888888888888888
 (11)    1     3     5
0504       2     4     6

COLUMN 105   768    26
 TOTAL      28   296   157

PERCENT  13    53     2
 TOTAL      2    20    10

GRAND TOTAL= 1500
```

(Question 39)
I. (3) Do not know of DDC
II (2) Know of DDC, but do not use it
II. (5) Use other sources instead
II (4) Not relevant
III. (1) Yes

(Question 50A)
I. (6) None
II. (1) Associate's
III. (2) Bachelor's
IV. (3) Master's
V. (4) Professional
VI (5) Doctor's

```
CHI-SQUARE (OF TABLE)       145.20839
DF=  10

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2218
MEAN( 11)=        3.26733   SD( 11)        1.29498
MEAN(  4)=        2.13733   SD(  4)        0.86582
```

Table 3-66. Type of Work Activity vs. Use of DDC

```
     Q54    IS CROSS TABULATED WITH      Q39      80.
VARIABLE  8 IS CROSS TABULATED WITH VARIABLE  3
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
       8       5       1
       3       3       1

( 8)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q54
   5 =  70  71 154  295
     T=   5   5  10   20
     R=  24  24  52  100
     C=  15  20  23   20
      =
   4 =  15   5   8   28
     T=   1   0   1    2
     R=  54  18  29  100
     C=   3   1   1    2
      =
   3 =  40  39  92  171
     T=   3   3   6   11
     R=  23  23  54  100
     C=   8  11  14   11
      =
   2 = 263 195 365  823
     T=  18  13  24   55
     R=  32  24  44  100
     C=  86  97  54   55
      =
   1 =  85  38  59  182
     T=   6   3   4   12
     R=  47  21  32  100
     C=  16  11   9   12
      =
       ..................
( 3)    1     3

Q39      2

COLUMN 473   679
 TOTAL   347

PERCENT  32    45
 TOTAL    23

GRAND TOTAL= 1499

CHI-SQUARE (OF TABLE)        42.19438
DF=    8

VALUES NOT ENTERED  1
  CASE NO.     VARIABLE  8     VARIABLE  3
  1044              0              2

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1114
MEAN( 3)=       2.13733   SD( 3)=      0.86582
MEAN( 8)=       2.61867   SD( 8)=      1.39424
```

(Question 54)
I. (5) Technical evaluation
II. (4) Scientific and Engineering (nonmanagement)
III. (2) Technical management
IV. (1) Administrative management
V (3) Both administrative and technical management

(Question 39)
I. (3) Do not know of DDC
II. (2) Know of DDC, but do not use it
II. (5) Use other sources instead
II. (4) Not relevant
III. (1) Yes

Table 3-67. Use of DDC vs. Kind of Work Position

```
Q39  IS CROSS TABULATED WITH  Q55  OR,

VARIABLE  4 IS CROSS TABULATED WITH VARIABLE  7

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    4       3       1
    7      12       1

( 4)          (EXTREME RIGHT VALUE IS FOR TOTAL)
Q39
   3 *  3616* 83 92114 52 56 26 10 10 27  8  679
   T*     2 11  6  6  8  3  4  2  1  1  2  1   45
   R*     5 24 12 14 17  8  8  4  1  1  5  1  100
   C*    55 68 56 63 40 37 37 21 14 24 43 31   45
     *
   2 *    19 40 40 31 78 31 32 31 17  9 13  7  348
   T*     1  3  4  2  5  2  2  2  1  1  1  0   23
   R*     5 11 11  9 22  9  9  9  5  3  4  2  100
   C*    25 16 27 21 28 22 21 25 25 21 21 27   23
     *
   1 *    10 35 26 23 90 56 63 66 42 23 23 21  472
   T*     1  3  2  2  6  4  4  4  3  2  2  1   31
   R*     2  8  6  5 19 12 13 14  9  5  5  4  100
   C*    15 16 17 16 32 40 42 54 61 55 37 42   31
     *
     ********************************************
( 7)    1     3     5     7     9    11
Q55       2     4     6     8    10    12

COLUMN  65   149   282   151    99    63
 TOTAL   244   146   139   123    42    26

PERCENT   4    10    19    10     5     4
 TOTAL    16    10     9     8     3     2

GRAND TOTAL= 1495

CHI-SQUARE (OF TABLE)    193.93376
DF= 22

VALUES NOT ENTERED   1
  CASE NO.     VARIABLE  4     VARIABLE  7
    340            1               0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.515
MEAN( 7)=     4.27667   SD( 7)=     2.76186
MEAN( 4)=     2.14733   SD( 4)=     0.86582
```

(Question 39)

| | | |
|---|---|---|
| I | (3) | Do not know of DDC |
| II. | (2) | Know of DDC, but do not use it |
| II | (5) | Use other sources instead |
| II | (4) | Not relevant |
| III. | (1) | Yes |

(Question 55)

| | | |
|---|---|---|
| I. | (02) | Research - basic |
| II | (01) | Research - applied |
| III. | (11) | System analysis |
| IV. | (03) | Development - advanced |
| V. | (04) | Development - engineering |
| VI. | (05) | Development - operational system |
| VII. | (06) | R&D support |
| VIII. | (07) | Test or evaluation |
| IX. | (08) | Production processes |
| X. | (09) | Production end-items |
| XI. | (10) | Reliability or quality control |
| XII. | (12) | Customer relations |

# Table 3-68. Use of DDC vs. Field of Work Position

Q35 IS CROSS TABULATED WITH Q56 OR:

VARIABLE 4 IS CROSS TABULATED WITH VARIABLE 8

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM | (AS SPECIFIED) |
|---|---|---|---|
| 4 | 3 | 1 | |
| 8 | 5 | 1 | |

( 4) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q39 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 * | 62 | 7 | 38 | 144 | 178 | 82 | 105 | 40 | 21 | 677 |
| T* | 4 | 0 | 3 | 10 | 12 | 5 | 7 | 3 | 1 | 45 |
| R* | 9 | 1 | 6 | 21 | 26 | 12 | 16 | 6 | 3 | 100 |
| C* | 39 | 22 | 45 | 43 | 44 | 52 | 56 | 35 | 78 | 45 |
| * | | | | | | | | | | |
| 2 * | 38 | 10 | 15 | 97 | 90 | 28 | 43 | 30 | 1 | 347 |
| T* | 3 | 1 | 1 | 6 | 6 | 2 | 3 | 2 | 0 | 23 |
| R* | 11 | 3 | 4 | 27 | 26 | 8 | 12 | 9 | 0 | 100 |
| C* | 24 | 33 | 18 | 27 | 22 | 19 | 23 | 26 | 4 | 23 |
| * | | | | | | | | | | |
| 1 * | 55 | 13 | 31 | 100 | 132 | 49 | 35 | 44 | 5 | 472 |
| T* | 4 | 1 | 2 | 7 | 9 | 3 | 3 | 3 | 0 | 32 |
| R* | 13 | 3 | 7 | 21 | 28 | 10 | 8 | 9 | 1 | 100 |
| C* | 37 | 43 | 37 | 30 | 33 | 31 | 21 | 39 | 14 | 32 |
| * | | | | | | | | | | |

( 8) 1 3 5 7 9

Q56 2 4 6 8

| | | | | | |
|---|---|---|---|---|---|
| COLUMN TOTAL | 159 | 84 | 400 | 187 | 27 |
| | 30 | 336 | 159 | 114 | |
| PERCENT | 11 | 6 | 27 | 13 | 2 |
| TOTAL | 2 | 22 | 11 | 8 | |

GRAND TOTAL= 1498

CHI-SQUARE (CF TABLE) 46.62127

DF= 16

VALUES NOT ENTERED 4

| CASE | VARIABLE 4 | VARIABLE 8 |
|---|---|---|
| 127 | 1 | 0 |
| 122 | 3 | 0 |
| 197 | 2 | 0 |
| 538 | 3 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0764

| | | | | | |
|---|---|---|---|---|---|
| MEAN( 8)= | 4.92200 | SD( 8)= | 1.98451 | | |
| MEAN( 4)= | 2.13733 | SD( 4)= | 0.86582 | | |

(Question 39)

I. (3) Do not know of DDC
II. (2) Know of DDC, but do not use it
II. (5) Use other sources instead
II. (4) Not relevant
III. (1) Yes

(Question 56)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Ground transportation equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallergy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

Table 3-69. User's Equivalent GS Rating vs. Use of DDC

```
      Q58    IS CROSS TABULATED WITH      Q39      OR,

VARIABLE 11 IS CROSS TABULATED WITH VARIABLE  3

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    11      15       1
     3       3       1


  (11)                (EXTREME RIGHT VALUE IS ROW TOTAL)
  Q58
   13 •   3  1        4
      T•   0  0        0
      R•  75 25      100
      C•   1  0        0
        •
   12 •   1  1  3     5
      T•   0  0  0     0
      R•  20 20 60   100
      C•   0  0  0     0
        •
   11 •   1  4  3     8
      T•   0  0  0     1
      R•  13 50 38   100
      C•   0  1  0     1
        •
   10 •   3  7 15    25
      T•   0  0  1     2
      R•  12 28 60   100
      C•   1  2  2     2
        •
    9 •   6  9 34    49
      T•   0  1  2     3
      R•  12 18 69   100
      C•   1  3  5     3
        •
    8 •  10 12 48    70
      T•   1  1  3     5

      R•  14 17 69   100
      C•   2  3  7     5
        •
    7 •  26 35123   184
      T•   2  2  8    12
      R•  14 19 67   100
      C•   5 10 18    12
        •
    6 •  70 59165   294
      T•   5  4 11    20
      R•  24 20 56   100
      C•  15 17 24    20
        •
    5 •  85 74127   286
      T•   6  5  8    19
      R•  30 26 44   100
      C•  18 21 19    19
        •
    4 • 107 88 94   289
      T•   7  6  6    19
      R•  37 30 33   100
      C•  23 25 14    19
        •
    3 • 143 52 63   258
      T•  10  3  4    17
      R•  55 20 24   100
      C•  30 15  9    17
        •
    2 •  18  6  4    28
      T•   1  0  0     2
      R•  64 21 14   100
      C•   4  2  1     2
        •
        ••••••••••••••••
  ( 11)    1     3
Q39          2

COLUMN 473   679
 TOTAL    348

PERCENT  32    45
 TOTAL    23
```

(Question 58)

| | | |
|---|---|---|
| I. | (01) | GS-6 (under 6,000) |
| II. | (02) | GS-9 (5,000 - 7,999) |
| III. | (03) | GS-11 (8,000 - 10,249) |
| IV. | (04) | GS-12 (10,250 - 11,999) |
| V. | (05 | GS-13 (12,000 - 13,999) |
| VI. | (06) | GS-14 (14,000 - 16,499) |
| VII. | (07) | GS-15 (16,500 - 18,999) |
| VIII. | (08) | GS-16 (19,000 - 20,999) |
| IX. | (09) | GS-17 (21,000 - 23,999) |
| X | (10) | GS-18 (24,000 - 26,999) |
| XI | (11) | Sp A (27,000 - 29,999) |
| XII. | (12) | Sp B (30,000 - 34,999) |
| XIII. | (13) | Sp C (over 35,000) |

(Question 39)

| | | |
|---|---|---|
| I. | (3) | Do not know of DDC |
| II. | (2) | Know of DDC, but do not use it |
| II. | (5) | Use other sources instead |
| II. | (4) | Not relevant |
| III. | (1) | Yes |

```
GRAND TOTAL=  1500

CHI-SQUARE (OF TABLE)       202.70226
DF=  22

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.3006
MEAN( 3)=      2.13733   SD( 3)=      0.86582
MEAN( 11)=     5.27933   SD( 11)=     1.88282
```

Table 3-70. Interviewer's Assessment of User s Information Needs vs. Use of DDC

```
     Q55    IS CROSS TABULATED WITH     Q39     OR,

VARIABLE 10 IS CROSS TABULATED WITH VARIABLE  4

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
      10       3       1
       4       3       1

(10)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q59
    3 *  88 86 308  482
    Y*   6  6  21   32
    R*  18 18  64  100
    C*  19 25  45   32
     *
    2 * 221175328  728
    Y*  15 12  22   49
    R*  30 25  45  100
    C*  47 41  48   49
     *
    1 * 164 83 43  290
    Y*  11  6  3   19
    R*  57 29 15  100
    C*  35 24  6   19
     *
     ******************
 ( 41)    1     3
Q39           2

COLUMN 473   679
 TOTAL    34P

PERCENT  32    46
 TOTAL      23

GRAND TOTAL=  1500

CHI-SQUARE (OF TABLE)       191.40241
DF=   4

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.3433
MEAN( 41)=      2.13733   SD( 41)=      0.86582
MEAN( 10)=      2.12800   SD( 10)=      0.70613
```

(Question 59)
I. (3) Insignificant need
II. (2) Moderate need
III. (1) Large need

(Question 39)
I. (3) Do not know of DDC
II. (2) Know of DDC, but do not use it
II. (5) Use other sources instead
II. (4) Not relevant
III. (1) Yes

Table 3-71. Use of Other Specialized Information Centers vs. Use of DOD Specialized Information Centers

```
     Q41    IS CROSS TABULATED WITH      Q40      BR,
VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  4
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     5        2        1
     4        3        1

( 5)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q41
   2 • 119 82252  453
    T•   8  5 17   30
    R•  26 18 56  100
    C•  22 28 38   30
     •
   1 • 430208409 1047
    T•  29 14 27   70
    R•  41 20 39  1GO
    C•  78 72 62   70
     •
      ••••••••••••••••••
 ( 4)    1     3
Q40          2

COLUMN 549   661
 TOTAL     290

PERCENT  37    44
 TOTAL      19

GRAND TOTAL= 1500

CHI-SQUARE (OF TABLE)        39.12311
DF=   2

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1609
MEAN( 4)=        2.07467   SD( 4)=        0.89534
MEAN( 5)=        1.30200   SD( 5)=        0.45928
```

(Question 41)
I. (2) No
II. (1) Yes

(Question 40)
I. (29) Do not know of such centers
II (31) Use other sources instead
II. (30) Not relevant
III. (1-28) Use centers

Table 3-72. Use of DOD Specialized Information Centers vs. User's Highest Degree

```
     Q40    IS CROSS TABULATED WITH      Q50A     OR,
VARIABLE  5 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    5        3       1
   11        6       1


( 5)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q40
    3 *  70 10351148 15 67  661
     T*   5  1 23 10  1  4   44
     R*  11  2 53 22  2 10  100
     C*  36 36 44 50 58 43   44
      *
    2 *  30  8145 54  4 49  290
     T*   2  1 10  4  0  3   19
     R*  10  3 50 19  1 17  100
     C*  15 25 18 18 15 31   19
      *
    1 *  95 10302 94  7 41  549
     T*   6  1 20  6  0  3   37
     R*  17  2 55 17  1  7  100
     C*  49 36 38 32 27 26   37
      *
       ***********************
 (11)    1     3     5
Q50A       2     4     6

COLUMN 195   798    26
 TOTAL      28   296   157

PERCENT  13    53     2
 TOTAL    7    20    10

GRAND TOTAL=  1500


CHI-SQUARE (OF TABLE)        37.58611
DF=   10

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0967
MEAN( 11)=        3.26733    SD( 11)=       1.29498
MEAN(  5)=        2.07467    SD(  5)=       0.89534
```

(Question 40)
I. (29) Do not know of such centers
II. (31) Use other sources instead
II. (30) Not relevant
III. (1-28) Use centers

(Question 50A)
I. (6) None
II. (1) Associate's
III. (2) Bachelor's
IV. (3) Master's
V. (4) Professional
VI. (5) Doctor's

Table 3-73. Type of Work Activity vs. Use of DOD Specialized Information Centers

```
     Q54    IS CROSS TABULATED WITH      Q40      OR,

VARIABLE  8 IS CROSS TABULATED WITH VARIABLE  6

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     8       5       1
     6       3       1

( 8)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q54
   5 *  80 61 54  295
    T*   5  4 10   20
    R*  27 21 52  100
    C*  15 21 23   20
     *
   4 *  13  9  6   28
    T*   1  1  0    2
    R*  46 32 21  100
    C*   2  3  1    2
     *
   3 *  44 37 90  171
    T*   3  2  6   11
    R*  26 22 53  100
    C*   8 13 14   11
     *
   2 *  32 81 53 342  823
    T*  22 10 23   55
    R*  40 19 42  100
    C*  60 53 52   55
     *
   1 *  84 30 68  182
    T*   6  2  5   12
    R*  46 16 37  100
    C*  15 10 10   12
     *
      ****************
 ( 6)   1    3

Q40        2

COLUMN 549   680
 TOTAL    290

PERCENT  37    44
 TOTAL      19

GRAND TOTAL=  1459

CHI-SQUARE (OF TABLE)         38.10905
DF=    8

VALUES NOT ENTERED   1
  CASE NO.      VARIABLE  8     VARIABLE  6
    1044              C              3

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE)-

CORRELATION COEFFICIENT  0.1135
MEAN( 61=         2.07467    SD( 61=         0.89534
MEAN( 81=         2.41867    SD( 81=         1.30424
```

(Question 54)
I (5) Technical evaluation
II. (4) Scientific and Engineering (nonmanagement)
III (2) Technical management
IV (1) Administrative management
V. (3) Both administrative and technical management

(Question 40)
I. (29) Do not know of such centers
II. (31) Use other sources instead
II. (30) Not relevant
III (1-28) Use centers

## Table 3-74. Use of DOD Specialized Information Centers vs. Kind of Work Position

```
    040    IS CROSS TABULATED WITH     Q55     OR,

VARIABLE  5 IS CROSS TABULATED WITH VARIABLE  7

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     5       3       1
     7      12       1


( 5)                (EXTREME RIGHT VALUE IS ROW TOTAL)
040
   3 *  211 36 61 75 135 68 54 42 26 13 41  .  661
     T*    1  9  4  5   9  3  4  3  2  1  3  .   44
     P*    3 21  9 11  20  7  8  6  4  2  6  .  100
     C*   32 56 41 51  48 35 36 34 38 31 65  .   44
     *
   2 *   25 43 30 26  48 28 29 26  .  15  9  .  290
     T*    2  3  2  2   3  2  2  2  0  1  1  .   19
     P*    9 15 10  9  17 10 10  9  2  5  3  2  100
     C*   38 18 20 18  17 20 19 21  9 36 14 19   19
     *
   1 *   19 65 58 45  99 63 69 55 37 14 13 12  548
     T*    1  4  4  3   7  4  5  4  2  1  1      37
     P*    3 12 11  8  18 11 12 10  7  3  2     100
     C*   26 27 39 31  35 45 45 45 54 33 21  4   37
     *
     ********************************************
  ( 7)    1     3     5     7     9    11
Q55         2     4     6     8    10     1

COLUMN  64   149   282   151    69    63
 TOTAL     244   146   139   123    42    2

PERCENT   4    10    19    10     5     4
 TOTAL     16    10     9     8     3

GRAND TOTAL=  1455


CHI-SQUARE (OF TABLE)        82.28767
DF=  22

VALUES NOT ENTERED   1
  CASE NO.     VARIABLE  5     VARIABLE  7
     340           1              6

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =-0.0720
MEAN  7)=      5.27667    SD(  7)=      2.76186
MEAN  5)=      2.27467    SD(  5)=      0.99534
```

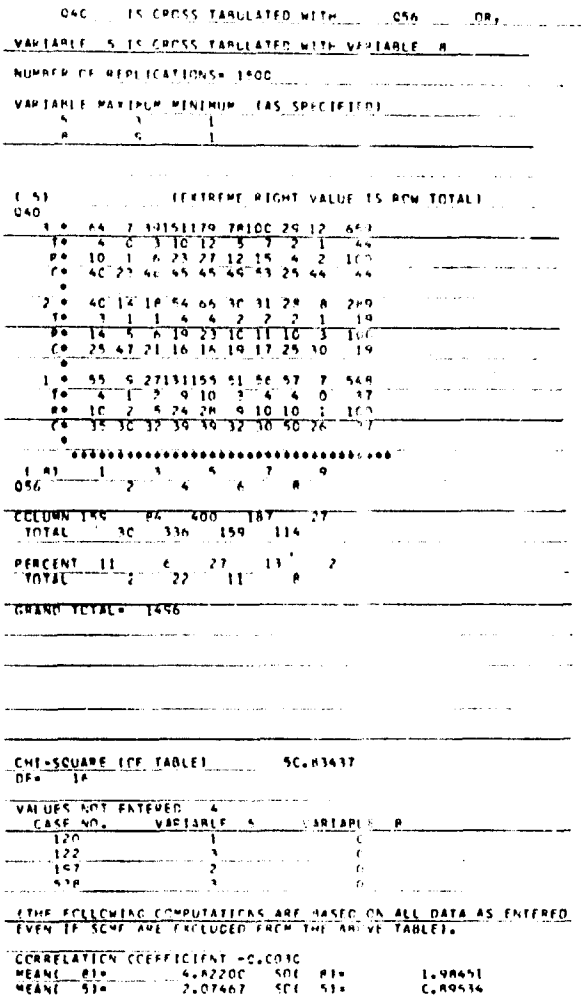
(Question 40)

| | | |
|---|---|---|
| I. | (29) | Do not know of such centers |
| II. | (31) | Use other sources instead |
| III. | (30) | Not relevant |
| III. | (1-28) | Use centers |

(Question 55)

| | | |
|---|---|---|
| I. | (02) | Research - basic |
| II. | (01) | Research - applied |
| III. | (11) | System analysis |
| IV. | (03) | Development - advanced |
| V. | (04) | Development - engineering |
| VI. | (05) | Development - operational system |
| VII. | (06) | R&D support |
| VIII. | (07) | Test or evaluation |
| IX. | (08) | Production processes |
| X. | (09) | Production end-items |
| XI. | (10) | Reliability or quality control |
| XII. | (12) | Customer relations |

# Table 3-75. Use of DOD Specialized Information Centers vs. Field of Work Position



040 IS CROSS TABULATED WITH 056 OR,

VARIABLE 5 IS CROSS TABULATED WITH VARIABLE 8

NUMBER OF REPLICATIONS= 1400

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
5 7 1
8 9 1

( 5) (EXTREME RIGHT VALUE IS ROW TOTAL)
040

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | * | 64 | 7 | 3 | 15 | 11 | 79 | 78 | 100 | 29 | 12 | 65 |
| | f* | 4 | 0 | 3 | 10 | 12 | 5 | 7 | 2 | 1 | 44 |
| | P* | 10 | 1 | 6 | 23 | 27 | 12 | 15 | 4 | 2 | 100 |
| | C* | 40 | 29 | 46 | 45 | 45 | 46 | 43 | 29 | 44 | 44 |
| | * | | | | | | | | | | |
| 2 | * | 40 | 14 | 18 | 54 | 66 | 30 | 31 | 29 | 8 | 289 |
| | f* | 3 | 1 | 1 | 4 | 4 | 2 | 2 | 2 | 1 | 19 |
| | P* | 14 | 5 | 6 | 19 | 23 | 10 | 11 | 10 | 3 | 100 |
| | C* | 25 | 43 | 21 | 16 | 18 | 19 | 17 | 25 | 10 | 19 |
| | * | | | | | | | | | | |
| 1 | * | 55 | 9 | 27 | 131 | 155 | 91 | 56 | 97 | 7 | 548 |
| | f* | 4 | 1 | 2 | 9 | 10 | 3 | 4 | 4 | 0 | 37 |
| | P* | 10 | 2 | 5 | 24 | 28 | 9 | 10 | 10 | 1 | 100 |
| | C* | 35 | 36 | 32 | 39 | 39 | 32 | 30 | 50 | 26 | 37 |
| | * | | | | | | | | | | |

( 8) 1 3 5 7 9
056 2 4 6 8

| | | | | | |
|---|---|---|---|---|---|
| COLUMN TOT | 84 | 400 | 187 | 27 | |
| TOTAL | 30 | 336 | 159 | 114 | |
| PERCENT | 11 | 6 | 27 | 13 | 2 |
| TOTAL | 2 | 22 | 11 | 8 | |

GRAND TOTAL= 1456

CHI-SQUARE (OF TABLE) 5C.83437
DF= 16

VALUES NOT ENTERED 4

| CASE NO. | VARIABLE 5 | VARIABLE 8 |
|---|---|---|
| 120 | 1 | 0 |
| 122 | 3 | 0 |
| 197 | 2 | 0 |
| 528 | 3 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0010

| | | | | | |
|---|---|---|---|---|---|
| MEAN( 8)= | 4.82200 | SD( 8)= | 1.98651 | | |
| MEAN( 5)= | 2.07467 | SD( 5)= | 0.89534 | | |

(Question 40)
I. (29) Do not know of such centers
II. (31) Use other sources instead
II. (30) No relevant
III. (1-28) Use centers

(Question 56)
I. Production, Management and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(20) Production and management
(28) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

Table 3-76. Use of DOD Specialized Information Centers vs. User's Equivalent GS Rating

```
     040     IS CROSS TABULATED WITH      058      (R)

VARIABLE  5  IS CROSS TABULATED WITH VARIABLE  9

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     5        9        1
     9       13        1

( 5)                (EXTREME RIGHT VALUE IS ROW TOTAL)
040
   1 *   5  77 191 231 155  62  41  31  11   4   2   1   751
     T*  0   5   8   8  10   6   3   2   1   0   0   0    44
     R*  1  12  18  19  23  14   8   5   2   1   0   0   100
     C*  18  30  41  43  53  50  59  63  44  50  40  25    46
      *
   2 *   3  35  57  59  54  19  15  13   4   2   3   2   290
     T*  0   3   4   4   4   3   1   1   0   0   0   0    19
     R*  1  12  20  20  19  13   5   4   1   1   1   1   100
     C*  11  15  20  21  19  21  21  27  16  25  60  50    19
      *
   1 *  20 142 113 104  85  43  14   5  10   2       1   549
     T*  1   9   8   7   6   4   1   0   1   0       0    37
     R*  4  26  21  19  15  10   3   1   2   0       0   100
     C*  71  55  39  36  29  29  20  10  40  25      25    37
      *
      ********************************************************
  ( 9)   2       4       6       8      10      12
058          3       5       7       9      11      13

COLUMN  28   289   295   176    69    25     9
 TOTAL     255   286   186    69     8     4

PERCENT   2    19    20     5     2     0
 TOTAL       17    19    12     5     1     0

GRAND TOTAL=  1500
```

(Question 40)

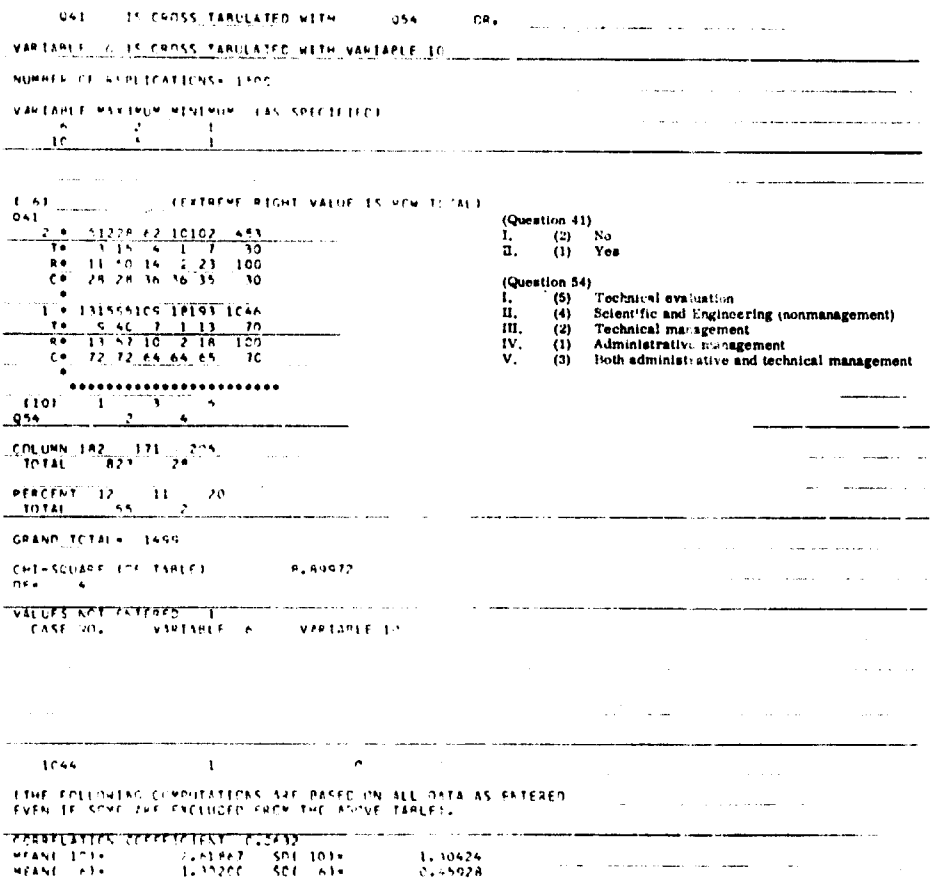
| | | |
|---|---|---|
| I. | (29) | Do not know of such centers |
| II. | (31) | Use other centers instead |
| II. | (30) | Not relevant |
| TI. | (1-28) | Use centers |

(Question 58)

| | | |
|---|---|---|
| I. | (01) | GS-6 (under 6, 000) |
| II. | (02) | GS-9 (6, 000 - 7, 999) |
| III. | (03) | GS-11 (8, 000 - 10, 249) |
| IV | (04) | GS-12 (10, 250 - 11, 999) |
| V. | (05) | GS-13 (12, 000 - 13, 999) |
| VI. | (06) | GS-14 (14, 000 - 16, 499) |
| VII. | (07) | GS-15 (16, 500 - 18, 999) |
| VIII. | (08) | GS-16 (19, 000 - 20, 999) |
| IX. | (09) | GS-17 (21, 000 - 23, 999) |
| X. | (10) | GS-18 (24, 000 - 26, 999) |
| XI. | (11) | Sp A (27, 000 - 29, 999) |
| XII. | (12) | Sp B (30, 000 - 34, 999) |
| XIII. | (13) | Sp C (over 35, 000) |

```
CHI-SQUARE (OF TABLE)       101.80716
DF=  72

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1585
MEAN( 5)=        5.27933     SD( 9)=        1.88282
MEAN( 5)=        2.07467     SD( 5)=        0.99534
```

Table 3-77. Use of Other Specialized Information Centers vs. Type of Work Activity



041 IS CROSS TABULATED WITH 054 OR.

VARIABLE / IS CROSS TABULATED WITH VARIABLE 10

NUMBER OF APPLICATIONS= 1499

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
10 5 1

(041 (EXTREME RIGHT VALUE IS ROW TOTAL)
041
2 * 51228 62 10102 443
T* 3 15 4 1 7 30
R* 11 50 14 2 23 100
C* 28 28 36 56 35 30
*
1 * 131556 1CS 1R193 1C46
T* 5 40 7 1 13 70
R* 13 57 10 2 18 100
C* 72 72 64 64 65 70
*
**********
(101 1 3 5
054 2 4

COLUMN 182 171 205
TOTAL 823* 29*

PERCENT 12 11 20
TOTAL 55 2

GRAND TOTAL= 1499

CHI-SQUARE (T* TABLE) 8.89972
DF= 4

VALUES NOT ENTERED 1
CASE NO. VARIABLE 6 VARIABLE 1?

1044 1 6

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLES.

CORRELATION COEFFICIENT 0.5432
MEAN (T)= 2.41867 SDE (0)= 1.10424
MEAN (J)= 1.33200 SDE (J)= 0.45928

(Question 41)
I. (2) No
II. (1) Yes

(Question 54)
I. (5) Technical evaluation
II. (4) Scientific and Engineering (nonmanagement)
III. (2) Technical management
IV. (1) Administrative management
V. (3) Both administrative and technical management

# Table 3-78. Encounter of Restrictions vs. Type of Work Activity

```
     Q42    IS CROSS TABULATED WITH     Q54     OR.

VARIABLE  7 IS CROSS TABULATED WITH VARIABLE 10

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     7        2        1
    10        5        1


 I 71                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q42
   2 *  6C24C 73  5122  524
     T*   4 17   5  1  H   35
     R*  11 5C  14  2 23  1C0
     C*  33 32  43 32 41   75
      *
   1 * 122563 5R 19173  975
     T*   R 3R   7  1 42   65
     R*  13 5R 1C  2 1R  100
     C*  67 6R 57 6R 59   65
      *
      **********************
  (10)    1     3     5
Q54       2     4

COLUMN 182   171   295
 TOTAL     823    2R

PERCENT  12    11    20                    *
 TOTAL     55     2

GRAND TOTAL= 1499

CHI-SQUARE (OF TABLE)        14.32377
DF=   4

VALUES NOT ENTERED   1
 CASE NO.     VARIABLE  7     VARIABLE 10


 1C44              2              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  C.0753
MEAN( 10)=       2.61867    SDE( 10)=       1.30424
MEAN( 71)=       1.35CCC    SDE( 71)=       0.47714
```

(Question 42)
I. (2) No
II. (1) Yes

(Question 54)
I. (5) Technical evaluation
II. (4) Scientific and Engineering, (nonmanagement)
III. (2) Technical management
IV. (1) Administrative management
V. (3) Both administrative and technical management

Table 3-79. Kind of Work Position vs. Nature of Restrictions

Q55 IS CROSS TABULATED WITH Q43 OR,
VARIABLE 8 IS CROSS TABULATED WITH VARIABLE 5
NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 8 | 12 | 1 |
| 5 | 3 | 1 |

( 8)  (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q55 | | | | |
|---|---|---|---|---|
| 12 | 4 | 4 | 3 | 11 |
| T | 1 | 1 | 1 | 2 |
| R | 36 | 36 | 27 | 100 |
| C | 2 | 2 | 5 | 2 |
| 11 | 15 | 8 | 2 | 25 |
| T | 3 | 2 | 0 | 5 |
| R | 60 | 32 | 8 | 100 |
| C | 7 | 3 | 3 | 5 |
| 10 | 8 | 2 | | 10 |
| T | 2 | 0 | | 2 |
| R | 80 | 20 | | 100 |
| C | 4 | 1 | | 2 |
| 9 | 16 | 1 | | 17 |
| T | 3 | 0 | | 3 |
| R | 94 | 6 | | 100 |
| C | 7 | 0 | | 3 |
| 8 | 18 | 9 | 1 | 28 |
| T | 3 | 2 | 0 | 5 |
| R | 64 | 32 | 4 | 100 |
| C | 8 | 4 | 2 | 5 |
| 7 | 17 | 24 | 1 | 42 |
| T | 3 | 5 | 0 | 8 |
| R | 40 | 57 | 2 | 100 |
| C | 8 | 10 | 2 | 8 |
| 6 | 15 | 23 | 5 | 43 |
| T | 3 | 4 | 1 | 8 |
| R | 35 | 53 | 12 | 100 |
| C | 7 | 10 | 8 | 8 |
| 5 | 43 | 38 | 9 | 90 |
| T | 8 | 7 | 2 | 17 |
| R | 48 | 42 | 10 | 100 |
| C | 19 | 16 | 14 | 17 |
| 4 | 26 | 31 | 13 | 70 |
| T | 5 | 6 | 2 | 13 |
| R | 37 | 44 | 19 | 100 |
| C | 17 | 13 | 20 | 13 |
| 3 | 17 | 37 | 8 | 62 |
| T | 3 | 7 | 2 | 12 |
| R | 27 | 60 | 13 | 100 |
| C | 8 | 16 | 12 | 12 |
| 2 | 45 | 47 | 22 | 113 |
| T | 8 | 9 | 4 | 22 |
| R | 39 | 42 | 19 | 100 |
| C | 20 | 20 | 31 | 22 |
| 1 | 1 | 11 | 2 | 14 |
| T | | | 0 | 3 |
| R | 7 | 79 | 14 | 100 |
| C | 0 | 5 | 3 | 3 |
| ( 5) | 1 | 3 | | |
| Q43 | 2 | | | |
| COLUMN TOTAL | 224 | 66 | | |
| PERCENT TOTAL | 43 | 13 | | |

(Question 55)
I. (02) Research - basic
II. (01) Research - applied
III. (11) System analysis
IV. (03) Development - advanced
V. (04) Development - engineering
VI. (05) Development - operational system
VII. (06) R&D support
VIII. (07) Test or evaluation
IX. (08) Production processes
X. (09) Production end-items
XI. (10) Reliability or quality control
XII. (12) Customer relations

(Question 43)
I. (1) Proprietary
II. (2) Industrial Security
III. (3) Both (1) and (2)

GRAND TOTAL= 525

CHI-SQUARE (OF TABLE) 64.56123
DF= 22

VALUES NOT ENTERED 975

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.1339

| | | | | |
|---|---|---|---|---|
| MEAN( 5)= | 0.59467 | SD( 5)= | 0.90494 |
| MEAN( 8)= | 5.27667 | SD( 8)= | 2.76186 |

Table 3-80. Field of Work Position vs. Nature of Restrictions

```
    Q56    IS CROSS TABULATED WITH      Q43      OR,
VARIABLE  9 IS CROSS TABULATED WITH VARIABLE  5
NUMBER OF REPLICATIONS= 1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
       9       9       1
       5       3       1
( 9)                (EXTREME RIGHT VALUE IS R + TOTAL)
Q56
    9 *   1   4   1    6
      T*  0   1   0    1
      R*  17  67  17   100
      C*  0   2   2    1
       *
    8 *   10  10  1    21
      T*  2   2   0    4
      R*  48  48  5    100
      C*  4   4   2    4
       *
    7 *   23  20  11   54
      T*  4   4   2    10
      R*  43  37  20   100
      C*  10  9   17   10
       *
    6 *   35  20  5    60
      T*  7   4   1    11
      R*  58  33  8    100
      C*  16  9   8    11
       *
    5 *   51  76  19   146
      T*  10  15  4    28
      R*  35  52  13   100
      C*  23  32  29   28
       *
    4 *   67  59  17   143
      T*  13  11  3    27

      R*  47  31  12   100
      C*  30  25  26   27
       *
    3 *   8   19  4    31
      T*  2   4   1    6
      R*  26  61  13   100
      C*  4   8   6    6
       *
    2 *       5   1    6
      T*      1   0    1
      R*      83  17   100
      C*      2   2    1
       *
    1 *   28  21  7    56
      T*  5   4   1    11
      R*  50  38  13   100
      C*  13  9   11   11
       *
       **********
( 5)    1       3
Q43             2

COLUMN 223   66
 TOTAL     234

PERCENT  43    13
 TOTAL      45

GRAND TOTAL=   523

CHI-SQUARE (OF TABLE)          27.03493
DF=  16

VALUES NOT ENTERED 977

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0677
MEAN( 5)=        0.59467   SD(  5)=        0.90494
MEAN( 9)=        4.82200   SD(  9)=        1.98451
```

(Question 56)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (.3) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

(Question 43)

I. (1) Proprietary
II. (2) Industrial Security
III (3) Both (1) and (2)

## Table 3-81. Encounter of Difficulties vs. User's Highest Degree

```
    045    IS CROSS TABULATED WITH      050A     OR,

VARIABLE  6 IS CROSS TABULATED WITH VARIABLE 11

NUMBR  OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     6         2         1
    11         6         1


( 6)              (EXTREME RIGHT VALUE IS ROW TOTAL)
045
   2 *  62 11322151 11 82  635
    F*   4  1 21 10  1  5   43
    R*  10  2 10 24  2 13  100
    C*  32 35 4  51 42 52   43
     *
   1 * 133 17476145 15 71  861
    F*   9  1 32 10  1  5   57
    R*  15  2 55 17  2  9  100
    C*  68 61 60 49 58 48   57
     *
      ************************
 (11)     1        3        5
050A          2        4        6

COLUMN 195    798     26
 TOTAL      28    296    157

PERCENT  13     53      2
 TOTAL       2     20     10

GRAND TOTAL=  1500

CHI-SQUARE (SEE TABLE)          25.61037
DF=     8

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).



CORRELATION COEFFICIENT  0.1179
MEAN( 11)=          3.26734    SD( 11)=          1.20498
MEAN(  6)=          1.42000    SD(  6)=          0.49466
```

(Question 45)
I (2) No
II. (1) Yes

(Question 50A)
I. (6) None
II (1) Associate's
III. (2) Bachelor's
IV (3) Master's
V (4) Professional
VI. (5) Doctor's

C6-2442/030

## Table 3-82. Encounter of Difficulties vs. Field of User's Highest Degree

```
    045    IS CROSS TABULATED WITH      Q50C     ON,

VARIABLE  6 IS CROSS TABULATED WITH VARIABLE 12

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
       6       2       1
      12      14       1

( 6)              (EXTREME RIGHT VALUE IS ROW TOTAL)
045
     2 *  65 42 17  1 16 ,7101 26 5?146 51 17 55 33  639
     T*   4  3  1  0  1  1  7  2  3 10  3  5  4  2   43
     R*  10  7  3  0  3  3 16  4  8 23  8  3  9  5  100
     C*  32 48 65 50 36 49 44 41 45 44 47 45 40 41   43
      *
     1 * 135 46  9  1 29 18127 37 64186 58 21 82 48  861
     T*   9  3  1  0  2  1  8  2  4 12  4  1  5  3   57
     R*  16  5  1  0  3  2 15  4  7 22  7  2 10  6  100
     C*  67 52 35 50 64 51 56 59 55 56 53 55 60 59   57
      *
  (12)    1     3     5     7     9    11    13
Q50C      2     4     6     8    10    12    14

COLUMN 200    26    45   228   116   109   137
 TOTAL     88     2    35    63   332    38    81

PERCENT  13     2     3    15     8     7     9
 TOTAL    6     0     2     4    22     3     5

GRAND TOTAL= 1500

CHI-SQUARE (OF TABLE)        18.39004
DF=   12

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0255
MEAN( 12)=        7.95400    SD( 12)=        3.98411
MEAN(  6)=        1.44600    SD(  6)=        0.49766
```

(Question 45)
I (2) No
II. (1) Yes

(Question 50C)
I No Degree
(00) No Degree
II. Behavioral and Social Sciences
(01) Arts
(17) Business and Business Administration
(40) Economics
(41) Education
(01) English
(01) General Studies
(45) Geography
(44) History
(01) Journalism
(01) Languages
(43) Law
(01) Library Science
(06) Psychology (01) Philosophy
(46) Sociology (42) Political Science
III. Biological and Medical Sciences
(02) Biology
(37) Dentistry
(39) Medicine
(35) Pharmacy
(31) Physiology
(39) Public Health
(38) Zoology
IV. Agriculture and Agricultural Engineering
(27) Agriculture and Agricultural Engineering
and (34)
V. General Engineering
(07) Engineering Management
(07) General Engineering
(12) Industrial Engineering
(24) Systems Engineering
VI. Civil Engineering
(10) Civil Engineering
(27) Architectural Engineering
(15) Military Science
(10) Naval Architectural Engineering
VII. Mechanical Engineering
(13) Mechanical Engineering
(25) Automotive Engineering
(13) Engineering Mechanics
(21) Maintenance Engineering
(13) Marine Engineering
(13) Mechanical Engineering
VIII. Chemical Engineering
(09) Chemical Engineering
IX. Aeronautical Engineering
(20) Aeronautical Engineering
(30) Aeronautics
(08) Aerospace Engineering
X. Electrical Engineering
(11) Electrical Engineering
XI. Chemistry
(03) Chemistry
XII. Earth Science
(23) Ceramic Engineering
(33) Geology and Mineralogy
(36) Geophysics
(14) Metallurgy and Metallurgical Engineering
(14) Mining Engineering
(22) Petroleum Engineering
XIII. Physical Science
(16) Applied Science
(18) Engineering Science
(16) General Science
(32) Meteorology and Astronomy
(05) Physics
XIV. Mathematical Science
(04) Mathematical Science

C6-2442/030

Table 3-83. Field of Work Position vs. Encounter of Difficulties

```
     Q56    IS CROSS TABULATED WITH      Q45      ETC

VARIABLE 10 IS CROSS TABULATED WITH VARIABLE  7

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    10       2       1
     7       2       1

(10)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q56
   9 =  15 12   27
     I=   1  1    2
     R=  56 44  100
     C=   2  2    2
     .
   8 =  78 36  114
     I=   5  2    8
     R=  68 32  100
     C=   9  6    8
     .
   7 = 103 84  187
     I=   7  6   13
     R=  55 45  100
     C=  12 13   13
     .
   6 =  86 73  159
     I=   6  5   11
     R=  54 46  100
     C=  10 11   11
     .
   5 = 238161  400
     I=  16 11   27
     R=  59 41  100
     C=  27 26   27
     .
   4 = 187149  336
     I=  13 10   22
     .
     .
     .
     R=  56 44  100
     C=  22 23   22
     .
   3 =  47 37   84
     I=   3  2    6
     R=  56 44  100
     C=   5  8    6
     .
   2 =  10 20   30
     I=   1  1    2
     R=  33 67  100
     C=   1  3    2
     .
   1 =  97 62  159
     I=   6  4   11
     R=  61 39  100
     C=  11 10   11
     .
     **************
  ( 7)    1
Q45       2

COLUMN 859
 TOTAL    637

PERCENT  57
 TOTAL    43

GRAND TOTAL=  1496

CHI-SQUARE (OF TABLE)        15.68784
DF=    8

VALUES NOT ENTERED   4
  CASE NO.      VARIABLE 10     VARIABLE  7
    120             0              1
   1 2              0              1
   197              0              2
   52A              0              2

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).
```

(Question 56)

I. Production, Management and Social Sciences
   - (32) Miscellaneous arts and sciences
   - (23) Personnel and training
   - (26) Production and management
   - (28) Psychology and human engineering

II. Medical Sciences
   - (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
   - (11) Ground transportation equipment
   - (13) Installations and constructions
   - (18) Military sciences and operations
   - (24) Photography and other reproduction processes
   - (29) Quartermaster equipment and supplies
   - (31) Ships and marine equipment
   - (33) Transportation

IV. Aeronautics and Space Technology
   - (01) Aircraft and flight equipment
   - (12) Guided missiles
   - (19) Navigation

V. Electronics and Electrical Engineering
   - (05) Communications
   - (06) Detection
   - (07) Electrical equipment
   - (08) Electronics, electronic equipment

VI. Chemical Science and Materials
   - (03) Chemical warfare equipment and materials
   - (04) Chemistry
   - (10) Fuels and combustion
   - (14) Materials (nonmetallic)
   - (17) Metallurgy
   - (22) Ordnance

VII. Physical Science
   - (02) Astronomy, geophysics and geography
   - (09) Fluid mechanics
   - (20) Nuclear physics and nuclear chemistry
   - (21) Nuclear propulsion
   - (25) Physics
   - (27) Propulsion systems

VIII. Research and Research Equipment
   - (30) Research and research equipment

IX. Mathematics
   - (15) Mathematics

(Question 45)

I. (2) No

II. (1) Yes

```
CORRELATION COEFFICIENT -0.0204
MEAN( 7)=      1.42600    SD( 7)=      0.49466
MEAN( 10)=     4.82200    SD( 10)=     1.98451
```

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Table 3-84. Encounter of Difficulties vs. User's Equivalent GS Rating

Q45 IS CROSS TABULATED WITH C58

VARIABLE 6 IS CROSS TABULATED WITH VARIABLE 9

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (IF SPECIFIED)
6 2 1
9 13 1

(EXTREME RIGHT VALUE IS ROW TOTALS)

| Q45 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | R | 52 | 105 | 116 | 162 | 75 | 25 | 16 | 9 | 5 | 2 | 3 | 639 | |
| | T | 1 | 8 | 7 | 9 | 11 | 5 | 2 | 2 | 1 | 0 | 0 | 0 | 43 |
| | P | 1 | 14 | 16 | 19 | 25 | 12 | 5 | 4 | 1 | 1 | 1 | 0 | 100 |
| | C | 32 | 32 | 36 | 41 | 55 | 43 | 41 | 53 | 36 | 53 | 80 | 75 | 45 |
| 1 | R | 153 | 68 | 184 | 170 | 132 | 105 | 41 | 23 | 16 | 3 | 1 | 1 | 861 |
| | T | 1 | 11 | 12 | 11 | 9 | 7 | 3 | 1 | 1 | 0 | 0 | 0 | 57 |
| | P | 2 | 19 | 21 | 20 | 15 | 12 | 5 | 3 | 2 | 0 | 0 | 0 | 100 |
| | C | 68 | 44 | 64 | 59 | 45 | 57 | 59 | 47 | 64 | 36 | 20 | 25 | 57 |
| (9) | | 2 | | 4 | | 6 | | 8 | | 10 | | 12 | | |
| Q58 | | | 3 | | 5 | | 7 | | 9 | | 11 | | 13 | |
| COLUMN TOTAL | | 28 | 259 | | 294 | | 184 | | 95 | | 8 | | 4 | |
| PERCENT TOTAL | | 2 | 17 | | 19 | | 12 | | 6 | | 1 | | 0 | |

(Question 45)
I. (2) No
II. (1) Yes

(Question 58)
I. (01) GS-C (under 6,000)
II. (02) GS-9 (6,000 - 7,999)
III (03) GS-11 (8,000 - 10,249)
IV (04) GS-12 (10,250 - 11,999)
V. (05) GS-13 (12,000 - 13,999)
VI. (06) GS-14 (14,000 - 16,499)
VII. (07) GS-15 (16,500 - 18,999)
VIII. (08) GS-16 (19,000 - 20,999)
IX (09) GS-17 (21,000 - 23,999)
X. (10) GS-18 (24,000 - 26,999)
XI (11) Sp A (27,000 - 29,999)
XII (12) Sp B (30,000 - 34,999)
XIII. (13) Sp C (over 35,000)

GRAND TOTAL= 1500

CHI-SQUARE (OF TABLE) 38.81740
DF= 11

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.1078

| | | | |
|---|---|---|---|
| MEAN( 9)= | 5.27933 | SD( 9)= | 1.88242 |
| MEAN( 6)= | 1.42800 | SD( 6)= | 0.49466 |

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## Table 3-85. Kind of Work Position vs. Nature of Difficulties

```
     Q55    IS CROSS TABULATED WITH      Q46      OR,

VARIABLE  A IS CROSS TABULATED WITH VARIABLE  2

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    A        12        1
    2         3        1

( 9)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q55
  12 *       4   5     9
     T*      1   0     1
     R*     67  33   100
     C*      2   1     1
      *
  11 *      1  15  10    24
     T*     0   2   2     4
     R*     4  63  38   100
     C*     2   4   4     4
      *
  10 *      2   8   2    12
     T*     0   1   0     2
     R*    17  67  17   100
     C*     4   2   1     2
      *
   9 *      3  11  13    27
     T*     0   2   2     4
     R*    13  43  63   100
     C*     4   3   4     4
      *
   8 *      4  24  12    42
     T*     1   4   2     7
     R*    10  62  29   100
     C*     8   8   5     7
      *
   7 *      6  29  25    60
     T*     1   5   4    10
      *
     R*    10  69  42   100
     C*    13   4  10    10
      *
   6 *      3  26  24    53
     T*     0   4   4     8
     R*     6  47  47   100
     C*     6   7  10     8
      *
   5 *     11  61  45   117
     T*     2  10   7    19
     R*     9  52  39   100
     C*    23  15  18    19
      *
   4 *      6  28  37    71
     T*     1   4   6    11
     R*     8  39  52   100
     C*    13   8  15    11
      *
   3 *      5  46  17    71
     T*     1   8   3    11
     R*     5  65  24   100
     C*    10  15   7    11
      *
   2 *      6  56  65   127
     T*     1   9   7    17
     R*     4  57  43   100
     C*    13  17  19    17
      *
   1 *      1   9  16    26
     T*     0   2   4     6
     R*     3  34  61   100
     C*     2   3   6     9
      *
      ********************
 ( 2)      1       3
Q46          2

COLUMN  48     747
 TOTAL    316

PERCENT   8       3
 TOTAL     53
```

(Question 53)

| | | |
|---|---|---|
| I | (02) | Research - basic |
| II | (01) | Research - applied |
| III | (11) | System analysis |
| IV | (03) | Development - advanced |
| V | (04) | Development - engineering |
| VI | (05) | Development - operational system |
| VII | (06) | R&D support |
| VIII. | (07) | Test or evaluation |
| IX | (08) | Production processes |
| X | (09) | Production end-items |
| XI | (10) | Reliability or quality control |
| XII. | (12) | Customer relations |

(Question 46)

| | | |
|---|---|---|
| I | | Utility of Information |
| | (1) | Attributable to inside of company |
| | (2) | Attributable to outside of company |
| | (3) | Attributable to both |
| II | | Timely Acquisition of Information |
| | (4) | Attributable to inside of company |
| | (5) | Attributable to outside of company |
| | (6) | Attributable to both |
| III. | | Timely Awareness of Information |
| | (7) | Attributable to inside of company |
| | (8) | Attributable to outside of company |
| | (9) | Attributable to both |

```
GRAND TOTAL=   628

CHI-SQUARE (OF TABLE)          24.79615
DF=   22

VALUES NOT ENTERED 872

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.0052
MEAN( 2)=        0.96933    SD( 2)=        1.20832
MEAN( 8)=        5.27667    SD( 8)=        2.74186
```

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## Table 3-86. Field of Work Position vs. Nature of Difficulties

```
     Q56    IS CROSS TABULATED WITH      Q46      OR,

VARIABLE 10 IS CROSS TABULATED WITH VARIABLE  4

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINI     (AS SPECIFIED)
    10         9          1
     4         3          1

(10)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q56
    9 *         9  3   12
      T*        1  0    2
      R*       75 25  100
      C*        5  1    2
      *
    8 *         5 21   9   35
      T*        1  3   1    6
      R*       14 60  26  100
      C*       10  6   4    8
      *
    7 *         6 44  31   81
      T*        1  7   5   13
      R*        7 54  38  100
      C*       13 13  13   13
      *
    6 *         7 39  29   75
      T*        1  6   5   12
      R*        9 52  39  100
      C*       15 12  12   12
      *
    5 *        15 88  56  159
      T*        2 14   9   25
      R*        9 55  35  100
      C*       31 27  23   25
      *
    4 *        10 66  69  145
      T*        2 11  11   22
      R*        7 46  46  100
      C*       21 20  28   23
      *
    3 *         2 73  12   37
      T*        0  4   2    6
      R*        5 62  32  100
      C*        4  7   5    6
      *
    2 *         2 11   7   20
      T*        0  2   1    3
      R*       10 55  35  100
      C*        4  3   3    3
      *
    1 *         1 31  30   62
      T*        0  5   5   10
      R*        2 50  48  100
      C*        2  9  12   10
      *
        ****************
  ( 4)     1      3
Q46          2

COLUMN   48   246
 TOTAL    332

PERCENT    8    39
 TOTAL     53

GRAND TOTAL=   626

CHI-SQUARE (OF TABLE)
DF=   16

VALUES NOT ENTERED 874

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0415
MEAN( 4)=        0.96933   SD( 4)=       1.20832
MEAN( 10)=       4.82200   SD( 10)=      1.98451
```

(Question 56)

I. Production Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (10) Research and research equipment

IX Mathematics
- (15) Mathematics

(Question 46)

I. Utility of Information
- (1) Attributable to inside of company
- (2) Attributable to outside of company
- (3) Attributable to both

II Timely Acquisition of Information
- (4) Attributable to inside of company
- (5) Attributable to outside of company
- (6) Attributable to both

III. Timely Awareness of Information
- (7) Attributable to inside of company
- (8) Attributable to outside of company
- (9) Attributable to both

# Table 3-87. Field of User's Highest Degree vs. User's Highest Degree

Q50C IS CROSS TABULATED WITH Q50A, OR,
VARIABLE 12 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 12 | 14 | 1 |
| 11 | 8 | 1 |

GRAND TOTAL= 1500

CHI-SQUARE ( TABLE) 1900.54155
DF= 65

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.4637
MEAN( 11)= 3.26733 SD( 11)= 1.29498
MEAN( 12)= 7.95400 SD( 12)= 3.98411

| (12) Q50C | (EXTREME RIGHT VALUE IS ROW TOTAL) | | | | | |
|---|---|---|---|---|---|---|
| 14 • | 2 | 52 | 19 | 8 | 81 | |
| T• | 0 | 3 | 1 | 1 | 5 | |
| R• | 2 | 64 | 23 | 10 | 100 | |
| C• | 7 | 7 | 6 | 5 | 5 | |
| • | | | | | | |
| 13 • | 2 | 7 | [illegible] | 1 | 24 | 137 |
| T• | 0 | 5 | [illegible] | 0 | 2 | 9 |
| R• | 1 | 53 | 29 | 1 | 18 | 100 |
| C• | 7 | 9 | 13 | 4 | 15 | 9 |
| • | | | | | | |
| 12 • | | 18 | 11 | | 9 | 38 |
| T• | | 1 | 1 | | 1 | 3 |
| R• | | 47 | 29 | | 24 | 100 |
| C• | | 2 | 4 | | 6 | 3 |
| • | | | | | | |
| 11 • | | 34 | 14 | 10 | 51 | 109 |
| T• | | 2 | 1 | 1 | 3 | 7 |
| R• | | 31 | 13 | 9 | 47 | 100 |
| C• | | 4 | 5 | 38 | 32 | 7 |
| • | | | | | | |
| 10 • | 10 | 232 | 76 | 2 | 12 | 332 |
| T• | 1 | 15 | 5 | 0 | 1 | 22 |
| R• | 3 | 70 | 23 | 1 | 4 | 100 |
| C• | 36 | 29 | 26 | 8 | 8 | 22 |
| • | | | | | | |
| 9 • | | 83 | 29 | 1 | 3 | 116 |
| T• | | 6 | 2 | 0 | 0 | 8 |
| R• | | 72 | 25 | 1 | 3 | 100 |
| C• | | 10 | 10 | 4 | 2 | 8 |
| • | | | | | | |
| 8 • | | 41 | 11 | 2 | 9 | 63 |
| T• | | 3 | 1 | 0 | 1 | 4 |
| R• | | 65 | 17 | 3 | 14 | 100 |
| C• | | 5 | 4 | 8 | 6 | 4 |
| • | | | | | | |
| 7 • | 7 | 167 | 45 | 4 | 5 | 228 |
| T• | 0 | 11 | 3 | 0 | 0 | 15 |
| R• | 3 | 73 | 20 | 2 | 2 | 100 |
| C• | 29 | 21 | 15 | 15 | 3 | 15 |
| • | | | | | | |
| 6 • | | 30 | 4 | | 1 | 35 |
| T• | | 2 | 0 | | 0 | 2 |
| R• | | 86 | 11 | | 3 | 100 |
| C• | | 4 | 1 | | 1 | 2 |
| • | | | | | | |
| 5 • | | 2 | 29 | 10 | 1 | 2 | 45 |
| T• | | 0 | 2 | 1 | 0 | 0 | 3 |
| R• | | 7 | 64 | 22 | 2 | 4 | 100 |
| C• | | 11 | 4 | 3 | 4 | 1 | 3 |
| • | | | | | | | |
| 4 • | | | 2 | | | | 2 |
| T• | | | 0 | | | | 0 |
| R• | | | 100 | | | | 100 |
| C• | | | 0 | | | | 0 |
| • | | | | | | | |
| 3 • | | | 4 | 3 | | 19 | 26 |
| T• | | | 0 | 0 | | 1 | 2 |
| R• | | | 15 | 12 | | 73 | 100 |
| C• | | | 1 | 1 | | 12 | 2 |
| • | | | | | | | |
| 2 • | | 1 | 33 | 35 | 4 | 14 | 88 |
| T• | | 0 | 2 | 2 | 0 | 1 | 6 |
| R• | | 1 | 38 | 41 | 5 | 16 | 100 |
| C• | | 4 | 4 | 12 | 15 | 5 | 6 |
| • | | | | | | | |
| 1 • | 155 | 2 | 1 | | 1 | | 200 |
| T• | 13 | 0 | 0 | | 0 | | 13 |
| R• | 97 | 1 | 0 | | 0 | | 100 |
| C• | 100 | 11 | 0 | | 4 | | 13 |
| • | | | | | | | |
| (11) Q50A | 1 | 2 | 3 | 4 | 5 | | |
| COLUMN TOTAL | 194 | 798 | [illegible] | 258 | 197 | | |
| PERCENT TOTAL | 13 | 53 | [illegible] | 17 | 13 | | |

(Question 50C)

I. No Degree
   (00) No Degree
II. Behavioral and Social Sciences
   (01) Arts
   (17) Business and Business Administration
   (40) Economics
   (41) Education
   (01) English
   (01) General Studies
   (45) Geography
   (44) History
   (01) Journalism
   (01) Languages
   (43) Law
   (01) Library Science
   (06) Psychology (01) Philosophy
   (46) Sociology (43) Political Science
III. Biological and Medical Sciences
   (02) Biology
   (37) Dentistry
   (39) Medicine
   (35) Pharmacy
   (31) Physiology
   (39) Public Health
   (38) Zoology
IV. Agriculture and Agricultural Engineering
   (27) Agriculture and Agricultural Engineering and (34)
V. General Engineering
   (07) Engineering Management
   (07) General Engineering
   (12) Industrial Engineering
   (24) Systems Engineering
VI. Civil Engineering
   (10) Civil Engineering
   (27) Architectural Engineering
   (15) Military Science
   (10) Naval Architectural Engineering
VII. Mechanical Engineering
   (13) Mechanical Engineering
   (25) Automotive Engineering
   (13) Engineering Mechanics
   (21) Maintenance Engineering
   (13) Marine Engineering
   (13) Mechanical Engineering
VIII. Chemical Engineering
   (09) Chemical Engineering
IX. Aeronautical Engineering
   (20) Aeronautical Engineering
   (30) Aeronautics
   (08) Aerospace Engineering
X. Electrical Engineering
   (11) Electrical Engineering
XI. Chemistry
   (03) Chemistry

(Question 50A)

I. (6) None
II. (1) Associate's
III. (2) Bachelor's
IV. (3) Master's
V. (4) Professional
VI. (5) Doctor's

# Table 3-88. Kind of Work Position vs. User's Highest Degree

```
     Q55    IS CROSS TABULATED WITH      Q50A     OP,
VARIABLE  7 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     7       12       1
    11        6       1
```

( 7)  (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q55 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 12 | * | 3 | 17 | 3 | 1 | 2 | 26 |
| | T* | 0 | 1 | 0 | 0 | 0 | 2 |
| | R* | 12 | 65 | 12 | 4 | 8 | 100 |
| | C* | 2 | 2 | 1 | 4 | 1 | 2 |
| | * | | | | | | |
| 11 | * | 10 | 1 40 | 9 | 2 | 1 | 63 |
| | T* | 1 | 0 3 | 1 | 0 | 0 | 4 |
| | R* | 16 | 2 63 | 14 | 3 | 2 | 100 |
| | C* | 4 | 4 5 | 3 | 8 | 1 | 4 |
| | * | | | | | | |
| 10 | * | 12 | 4 25 | 1 | | | 42 |
| | T* | 1 | 0 2 | 0 | | | 3 |
| | R* | 29 | 10 60 | 2 | | | 100 |
| | C* | 4 | 14 3 | 0 | | | 3 |
| | * | | | | | | |
| 9 | * | 19 | 2 36 | 8 | 1 | 3 | 69 |
| | T* | 1 | 0 2 | 1 | 0 | 0 | 5 |
| | R* | 28 | 3 52 | 12 | 1 | 4 | 100 |
| | C* | 10 | 7 6 | 3 | 4 | 2 | 5 |
| | * | | | | | | |
| 8 | * | 27 | 6 83 | 7 | | | 123 |
| | T* | 2 | 0 6 | 0 | | | 8 |
| | R* | 22 | 5 67 | 6 | | | 100 |
| | C* | 14 | 21 10 | 2 | | | 8 |
| | * | | | | | | |
| 7 | * | 31 | 1 77 | 24 | 6 | 12 | 151 |
| | T* | 2 | 0 5 | 2 | 0 | 1 | 10 |

(Question 55)

| | | |
|---|---|---|
| I. | (02) | Research - basic |
| II. | (01) | Research - applied |
| III. | (11) | System analysis |
| IV. | (09) | Development - advanced |
| V. | (04) | Development - engineering |
| VI. | (05) | Development - operational system |
| VII. | (06) | R&D support |
| VIII. | (07) | Test or evaluation |
| IX. | (08) | Production processes |
| X. | (09) | Production end-items |
| XI. | (10) | Reliability or quality control |
| XII. | (12) | Customer relations |

(Question 50A)

| | | |
|---|---|---|
| I. | (6) | None |
| II. | (1) | Associate's |
| III. | (2) | Bachelor's |
| IV. | (3) | Master's |
| V. | (4) | Professional |
| VI. | (5) | Doctor's |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | P* | 21 | 1 51 | 16 | 4 | 8 | 100 |
| | C* | 16 | 4 10 | 8 23 | 8 | | 10 |
| | * | | | | | | |
| 6 | * | 24 | 2 90 | 23 | | | 139 |
| | T* | 2 | 0 6 | 2 | | | 9 |
| | R* | 17 | 1 65 | 17 | | | 100 |
| | C* | 12 | 7 11 | 8 | | | 9 |
| | * | | | | | | |
| 5 | * | 46 | 6 182 | 41 | 2 | 5 | 282 |
| | T* | 3 | 0 12 | 3 | 0 | 0 | 19 |
| | R* | 16 | 2 65 | 15 | 1 | 2 | 100 |
| | C* | 24 | 21 23 | 14 | 8 | 3 | 19 |
| | * | | | | | | |
| 4 | * | 9 | 3 80 | 47 | 1 | 6 | 146 |
| | T* | 1 | 0 5 | 3 | 0 | 0 | 10 |
| | R* | 6 | 2 55 | 32 | 1 | 4 | 100 |
| | C* | 5 | 11 10 | 16 | 4 | 4 | 10 |
| | * | | | | | | |
| 3 | * | 9 | 86 | 43 | 1 | 10 | 149 |
| | T* | 1 | 6 | 3 | 0 | 1 | 10 |
| | R* | 6 | 58 | 29 | 1 | 7 | 100 |
| | C* | 5 | 11 | 15 | 4 | 8 | 10 |
| | * | | | | | | |
| 2 | * | 4 | 3 72 | 82 | 8 | 75 | 244 |
| | T* | 0 | 0 5 | 5 | 1 | 6 | 16 |
| | R* | 2 | 1 30 | 34 | 3 | 31 | 100 |
| | C* | 2 | 11 9 | 28 | 31 | 48 | 16 |
| | * | | | | | | |
| 1 | * | 1 | 3 | 8 | 4 | 44 | 65 |
| | T* | 0 | 1 | 1 | 0 | 3 | 4 |
| | R* | 2 | 16 | 12 | 4 | 66 | 100 |
| | C* | 1 | 1 | 3 | 15 | 27 | 4 |
| | * | | | | | | |
| | | ********** | | | | | |
| (11) | | 1 | 3 | 5 | | | |
| Q50A | | 2 | 4 | 6 | | | |
| COLUMN TOTAL | | 158 | 767 | 26 | | | |
| PERCENT TOTAL | | 11 | 53 | 2 | | | |

GRAND TOTAL= 1499

CHI-SQUARE (OF TABLE) 621.89198
DF= 55

VALUES NOT ENTERED 1

| CASE NO. | VARIABLE 7 | VARIABLE 11 |
|---|---|---|
| 360 | 0 | 3 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT = 0.4031

| | | | |
|---|---|---|---|
| MEAN 11= | 3.26733 | SD( 11)= | 1.29699 |
| MEAN 7= | 5.27647 | SD( 7)= | 2.76198 |

C6-2442/030

## Table 3-89. Field of Work Position vs. User's Highest Degree

```
     Q5A    IS CROSS TABULATED WITH      Q50A     OR,
VARIABLE  8 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
       8        9        1
      11        8        1
```

| Q | | (EXTREME RIGHT VALUE ), ROW TOTAL |
|---|---|---|
| Q56 | | |
| | 9 0 | 12 10 9 27 |
| | T0 | 1 1 0 2 |
| | R0 | 44 37 19 100 |
| | C0 | 2 3 3 2 |
| | 8 0 | 18 2 71 16 1 6 114 |
| | T0 | 1 2 5 1 0 0 8 |
| | R0 | 16 2 62 14 1 5 100 |
| | C0 | 5 7 5 5 4 4 5 |
| | 7 0 | 5 51 45 3 35 107 |
| | T0 | 1 6 3 0 3 13 |
| | R0 | 5 49 24 2 21 100 |
| | C0 | 5 11 15 12 25 11 |
| | 6 0 | 4 2 62 29 10 51 159 |
| | T0 | 0 0 4 2 1 5 11 |
| | R0 | 3 1 39 18 6 32 100 |
| | C0 | 3 7 8 10 38 32 11 |
| | 5 0 | 66 14232 79 9 400 |
| | T0 | 4 1 16 5 1 27 |
| | R0 | 16 3 58 20 2 100 |
| | C0 | 14 50 29 27 6 27 |
| | 4 0 | 40 5201 68 5 4 336 |
| | T0 | 3 1 13 5 0 0 22 |
| | R0 | 15 3 60 20 1 1 100 |
| | C0 | 28 12 25 23 19 3 27 |
| | 3 0 | 14 44 18 8 84 |
| | T0 | 1 3 1 1 6 |
| | R0 | 17 52 21 10 100 |
| | C0 | 7 6 8 5 6 |
| | 2 0 | 4 3 23 30 |
| | T0 | 0 0 2 2 |
| | R0 | 13 10 77 100 |
| | C0 | 1 1 15 2 |
| | 1 0 | 14 1 79 26 7 12 159 |
| | T0 | 2 0 5 2 0 1 11 |
| | R0 | 21 1 50 16 4 8 100 |
| | C0 | 17 4 10 9 27 8 11 |
| | | ********** |
| | (11) | 1 3 5 |
| Q50A | | 2 4 6 |
| COLUMN | 155 | 796 26 |
| TOTAL | 28 | 296 157 |
| PERCENT | 11 | 53 2 |
| TOTAL | 2 | 20 10 |

GRAND TOTAL= 1496

CHI-SQUARE (OF TABLE)  401.21951
DF=  40

VALUES NOT ENTERED  4

| CASE NO. | VARIABLE 8 | VARIABLE 11 |
|---|---|---|
| 120 | 0 | 3 |
| 122 | 0 | 3 |
| 197 | 0 | 4 |
| 438 | 0 | 4 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

(Question 56)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and construction
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

(Question 50A)

I. (6) None
II. (1) Associate's
III. (2) Bachelor's
IV. (3) Master's
V. (4) Professional
VI. (5) Doctor's

CORRELATION COEFFICIENT  0.1013
MEAN( 11)=  3.26733  SD( 11)=  1.29498
MEAN( 8)=  4.42200  SD( 8)=  1.98451

## Table 3-90. User's Equivalent GS Rating vs. User's Highest Degree

```
   Q58    IS CROSS TABULATED WITH      Q50A     OR,

VARIABLE  9 IS CROSS TABULATED WITH VARIABLE  11

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     9      13       1
    11       4       1
```

| ( 9) | | | | | | (EXTREME RIGHT VALUE IS ROW TOTAL) |
|---|---|---|---|---|---|---|
| Q58 | | | | | | |
| 13 * | | | | 4 | 4 | |
| T* | | | | 0 | 0 | |
| R* | | | | 100 | 100 | |
| C* | | | | 3 | 0 | |
| * | | | | | | |
| 12 * | | 1 | | 4 | 5 | |
| T* | | 0 | | 0 | 0 | |
| R* | | 20 | | 80 | 100 | |
| C* | | 0 | | 3 | 0 | |
| * | | | | | | |
| 11 * | 1 | 1 | 2 | 4 | 8 | |
| T* | 0 | 0 | 0 | 0 | 1 | |
| R* | 13 | 13 | 25 | 50 | 100 | |
| C* | 1 | 0 | 1 | 3 | 1 | |
| * | | | | | | |
| 10 * | 1 | 6 | 5 | 1 12 | 25 | |
| T* | 0 | 0 | 0 | 0 1 | 2 | |
| R* | 4 | 24 | 20 | 4 48 | 100 | |
| C* | 1 | 1 | 2 | 4 8 | 2 | |
| * | | | | | | |
| 9 * | 4 | 12 | 17 | 1 18 | 49 | |
| T* | 0 | 1 | 1 | 0 1 | 3 | |
| R* | 2 | 24 | 35 | 2 37 | 100 | |
| C* | 1 | 2 | 4 | 4 11 | 3 | |
| * | | | | | | |
| 8 * | 4 | 1 72 | 21 | 4 16 | 70 | |
| T* | 0 | 1 | 1 | 0 1 | 5 | |
| R* | 6 | 1 71 | 30 | 9 23 | 100 | |
| C* | 2 | 4 | 3 | 7 23 | 10 | 5 |
| * | | | | | | |
| 7 * | 4 | 1 77 | 47 | 9 26 | 184 | |
| T* | 0 | 0 | 5 | 4 | 1 2 | 12 |
| R* | 2 | 1 | 42 | 41 | 5 20 | 100 |
| C* | 2 | 4 | 10 | 19 | 35 23 | 12 |
| * | | | | | | |
| 6 * | 19 | 2155 | 71 | 3 | 44 | 254 |
| T* | 1 | 0 | 10 | 5 | 0 3 | 20 |
| R* | 6 | 1 | 53 | 26 | 1 15 | 100 |
| C* | 10 | 7 | 19 | 24 | 12 29 | 20 |
| * | | | | | | |
| 5 * | 39 | 4170 | 56 | 6 | 13 | 284 |
| T* | 3 | 0 | 11 | 6 | 0 1 | 15 |
| R* | 14 | 1 | 59 | 20 | 1 5 | 100 |
| C* | 20 | 14 | 21 | 19 | 15 8 | 19 |
| * | | | | | | |
| 4 * | 50 | 10182 | 40 | 1 | 6 | 289 |
| T* | 3 | 1 | 12 | 3 | 0 0 | 19 |
| R* | 17 | 3 | 63 | 14 | 0 2 | 100 |
| C* | 26 | 24 | 23 | 14 | 4 4 | 19 |
| * | | | | | | |
| 3 * | 44 | 10158 | 25 | 1 | | 258 |
| T* | 4 | 1 | 11 | 2 | 0 | 17 |
| R* | 25 | 4 | 61 | 10 | 0 | 100 |
| C* | 33 | 34 | 20 | 8 | 4 | 17 |
| * | | | | | | |
| 2 * | 12 | | 14 | 2 | | 28 |
| T* | 1 | | 1 | 0 | | 2 |
| R* | 43 | | 50 | 7 | | 100 |
| C* | 6 | | 2 | 1 | | 2 |
| * | | | | | | |
| | ********** | | | | | |
| (11) | 1 | 3 | 4 | | | |
| Q50A | 2 | 4 | A | | | |
| COLUMN | 155 | 798 | 26 | | | |
| TOTAL | 28 | 296 | 157 | | | |
| PERCENT | 14 | 53 | 2 | | | |
| TOTAL | 2 | 20 | 10 | | | |

(Question 58)
I. (01) GS-6 (under 6,000)
II. (02) GS-9 (6,000 - 7,999)
III. (03) GS-11 (8,000 - 10,340)
IV. (04) GS-12 (10,250 - 11,999)
V. (05) GS-13 (12,000 - 13,999)
VI. (06) GS-14 (14,000 - 16,499)
VII. (07) GS-15 (16,500 - 18,999)
VIII. (08) GS-16 (19,000 - 20,999)
IX. (09) GS-17 (21,000 - 23,999)
X. (10) GS-18 (24,000 - 26,999)
XI. (11) Sp A (27,000 - 29,999)
XII. (12) Sp B (30,000 - 34,999)
XIII. (13) Sp C (over 35,000)

(Question 50A)
I. (5) None
II. (1) Associate's
III. (2) Bachelor's
IV. (3) Master's
V. (4) Professional
VI. (5) Doctor's

```
GRAND TOTAL=  1500

CHI-SQUARE (OF TABLE)        447.41825
DF=   56

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.4651
MEAN( 11)=        3.267333    SDE( 11)=        1.229448
MEAN(  9)=        5.275333    SDE(  9)=        1.889282
```

## Table 3-91. Interviewer's Assessment of User's Information Needs vs. User's Highest Degree

```
     Q55    IS CROSS TABULATED WITH      Q50A     OR,
VARIABLE 10 IS CROSS TABULATED WITH VARIABLE 11
NUMBER OF APPLICATIONS  1500
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    10        7        1
    11        6        1

(10)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q59
   3 *   33   52 20 19   7  94   482
    T*    7    1 15    8   0   6    32
    R*    7    2 46   25   1  20   100
    C*   17   32 28   40  27  60    32
     *
   2 *   51  153 58  150  17  57   728
    T*    6    1 27   10   1   4    49
    R*   13    2 55   21   2   8   100
    C*   67   54 50   51  65  36    49
     *
   1 *   71  418 00   27   2   6   290
    T*    5    0 12    2   0   0    19
    R*   24    1 42    9   1   2   100
    C*   36   14 23    9   8   4    19
     *
      **************************
 (11)     1        3        5
Q50A          2        4        6

COLUMN 155    758     26
 TOTAL      28    756    157

PERCENT  13     53      2
 TOTAL       2     20     10

GRAND TOTAL=  1500

CHI-SQUARE (OF TABLE)        141.64414
DF=   10

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2814
MEAN( 11)=          3.26733    SD( 11)=        1.29498
MEAN( 10)=          2.12800    SD( 10)=        0.70613
```

(Question 59)
I. (3) Insignificant need
II. (2) Moderate need
III. (1) Large need

(Question 50A)
I (6) None
II. (1) Associate's
III. (2) Bachelor's
IV. (3) Master's
V. (4) Professional
VI. (5) Doctor's

Table 92. User's Highest Degree vs. Interviewer's Assessment of Task Creativity

```
     Q50A   IS CROSS TABULATED WITH      Q63      BY,
VARIABLE  3 IS CROSS TABULATED WITH VARIABLE  2
NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     3       6       1
     2       4       1

( 3)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q50A
    6 *   1  7 41108  157
     T*   0  0  3  7   10
     R*   1  4 26 69  100
     C*   2  2  7 18   10
      *
    5 *   1  1 14 10   26
     T*   0  0  1  1    2
     R*   4  4 54 38  100
     C*   2  0  3  2    2
      *
    4 *   7 32126131  296
     T*   0  2  8  9   20
     R*   2 11 43 44  100
     C*  13 11 23 21   20
      *
    3 *  341782992 98  798
     T*   2 12 19 20   53
     R*   4 22 36 37  100
     C*  62 62 53 49   53
      *
    2 *   1  9 10  8   28
     T*   0  1  1  1    2
     R*   4 32 36 29  100
     C*   2  3  2  1    2
      *
    1 *  11 58 67 59  195
     T*   1  4  4  4   13

     R*   6 30 34 30  100
     C*  20 20 12 10   13
      *
      ********************
 ( 2)    1     3
Q63          2     4

COLUMN  55   548
 TOTAL     283   614

PERCENT   4    37
 TOTAL      19    41

GRAND TOTAL=  1500

CHI-SQUARE (OF TABLE)       1C7.45451
DF=   .5

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2313
MEAN( 2)=        3.14733   SD( 2)=        0.85055
MEAN( 3)=        3.26733   SD( 3)=        1.29498
```

(Question 50A)

| | | |
|---|---|---|
| I. | (6) | None |
| II. | (5) | Associate's |
| III. | (2) | Bachelor's |
| IV. | (3) | Master's |
| V. | (4) | Professional |
| VI. | (5) | Doctor's |

(Question 63)

| | | |
|---|---|---|
| I. | (1) | Communication of existing information |
| II | (2) | Rearrangement of existing information, with little evaluation or analysis |
| III. | (3) | Extensive evaluation and analysis of existing data |
| IV | (4) | Creation of new information, systems, or hardware |

# Table 3-93. Kind of Work Position vs. Field of User's Highest Degree

Q55 IS CROSS TABULATED WITH Q50C OR,

VARIABLE 7 IS CROSS TABULATED WITH VARIABLE 12

NUMBER OF REPLICATIONS= 1900

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 7 | 12 | 1 |
| 12 | 14 | 1 |

(EXTREME RIGHT VALUE IS ROW TOTAL)

| Q55 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | * | 1 | 4 | 2 | 1 | 1 | 4 | 3 | 1 | 4 | 1 | | | | 26 |
| | T% | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | 2 |
| | R% | 12 | 15 | 8 | 4 | 4 | 15 | 12 | 4 | 15 | 4 | | | | 100 |
| | C% | 1 | 5 | 100 | 2 | 3 | 2 | 5 | 1 | 1 | 3 | | | | 2 |
| | * | | | | | | | | | | | | | | |
| 11 | * | 11 | 3 | | 3 | | 4 | 6 | 4 | 17 | 1 | 2 | 5 | 5 | 43 |
| | T% | 1 | 0 | | 0 | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| | R% | 17 | 5 | | 5 | | 6 | 10 | 6 | 27 | 1 | 3 | 8 | 8 | 100 |
| | C% | 5 | 3 | | 7 | | 2 | 10 | 3 | 5 | 1 | 5 | 4 | 6 | 4 |
| | * | | | | | | | | | | | | | | |
| 10 | * | 12 | 4 | | 2 | 1 | 12 | 2 | | 7 | | | 1 | 1 | 42 |
| | T% | 1 | 0 | | 0 | 0 | 1 | 0 | | 0 | | | 0 | 0 | 3 |
| | R% | 29 | 10 | | 5 | 2 | 29 | 5 | | 17 | | | 2 | 2 | 100 |
| | C% | 8 | 5 | | 4 | 3 | 8 | 3 | | 2 | | | 1 | 1 | 3 |
| | * | | | | | | | | | | | | | | |
| 9 | * | 19 | 5 | | 3 | | 15 | 12 | 1 | 3 | 1 | 5 | 1 | 1 | 69 |
| | T% | 1 | 0 | | 0 | | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| | R% | 28 | 7 | | 4 | | 22 | 17 | 1 | 4 | 1 | 7 | 1 | 1 | 100 |
| | C% | 9 | 6 | | 7 | | 7 | 19 | 1 | 1 | 4 | 13 | 1 | 1 | 5 |
| | * | | | | | | | | | | | | | | |
| 8 | * | 28 | 5 | | 4 | 5 | 18 | 2 | 16 | 29 | 1 | 3 | 3 | 7 | 123 |
| | T% | 2 | 0 | | 0 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 8 |
| | R% | 23 | 4 | | 3 | 4 | 15 | 2 | 13 | 24 | 1 | 2 | 2 | 6 | 100 |
| | C% | 14 | 6 | | 9 | 14 | 8 | 3 | 14 | 3 | 1 | 8 | 2 | 9 | 8 |
| | * | | | | | | | | | | | | | | |
| 7 | * | 31 | 14 | 5 | 4 | 3 | 23 | 4 | 7 | 19 | 11 | 2 | 13 | 15 | 151 |
| | T% | 2 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 10 |
| | * | | | | | | | | | | | | | | |
| | R% | 21 | 5 | 3 | 3 | 2 | 15 | 3 | 5 | 13 | 7 | 1 | 9 | 10 | 100 |
| | C% | 15 | 16 | 19 | 9 | 9 | 10 | 6 | 6 | 6 | 10 | 5 | 9 | 19 | 10 |
| | * | | | | | | | | | | | | | | |
| 6 | * | 24 | 6 | | 4 | 3 | 22 | 5 | 6 | 45 | 4 | | 11 | 9 | 139 |
| | T% | 2 | 0 | | 0 | 0 | 1 | 0 | 0 | 3 | 0 | | 1 | 1 | 9 |
| | R% | 17 | 4 | | 3 | 2 | 16 | 4 | 4 | 32 | 3 | | 8 | 6 | 100 |
| | C% | 12 | 7 | | 9 | 9 | 10 | 8 | 5 | 14 | 4 | | 8 | 11 | 9 |
| | * | | | | | | | | | | | | | | |
| 5 | * | 47 | 4 | | 5 | 10 | 52 | 9 | 23 | 94 | 7 | 3 | 24 | 4 | 282 |
| | T% | 3 | 0 | | 0 | 1 | 3 | 1 | 2 | 6 | 0 | 0 | 2 | 0 | 19 |
| | R% | 17 | 1 | | 2 | 4 | 18 | 3 | 8 | 33 | 2 | 1 | 9 | 1 | 100 |
| | C% | 23 | 5 | | 11 | 29 | 23 | 14 | 20 | 28 | 6 | 8 | 18 | 5 | 19 |
| | * | | | | | | | | | | | | | | |
| 4 | * | 10 | 2 | | 2 | 6 | 26 | 3 | 24 | 49 | 1 | 3 | 15 | 5 | 146 |
| | T% | 1 | 0 | | 0 | 0 | 2 | 0 | 2 | 3 | 0 | 0 | 1 | 0 | 10 |
| | R% | 7 | 1 | | 1 | 4 | 18 | 2 | 16 | 34 | 1 | 2 | 10 | 3 | 100 |
| | C% | 5 | 2 | | 4 | 17 | 11 | 5 | 21 | 15 | 1 | 8 | 11 | 6 | 10 |
| | * | | | | | | | | | | | | | | |
| 3 | * | 10 | 17 | 2 | 11 | 4 | 18 | 6 | 16 | 28 | 3 | 2 | 14 | 18 | 149 |
| | T% | 1 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 2 | 0 | 0 | 1 | 1 | 10 |
| | R% | 7 | 11 | 1 | 7 | 3 | 12 | 4 | 11 | 19 | 2 | 1 | 9 | 12 | 100 |
| | C% | 5 | 19 | 8 | 24 | 11 | 8 | 10 | 14 | 8 | 3 | 5 | 10 | 22 | 10 |
| | * | | | | | | | | | | | | | | |
| 2 | * | 4 | 20 | 13 | 6 | 2 | 29 | 9 | 15 | 34 | 46 | 15 | 39 | 12 | 244 |
| | T% | 0 | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 2 | 3 | 1 | 3 | 1 | 16 |
| | R% | 2 | 8 | 5 | 2 | 1 | 12 | 4 | 6 | 14 | 19 | 6 | 16 | 5 | 100 |
| | C% | 2 | 23 | 59 | 13 | 6 | 13 | 14 | 13 | 10 | 42 | 39 | 28 | 15 | 16 |
| | * | | | | | | | | | | | | | | |
| 1 | * | 1 | 4 | 6 | | | | 5 | 2 | 3 | 2 | 25 | 2 | 11 | 4 | 65 |
| | T% | 0 | 0 | 0 | | | | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 4 |
| | R% | 2 | 6 | 9 | | | | 2 | 3 | 5 | 3 | 38 | 3 | 17 | 6 | 100 |
| | C% | 0 | 5 | 23 | | | | 2 | 3 | 1 | 2 | 5 | 8 | 5 | | 4 |
| | * | | | | | | | | | | | | | | |
| (12) | | 1 | | 3 | | 5 | | 7 | | 9 | | 11 | | 13 | |
| Q50C | | | 2 | | 4 | | 6 | | 8 | | 10 | | 12 | | 14 |
| COLUMN TOTAL | | 200 | | 26 | | 45 | | 228 | | 116 | | 109 | | 137 | |
| | | 88 | | 2 | | 35 | | 63 | | 331 | | 38 | | 81 | |
| PERCENT TOTAL | | 13 | | 2 | | 3 | | 15 | | 8 | | 7 | | 9 | |
| | | 6 | | 0 | | 2 | | 4 | | 22 | | 3 | | 5 | |

(Question 55)

I. (02) Research - basic
II. (01) Research - applied
III. (11) System analysis
IV. (03) Development - advanced
V. (04) Development - engineering
VI. (05) Development - operational systems
VII. (06) R&D support
VIII. (07) Test or evaluation
IX. (08) Production processes
X. (09) Production end-items
XI. (10) Reliability or quality control
XII. (12) Customer relations

(Question 50C)

I. No Degree
(00) No Degree
II. Behavioral and Social Sciences
(01) *Arts*
(17) Business and Business Administration
(40) Economics
(41) Education
(02) English
(01) General Studies
(45) Geography
(44) History
(01) Journalism
(07) Languages
(43) Law
(01) Library Science
(06) Psychology (01) Philosophy
(46) Sociology (42) Political Science
III. Biological and Medical Sciences
(02) *Biology*
(37) Dentistry
(39) Medicine
(35) Pharmacy
(31) Physiology
(39) Public Health
(38) Zoology
IV. Agriculture and Agricultural Engineering
and (27) Agriculture and Agricultural Engineering
(34)
V. General Engineering
(07) Engineering Management
(07) General Engineering
(12) Industrial Engineering
(24) Systems Engineering
VI. Civil Engineering
(10) Civil Engineering
(27) Architectural Engineering
(15) Military Science
(10) Naval Architectural Engineering
VII. Mechanical Engineering
(13) Mechanical Engineering
(25) Automotive Engineering
(13) Engineering Mechanics
(21) *Maintenance Engineering*
(13) Marine Engineering
(13) Mechanical Engineering
VIII. Chemical Engineering
(09) Chemical Engineering
IX. Aeronautical Engineering
(30) Aeronautical Engineering
(30) Aeronautics
(08) Aerospace Engineering
X. Electrical Engineering
(11) Electrical Engineering
XI. Chemistry
(03) *Chemistry*

Table 3-93. (Continued)

```
GRAND TOTAL=  1499

CHI-SQ. OF ITF TABLE1        732.20250
DF=  143

VALUES NOT ENTERED   1
  CASE NO.      VARIABLE  7     VARIABLE 12
     541              9              10

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED BY THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.2260
MEANS (12)=        7.99400   SDS (12)=        3.98411
MEANS  (7)=        5.27667   SDS  (7)=        2.76186
```

| | |
|---|---|
| XII. | Earth Science |
| | (21) Ceramic Engineering |
| | (33) Geology and Mineralogy |
| | (36) Geophysics |
| | (14) Metallurgy and Metallurgical Engineering |
| | (14) Mining Engineering |
| | (22) Petroleum Engineering |
| XIII. | Physical Science |
| | (16) Applied Science |
| | (19) Engineering Science |
| | (16) General Science |
| | (32) Meteorology and Astronomy |
| | (05) Physics |
| XIV | Mathematical Science |
| | (04) Mathematical Science |

# Table 3-94. Field of Work Position vs. Field of User's Highest Degree

```
    Q56    IS CROSS TABULATED WITH      Q50C    OR,

VARIABLE  8 IS CROSS TABULATED WITH VARIABLE 12

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    8         9        1
   12        14        1
```

```
( 8)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q56
    9 *                          1  1  1          2  3        2 19   27
   T*                            0  0  0          0  2        0  1    2
   R*                            4  4  4          7  7        7 70  100
   C*                            2  3  0          1  3        1 23    2
    *
   8 *  19 11  1      5  2 10  2  3 12  6  1 15 29  114
   T*   1  1  0      0  0  1  0  0  1  0  0  1  2    8
   R*  17 10  1      4  2  9  2  3 11  5  1 13 25  100
   C*   9 13  4     11  6  4  3  3  4  4  3 11 36    8
    *
   7 *  10  3        6  3 48 15 18 14 12  5 46  7  187
   T*   1  0        0  0  3  1  1  1  1  0  3  0   13
   R*   5  2        3  2 26  8 10  7  6  3 25  4  100
   C*   5  3       13  9 21 24 16  4 11 14 34  9   13
    *
   6 *   6  2     1    2 14 22  4  1 76 19  8  3  159
   T*   0  0     0    0  1  1  0  0  5  1  1  0   11
   R*   4  2     1    1  9 14  3  1 48 12  5  2  100
   C*   2  3    50    6  6 15  3  0 70 51  6  4   11
    *
   5 *  66  9       10    28      72 31  5  3 32  9  400
   T*   4  1        1     2       0 15  0  0  2  1   27
   R*  16  2        2     7       2 58  1  1  8  2  100
   C*  33 10       22    12       6 70  5  8 23 11   27
    *
   4 *  50 17  2     7 18 41  4 72 55  1  2 20  7  336
   T*   3  1  0     0  3  5  0  5  4  0  0  1  0   22
```

```
   R*  15  5  1     2  5 24  1 21 16  0  1  6  2  100
   C*  25 15  8    16 51 36  6 62 17  3  5 15  9   22
    *
   3 *  14  5       4  6 22  6  3  5  1  3  6  5   84
   T*   1  1       0  0  1  0  0  0  0  0  0  0    6
   R*  17 11       5  7 26  7  4  6  1  4  7  6  100
   C*   7 10       9 17 10 10  3  2  1  8  4  6    6
    *
   2 *        23          1          1  5           30
   T*         2           0          0  0           2
   R*        77           3          3 17          100
   C*        88           0          0  5           2
    *
   1 *  35 36     1 12  3 21 14  9 11  3  4  8  2  150
   T*   2  2     0  1  0  1  1  1  1  0  0  1  0   11
   R*  22 23     1  8  2 13  9  6  7  2  3  5  1  100
   C*  17 41    50 27  9  5 22  8  3  3 11  6  2   11
    *
    **********************************************************
(12)     1     3     5     7     9    11    13
Q50C         2     4     6     8    10    12    14

COLUMN 200    26    45   226   116   108   137
 TOTAL     88     2    35    51   332    37    81

PERCENT  13     2     3    15     8     4     9
 TOTAL    6     0     2     4    22     2     5

GRAND TOTAL= 1496

CHI-SQUARE (OF TABLE)       2653.87272
DF= 104

VALUES NOT ENTERED   4
  CASE NO.      VARIABLE  8     VARIABLE  12
     120                 0              7
     122                 0             12
     197                 0              7
     558                 0             11

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).
```

(Question 56)

I. Production, Management and Social Sciences
   - (32) Miscellaneous arts and sciences
   - (23) Personnel and training
   - (26) Production and management
   - (28) Psychology and human engineering

II. Medical Sciences
   - (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
   - (11) Ground transportation equipment
   - (13) Installations and constructions
   - (18) Military sciences and operations
   - (24) Photography and other reproduction processes
   - (29) Quartermaster equipment and supplies
   - (31) Ships and marine equipment
   - (33) Transportation

IV. Aeronautics and Space Technology
   - (01) Aircraft and flight equipment
   - (12) Guided missiles
   - (19) Navigation

V. Electronics and Electrical Engineering
   - (05) Communications
   - (09) Detection
   - (07) Electrical equipment
   - (08) Electronics, electronic equipment

VI. Chemical Science and Materials
   - (03) Chemical warfare equipment and materials
   - (04) Chemistry
   - (10) Fuels and combustion
   - (14) Materials (nonmetallic)
   - (17) Metallurgy
   - (22) Ordnance

VII. Physical Science
   - (02) Astronomy, geophysics and geography
   - (09) Fluid mechanics
   - (20) Nuclear physics and nuclear chemistry
   - (21) Nuclear propulsion
   - (25) Physics
   - (27) Propulsion systems

VIII. Research and Research Equipment
   - (30) Research aid research equipment

IX. Mathematics
   - (15) Mathematics

Table 3-94. (Continued)

CORRELATION COEFFICIENT 0.3220
MEAN( 12)= 7.65400 SD( 12)= 2.98411
MEAN( 83)= 4.82200 SD( 83)= 1.98451

(Question 56C)

I. No Degree
(00) No Degree

II. Behavioral and Social Sciences
(01) Arts
(17) Business and Business Administration
(40) Economics
(41) Education
(01) English
(01) General Studies
(45) Geography
(44) History
(01) Journalism
(01) Languages
(43) Law
(01) Library Science
(06) Psychology (01) Philosophy
(46) Sociology (42) Political Science

III. Biological and Medical Sciences
(02) Biology
(37) Dentistry
(39) Medicine
(35) Pharmacy
(31) Physiology
(39) Public Health
(28) Zoology

IV. Agriculture and Agricultural Engineering
and (27) Agriculture and Agricultural Engineering
(34)

V. General Engineering
(07) Engineering Management
(07) General Engineering
(12) Industrial Engineering
(24) Systems Engineering

VI. Civil Engineering
(19) Civil Engineering
(27) Architectural Engineering
(15) Military Science
(10) Naval Architectural Engineering

VII. Mechanical Engineering
Mechanical Engineering
Automotive Engineering
(12) Engineering Mechanics
(27) Maintenance Engineering
(13) Marine Engineering
(13) Mechanical Engineering

VIII. Chemical Engineering
(09) Chemical Engineering

IX. Aeronautical Engineering
(29) Aeronautical Engineering
(30) Aeronautics
(08) Aerospace Engineering

X. Electrical Engineering
(11) Electrical Engineering

XI. Chemistry
(03) Chemistry

XII. Earth Science
(23) Ceramic Engineering
(33) Geology and Mineralogy
(36) Geophysics
(14) Metallurgy and Metallurgical Engineering
(14) Mining Engineering
(22) Petroleum Engineering

XIII. Physical Science
(16) Applied Science
(19) Engineering Science
(16) General Science
(32) Meteorology and Astronomy
(05) Physics

XIV. Mathematical Science
(04) Mathematical Science

## Table 3-95. Type of Work Activity vs. User's Equivalent GS Rating

```
     C54    IS CROSS TABULATED WITH      C58      ON.

VARIABLE   8 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1400

VARIABLE  MAXIMUM  MINIMUM  (IF SPECIFIED)
     8         6        1
    11        13        1

 I  J              (EXTREME RIGHT VALUE IS ROW TOTAL)
C54
   5 I      2 27 45 67 61 35 27  1   6  4  2  295
    %I      0  2  3  4  4  2  2  1   0  0  0   20
    8I      1  5 12 23 21 12  9  5   2  1  1  102
    CI      1  5 12 23 33 50 55 60  75 50 50   20
     I
   6 I   1  2  7  5  5  1  3                     28
    %I   0  0  0  0  0  0  0                      1
    8I   4 21 29 15 18  4 11                    102
    CI   4  2  7  2  2  1  4                      2
     I
   3 I   1  4 22 35 49 33 12  9  3  1           171
    %I   0  0  1  2  3     1  1  0  0           11
    8I   1  4 13 20 23 19  7  5  2  1           100
    CI   4  2  8 13 17 18 17 18 12 13           11
     I
   2 I  5[1851]9616515379 15  9  7  3  1  2   823
    %I   1 12 12 11 10  5  1  1  0     0  0    57
    8I   2 22 23 20 19 10  2  1  1     0  0   100
    CI  57 72 66 58 52 43 27 18 28 13 25 50    55
     I
   1 I  10 56 47 21 26 10  1  4                 182
    %I   1  4  3  2  1  1  0  0                  12
    8I   5 32 26 12 11  5  1  2                 100
    CI  36 23 16 11  7  5  1  8                  12
     I
      88888888888F8888888888E8888888.9888288888888
1111    2    4    6    8   10   12
```

(Question 54)

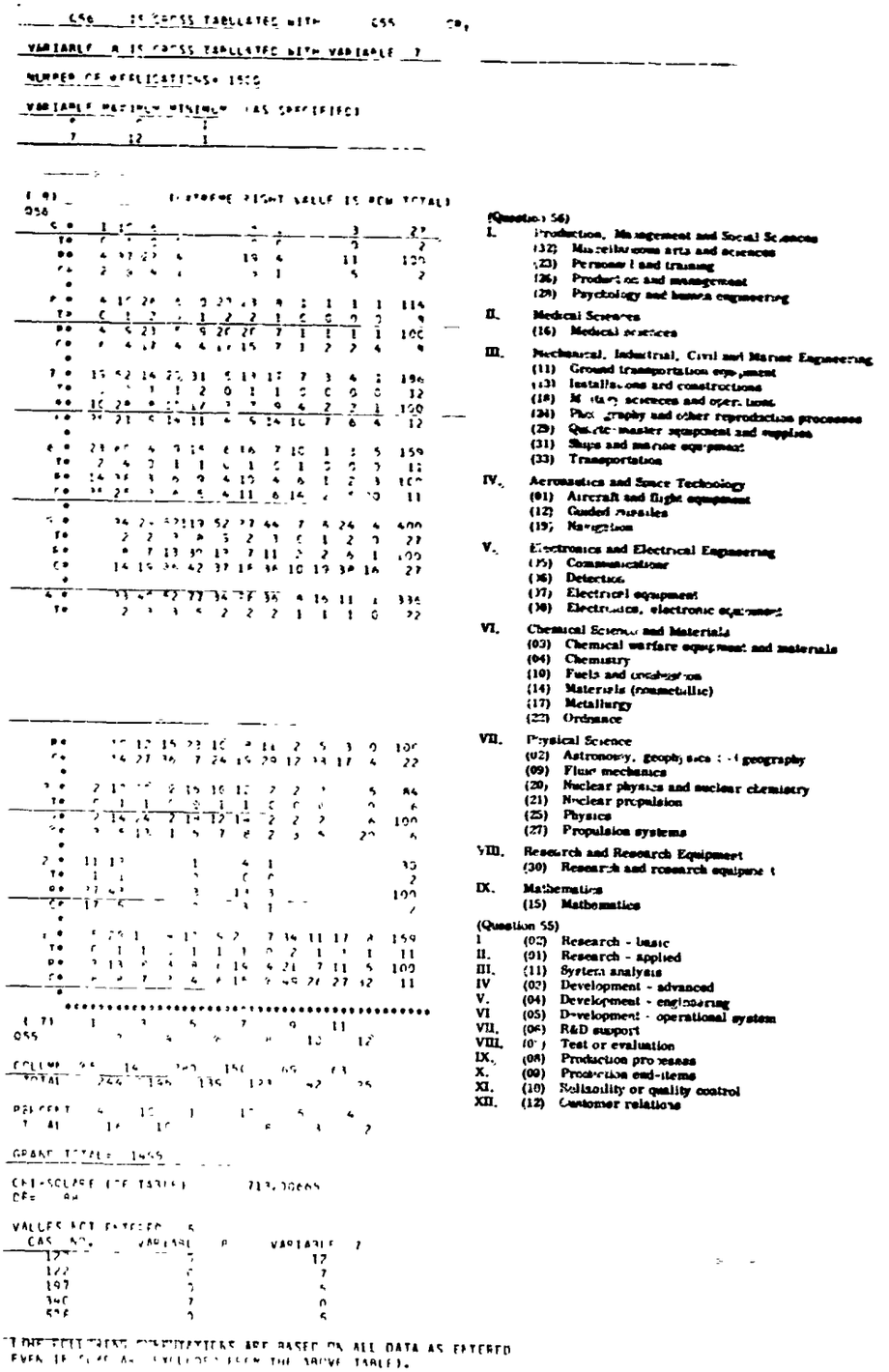
| | | |
|---|---|---|
| I. | (5) | Technical evaluation |
| II. | (4) | Scientific and Engineering (nonmanagement) |
| III. | (2) | Technical management |
| IV. | (1) | Administrative management |
| V. | (3) | Both administrative and technical management |

(Question 58)

| | | |
|---|---|---|
| I. | (01) | GS-6 (under 6,000) |
| II. | (02) | GS-9 (6,000 - 7,999) |
| III. | (03) | GS-11 (8,000 - 10,249) |
| IV. | (04) | GS-12 (10,250 - 11,999) |
| V. | (05) | GS-13 (12,000 - 13,999) |
| VI. | (06) | GS-14 (14,000 - 16,499) |
| VII. | (07) | GS-15 (16,500 - 19,999) |
| VIII. | (08) | GS-16 (19,000 - 20,999) |
| IX. | (09) | GS-17 (21,000 - 23,999) |
| X. | (10) | GS-18 (24,000 - 25,999) |
| XI. | (11) | Sp A (27,000 - 29,999) |
| XII. | (12) | Sp B (30,000 - 34,999) |
| XIII. | (13) | Sp C (over 35,000) |

```
C58          1     5     7     9    11    13

COLUMN  28   285   296    70    25     5
 TOTAL     256   285   186    45     8     4

PERCENT   2    19    20     4     2     0
 TOTAL     17    19    12     3     1     0

GRAND TOTAL=  1499

CHI-SQUARE (OF TABLE)        165.77764
DF=   44

VALUES NOT ENTERED   1
  CASE NO.      VARIABLE  8      VARIABLE 11
    1066              0               5

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE.)

CORRELATION COEFFICIENT  0.4394
MEAN 11I=        5.47933   SDV 11I=        1.88282
MEAN  8I=        2.61867   SDV  8I=        1.30424
```

## Table 3-96. Field of Work Position vs. Kind of Work Position



(Question 56)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (29) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (28) Quantity-master equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (35) Communications
- (36) Detection
- (37) Electrical equipment
- (38) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

(Question 55)
- I (02) Research - basic
- II. (01) Research - applied
- III. (11) System analysis
- IV (02) Development - advanced
- V. (04) Development - engineering
- VI (05) Development - operational system
- VII. (06) R&D support
- VIII. (07) Test or evaluation
- IX. (08) Production processes
- X. (09) Production end-items
- XI. (10) Reliability or quality control
- XII. (12) Customer relations

Table 3-97. Kind of Work Position vs. User's Equivalent GS Rating

```
    055    IS CROSS TABULATED WITH      058      BY.

VARIABLE  9 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    9       12       1
   11       15       1


( 9)              (ENTRY ARE RIGHT VALUE IS ROW TOTAL)
055
  12 .       2  5  9  3     3  2  1  1          26
   T.        0  0  1  0     0  0  0  0           2
   R.        8 19 35 12    12  8  4  4         100
   C.        . 2  3  1     4  4  4 13           2
     .
  11 .      16 12 11 12  8  1  3                83
   T.        1  1  1  1  1  0  0                 4
   R.       25 19 17 19 13  2  5               100
   C.        6  4  4  4  4  1  6                 4
     .
  10 .    1 11 10  9  8  2  1                   42
   T.     0  1  1  1  1  0  0                    3
   R.     2 26 24 21 19  5  2                  100
   C.     4  4  3  3  3  1  1                    3
     .
   9 .    4 15 19 14  7  4  4  1  1             69
   T.     0  1  1  1  0  0  0  0  0              5
   R.     6 22 28 20 10  6  6  1  1            100
   C.    14  6  7  5  2  2  6  2  4              5
     .
   8 .    6 40 27 26 16  7        1            123
   T.     0  3  2  2  1  0        0              8
   R.     5 33 22 21 13  6        1            100
   C.    21 16  9  9  6  4        4              8
     .
   7 .    7 34 40 18 23 13  6  4  2     4      151
   T.     0  2  3  1  2  1  0  0  0     0       13

   R.     5 23 26 17 15  9  6  3  1     3      100
   C.    25 13 14  6  8  7  9  6  8    30       10
     .
   6 .    2 28 25 40 21 12  3  7  1             139
   T.     0  2  2  3  1  1  0  0  0              9
   R.     1 20 18 29 15  9  2  5  1            100
   C.     7 11  9 14  7  7  4 14  4              9
     .
   5 .    2 44 64 62 63 27 13  3  3  1          282
   T.     0  3  4  4  4  2  1  0  0  0          19
   R.     1 16 23 22 22 10  5  1  1  0          100
   C.     7 17 22 22 21 15 19  6 12 13          19
     .
   4 .      11 19 25 36 31 12  6  4  2  1       146
   T.       1  1  2  2  2  1  0  0  0  0        10
   R.       6 13 17 25 21  8  4  3  1  1        100
   C.       4  7  9 12 17 17 12 16 13 20        10
     .
   3 .    3 20 26 25 33 23  7  7  4  1          149
   T.     0  1  2  2  2  2  0  0  0  0          16
   R.     2 13 17 17 22 15  5  5  3  1          100
   C.    11  8  9  9 11 13 10 14 16 13          10
     .
   2 .    3 33 36  7 55 41 14 13  4  2     4    244
   T.     0  2  2  2  4  3  1  1  0  0     0    16
   R.     1 14 15 15 23 17  6  5  2  1     2    100
   C.    11 13 12 13 19 22 20 27 20 38   100    16
     .
   1 .      4  7 10 17 15  6  3  3  1          65
   T.       0  0  1  1  1  0  0  0  0          4
   R.       6  9 15 26 23  9  5  5  2          100
   C.       2  2  3  6  6  9  6 12 13          4
     .
 (11)    2     4     6     8    10    12
058        3     5     7     9    11    13

COLUMN  28   289   296    70    25     5
 TOTAL     258   286   183    49     8     4

PERCENT  2    19    20     5     2     0
 TOTAL      17    19    12     3     1     0
```

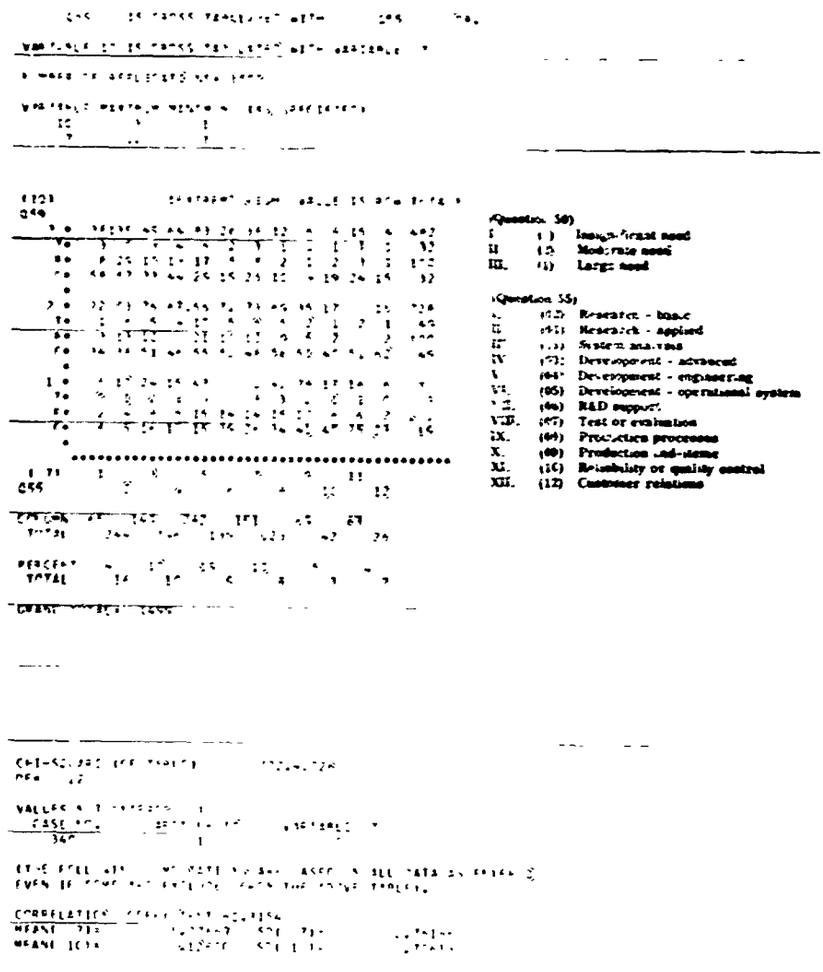
(Question 25):

| | | |
|---|---|---|
| I. | (02) | Research - basic |
| II. | (02) | Research - applied |
| III. | (11) | System analysis |
| IV. | (03) | Development - advanced |
| V. | (04) | Development - engineering |
| VI | (05) | Development - operational system |
| VII. | (06) | RAD support |
| VIII. | (07) | Test or evaluation |
| IX. | (09) | Production processes |
| X. | (08) | Product, as end-items |
| XI. | (10) | Reliability or quality control |
| XII. | (12) | Customer relations |

(Question 58)

| | | |
|---|---|---|
| I. | (01) | GS-6 (under 8, 000) |
| II. | (02) | GS-9 (8, 000 - 7, 999) |
| III. | (03) | GS-11 (8, 000 - 10, 265) |
| IV. | (04) | GS-12 (10, 250 - 11, 999) |
| V. | (05) | GS-13 (12, 000 - 13, 999) |
| VI. | (06) | GS-14 (14, 000 - 16 499) |
| VII. | (07) | GS-15 (16, 500 - 18, 999) |
| VIII. | (08) | GS-16 (19, 000 - 20, 999) |
| IX. | (09) | GS-17 (21, 000 - 23, 999) |
| X | (10) | GS-18 (24, 000 - 26, 999) |
| XI. | (11) | Sp A (27, 000 - 29, 999) |
| XII. | (12) | Sp B (30, 000 - 34, 999) |
| XIII. | (13) | Sp C (over 35, 000) |

## Table 3-98. Interviewer's Assessment of User's Information Needs vs. Kind of Work Position



(Question 50)
I. (1) Immediate need
II. (2) Moderate need
III. (3) Large need

(Question 55)
I. (62) Research - basic
II. (63) Research - applied
III. (63) System analysis
IV. (63) Development - advanced
V. (64) Development - engineering
VI. (65) Development - operational system
VII. (66) R&D support
VIII. (67) Test or evaluation
IX. (68) Procedure processing
X. (69) Production and-some
XI. (16) Reliability or quality control
XII. (12) Customer relations

# Table 3-99. Field of Work Position vs. User's Equivalent GS Rating

```
     Q56    IS CROSS TABULATED WITH      Q59      9R,

VARIABLE 10 IS CROSS TABULATED WITH VARIABLE 11

NUMBER OF REPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    10       9       1
    11      13       1

(11)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q58
   9 *     *  4  3  6  3  1  1  2                    27
     T*    0  0  0  0  0  0  0  0                    2
     R*   28 15 11 22 11  4  4  7                   100
     C*    3  1  1  2  2  1  2  8                    2
       *
   8 *   2 27 28 22 13  9  7  3  2  1              114
     T*  0  2  2  1  1  1  0  0  0  0                8
     R*  2 24 25 19 11  8  6  3  2  1              100
     C*  7 10 10  8  6  5 10  6  8 13              8
       *
   7 *   2 29 26 47 38 25  7  8  5                 187
     T*  0  2  2  3  3  2  0  1  0                 13
     R*  1 16 14 25 20 13  4  4  3                 102
     C*  7 11  9 17 13 14 10 16 27                 13
       *
   6 *   1 21 18 31 39 27  9  9  3  2              159
     T*  0  1  1  2  3  2  1  1  0  0              14
     R*  1 13 11 19 24 17  6  6  2  1              100
     C*  4  8  6 11 13 15 13 18 12 25              11
       *
   5 *  13 79 90 25 79 41 12  7  4                 400
     T*  1  5  6  5  5  3  1  0  0                 27
     R*  3 20 22 19 20 10  3  2  1                 100
     C* 46 31 31 26 27 22 17 14 16                 27
       *
   4 *   4 53 60 58 80 51 19  7  2  2              336
     T*  0  4  4  4  5  3  1  0  2  0              22

     R*  1 16 18 17 24 15  6  2  1  1              100
     C* 14 21 21 20 27 28 28 14  8 25              22
       *
   3 *   3 12 22 14  9  9  4  5  5     1          84
     T*  0  1  1  1  1  1  0  0  0     0          6
     R*  4 14 26 17 11 11  5  6  6     1          100
     C* 11  5  8  5  3  5  6 10 20    20          6
       *
   2 *     1  5  3  8  4  3        1  3  4        30
     T*    0  0  0  1  0  0        0  0  0        2
     R*    3 17 10 27 13  3        3 10 13        100
     C*    0  2  1  3  2  1       13 60100        2
       *
   1 *   3 29 36 31 22 15  9  9  2  2  1          159
     T*  0  2  2  2  1  1  1  1  0  0  0          11
     R*  2 18 23 19 14  9  6  6  1  1  1          100
     C* 11 11 12 11  8  8 13 18  8 25 20          11
       *
 (11)    2     4     6     8    10    12
Q58        3     5     7     9    11    13

COLUMN  28   287   293    69    25     5
 TOTAL     258   284   184    49     8     4

PERCENT   2    19    20     5     2     0
 TOTAL     17    19    12     3     1     0

GRAND TOTAL= 1496

CHI-SQUARE OF TABLE)       403.33251
DF=  88

VALUES NOT ENTERED   4
  CASE NO.      VARIABLE 10      VARIABLE 11
    120              0                5
    122              0                6
    197              0                4
    538              0                8

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).
```

(Question 56)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

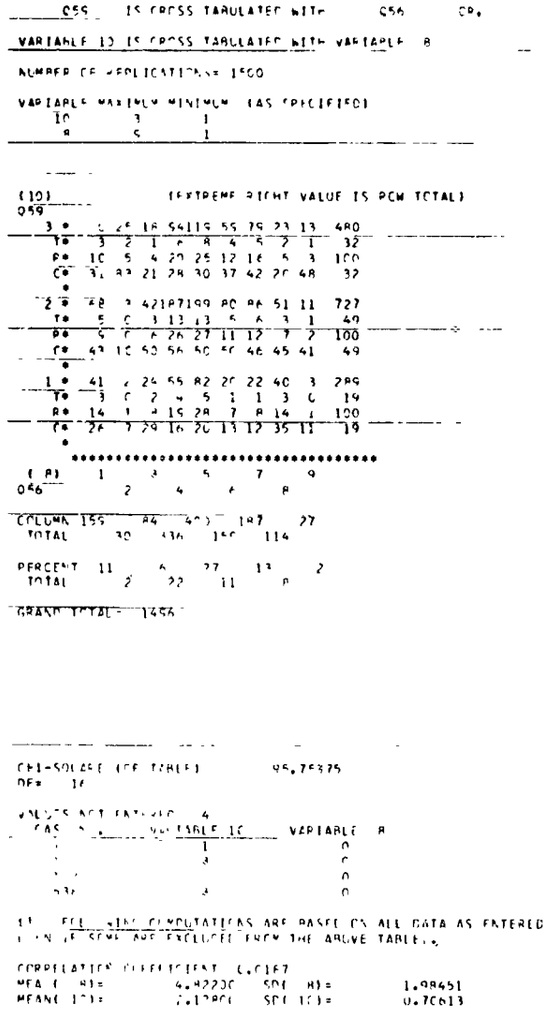
IX. Mathematics
- (15) Mathematics

(Question 58)

| | | |
|---|---|---|
| I | (01) | GS-6 (under 6,000) |
| II | (02) | GS-7 (6,000 - 7,999) |
| III. | (03) | GS-11 (8,000 - 10,249) |
| IV | (04) | GS-12 (10,250 - 11,999) |
| V | (05) | GS-13 (12,000 - 13,999) |
| VI | (06) | GS-14 (14,000 - 16,499) |
| VII | (07) | GS-15 (16,500 - 18,999) |
| VIII | (08) | GS-16 (19,000 - 20,999) |
| IX | (09) | GS-17 (21,000 - 23,999) |
| X | (10) | GS-18 (24,000 - 26,999) |
| XI. | (11) | Sp A (27,000 - 29,999) |
| XII. | (12) | Sp B (30,000 - 34,999) |
| XIII. | (13) | Sp C (over 35,000) |

```
CORRELATION COEFFICIENT -0.0383
MEAN( 11)=      5.27933    SD( 11)=      1.88282
MEAN( 10)=      4.82200    SD( 10)=      1.98491
```

# Table 3-100. Interviewer's Assessment of User's Information Needs vs. Field of Work Position



Q59 IS CROSS TABULATED WITH Q56 ON

VARIABLE 10 IS CROSS TABULATED WITH VARIABLE 8

NUMBER OF APPLICATIONS= 1500

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
10 3 1
8 5 1

(10) (EXTREME RIGHT VALUE IS ROW TOTAL)
Q59

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 * | [illegible] | 18 | 54 | 119 | 55 | 79 | 23 | 13 | 480 |
| T* | 3 | 2 | 1 | [illegible] | 8 | 4 | [illegible] | 2 | 1 | 32 |
| R* | 10 | 5 | 4 | 20 | 25 | 12 | 16 | 5 | 3 | 100 |
| C* | 31 | 83 | 21 | 28 | 30 | 37 | 42 | 20 | 48 | 32 |
| * | | | | | | | | | | |
| 2 * | [illegible] | 28 | 3 | 42 | 187 | 199 | 80 | 86 | 51 | 11 | 727 |
| T* | 5 | [illegible] | 3 | 13 | 43 | [illegible] | 6 | 6 | 3 | 1 | 49 |
| R* | 7 | [illegible] | 4 | 26 | 27 | 11 | 12 | 7 | 2 | 100 |
| C* | 43 | 10 | 50 | 56 | 50 | 50 | 46 | 45 | 41 | 49 |
| * | | | | | | | | | | |
| 1 * | 41 | [illegible] | 24 | 55 | 82 | 20 | 22 | 40 | 3 | 289 |
| T* | 3 | [illegible] | 2 | [illegible] | 5 | 1 | 1 | 3 | [illegible] | 19 |
| R* | 14 | 1 | [illegible] | 19 | 28 | 7 | 8 | 14 | [illegible] | 100 |
| C* | 28 | 7 | 29 | 16 | 20 | 13 | 12 | 35 | 11 | 19 |
| * | | | | | | | | | | |
| ********** | | | | | | | | | | |
| ( 8) | 1 | | 3 | | 5 | | 7 | | 9 | |
| Q56 | | 2 | | 4 | | 6 | | 8 | | |
| COLUMN | 155 | [illegible] | [illegible] | [illegible] | 187 | 27 | | | | |
| TOTAL | 30 | [illegible] | 436 | 156 | 114 | | | | | |
| PERCENT | 11 | [illegible] | 4 | 27 | 13 | 2 | | | | |
| TOTAL | 2 | [illegible] | 29 | 11 | 8 | | | | | |
| GRAND TOTAL= | 1456 | | | | | | | | | |

CHI-SQUARE (OF TABLE) 95.75375
DF= 16

VALUES NOT ENTERED= 4
CASES [illegible] VARIABLE 10 VARIABLE 8
1 0
3 0
[illegible] 0
[illegible] 3 0

1) ALL STATISTICAL COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
2) CASES WITH MISSING DATA ARE EXCLUDED FROM THE ABOVE TABLE.

CORRELATION COEFFICIENT 0.0167
MEAN (8)= 4.43220 STD DEV (8)= 1.98451
MEAN (10)= 2.17806 STD DEV (10)= 0.70613

(Question 59)
I (3) Insignificant need
II (2) Moderate need
III. (1) Large need

(Question 56)
I. Production, Management and Social Sciences
(12) Miscellaneous arts and sciences
(23) Personnel and training
(26) Production and management
(28) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
(11) Ground transportation equipment
(14) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

Table 3-101. Interviewer's Assessment of Difficulty in Acquisition of Information vs. Interviewer's Assessment of Difficulty in Use of Information

```
     Q62    IS CROSS TABULATED WITH      Q61      OR,

VARIABLE 11 IS CROSS TABULATED WITH VARIABLE 10

NUMBER OF REPLICATIONS= 1000

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    11       3       1
    10       4       1


(11)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q62
   3 *    2  5154 72  237
   T*    C  1 10  5   16
   R*    1  4 65 3C  100
   C*    1  5 16 65   16
    *
   2 *  611C4575 25  765
   T*    4  7 3C  2   51
   R*    8 14 75  3  100
   C*   25 58 59 24   41
    *
   1 *  181 66244  7  456
   T*   12  4 1C  C   33
   R*   3E 13 45  1  100
   C*   74 37 25  7   33
    *
     ********************
 (10)    1     3
Q61          2     4

COLUMN 244   573
 TOTAL     175   1C4

PERCENT  16    65
 TOTAL      12      7

GRAND TOTAL=  1500
```

(Question 62)

| | | |
|---|---|---|
| I | (1) | Quite clear or obvious |
| II | (2) | Fairly clear or obvious |
| III | (3) | Neither clear nor obvious |

(Question 61)

| | | |
|---|---|---|
| I | (1) | Obvious or prescribed |
| II | (2) | Entirely or largely independent of professional judgment |
| III | (3) | Entirely or largely dependent upon professional judgment |
| IV | (4) | Difficult, because methods and procedures were lacking |

```
CHI-SQUARE (OF TABLE)       462.59120
DF=    6

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT   .4455
MEAN( 10)=        2.62467   SD( 10)=        0.83602
MEAN( 11)=        1.06600   SD( 11)=        0.67826
```

3.3 DISTRIBUTIONS (Continued)

USER, TASK, UTILIZATION,
and SEARCH AND ACQUISITION Questions

## Table 3-102. Location of First Source for Information vs. Elapsed Time on Task

Q14 IS CROSS TABULATED WITH Q1 OR,

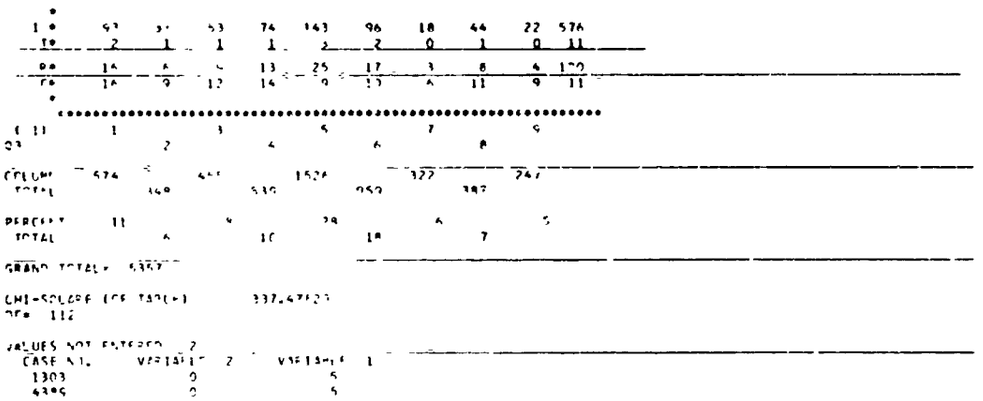
VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5356

| VARIABLE | MAXIMUM | MINIMUM | WAS SPECIFIED |
|---|---|---|---|
| 2 | 15 | 1 | |
| 1 | 6 | 1 | |

| ( 2) | ( EXTREME RIGHT VALUE [= ROW TOTAL) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Q14 | | | | | | | | | | |
| 15 • | 4 | 4 | 7 | 15 | 10 | 17 | 8 | 8 | 3 | 100 |
| T• | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| R• | 4 | 4 | 7 | 15 | 10 | 17 | 8 | 8 | 3 | 100 |
| C• | 1 | 1 | 0 | 3 | 3 | 2 | 2 | 2 | 1 | 2 |
| • | | | | | | | | | | |
| 14 • | | 5 | 11 | 3 | 12 | 7 | 5 | 9 | 6 | 67 |
| T• | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | | 5 | 16 | 4 | 13 | 12 | 7 | 13 | 9 | 100 |
| C• | | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1 |
| • | | | | | | | | | | |
| 13 • | 1 | 3 | 6 | | 11 | 17 | 5 | 4 | 3 | 46 |
| T• | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 2 | 2 | 9 | | 14 | 17 | 11 | 9 | 7 | 100 |
| C• | 0 | 0 | 1 | | 1 | 2 | 2 | 1 | 1 | 1 |
| • | | | | | | | | | | |
| 12 • | 2 | 3 | | | 15 | 6 | 2 | 5 | | 31 |
| T• | 0 | 0 | | | 0 | 0 | 0 | 0 | | 1 |
| R• | 3 | 4 | | | 18 | 19 | 6 | 16 | | 100 |
| C• | 0 | 0 | | | 1 | 1 | 1 | 1 | | 1 |
| • | | | | | | | | | | |
| 11 • | 9 | 11 | 16 | 45 | 65 | 72 | 71 | 31 | 20 | 320 |
| T• | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 6 |
| R• | 3 | 3 | 5 | 14 | 20 | 22 | 7 | 10 | 6 | 100 |
| C• | 2 | 2 | 4 | 8 | 5 | 8 | 7 | 6 | 8 | 6 |
| • | | | | | | | | | | |
| 10 • | 62 | 71 | 23 | 49 | 176 | 90 | 18 | 47 | 35 | 495 |
| T• | 1 | 1 | 0 | 1 | 3 | 2 | 1 | 1 | 1 | 9 |
| R• | 11 | 14 | 5 | 10 | 37 | 18 | 4 | 9 | 7 | 100 |
| C• | 9 | 9 | 5 | 9 | 9 | 9 | 12 | 10 | 14 | 9 |
| • | | | | | | | | | | |
| 9 • | 36 | 39 | 63 | 35 | 168 | 79 | 17 | 24 | 27 | 507 |
| T• | 1 | 1 | 1 | 1 | 3 | 1 | 1 | 0 | 1 | 9 |
| R• | 4 | 5 | 12 | 7 | 33 | 15 | 3 | 5 | 5 | 100 |
| C• | 7 | 11 | 14 | 6 | 17 | 8 | 11 | 6 | 11 | 9 |
| • | | | | | | | | | | |
| 8 • | 28 | 19 | 29 | 30 | 93 | 55 | 10 | 28 | 6 | 297 |
| T• | 1 | 1 | 1 | 1 | 2 | 1 | 0 | 1 | 0 | 6 |
| R• | 9 | 6 | 10 | 10 | 31 | 18 | 3 | 9 | 2 | 100 |
| C• | 6 | 7 | 6 | 6 | 6 | 6 | 3 | 7 | 2 | 6 |
| • | | | | | | | | | | |
| 7 • | 19 | 8 | 6 | 6 | 21 | 9 | 3 | 5 | 4 | 72 |
| T• | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| R• | 14 | 8 | 9 | 8 | 47 | 13 | 4 | 7 | 6 | 100 |
| C• | 2 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 |
| • | | | | | | | | | | |
| 6 • | 45 | 52 | 79 | 77 | 253 | 100 | 30 | 48 | 22 | 769 |
| T• | 1 | 1 | 1 | 1 | 4 | 1 | 0 | 1 | 0 | 14 |
| R• | 8 | 7 | 10 | 10 | 33 | 13 | 4 | 6 | 3 | 100 |
| C• | 11 | 11 | 17 | 14 | 15 | 11 | 13 | 12 | 9 | 14 |
| • | | | | | | | | | | |
| 5 • | 33 | 19 | 22 | 18 | 59 | 42 | 14 | 25 | 11 | 236 |
| T• | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 4 |
| R• | 14 | 8 | 9 | 8 | 25 | 18 | 5 | 11 | 5 | 100 |
| C• | 6 | 4 | 6 | 3 | 4 | 4 | 4 | 6 | 4 | 4 |
| • | | | | | | | | | | |
| 4 • | 10 | 11 | 6 | 7 | 31 | 7 | 15 | 17 | 11 | 136 |
| T• | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 3 |
| R• | 7 | 8 | 4 | 5 | 23 | 5 | 11 | 13 | 8 | 100 |
| C• | 2 | 2 | 1 | 1 | 2 | 1 | 4 | 4 | 4 | 3 |
| • | | | | | | | | | | |
| 3 • | 64 | 48 | 72 | 80 | 215 | 111 | 39 | 80 | 35 | 664 |
| T• | 1 | 1 | 1 | 2 | 6 | 2 | 1 | 1 | 1 | 13 |
| R• | 5 | 4 | 10 | 11 | 32 | 16 | 6 | 12 | 5 | 100 |
| C• | 11 | 14 | 15 | 17 | 14 | 12 | 12 | 8 | 14 | 13 |
| • | | | | | | | | | | |
| 2 • | 144 | 74 | 72 | 91 | 251 | 177 | 74 | 60 | 62 | 1009 |
| T• | 3 | 1 | 1 | 2 | 5 | 3 | 1 | 1 | 1 | 19 |
| R• | 14 | 7 | 7 | 9 | 25 | 17 | 7 | 7 | 6 | 100 |
| C• | 29 | 21 | 14 | 17 | 16 | 14 | 23 | 18 | 17 | 19 |

Table 3-102. (Continued)



| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 93 | 31 | 53 | 74 | 143 | 96 | 18 | 44 | 22 | 576 |
| | 2 | 1 | 1 | 1 | 2 | 2 | 0 | 1 | 0 | 11 |
| | 14 | 4 | 5 | 13 | 25 | 17 | 3 | 8 | 4 | 170 |
| | 14 | 9 | 12 | 14 | 9 | 33 | 4 | 11 | 9 | 11 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ( 11 | 1 | 3 | 5 | 7 | 9 | | |
| 23 | 2 | 4 | 6 | 8 | | | |
| COLUMN | 574 | 445 | 1524 | 322 | 247 | | |
| TOTAL | 149 | 530 | 952 | 387 | | | |
| PERCENT | 11 | 9 | 29 | 4 | 5 | | |
| TOTAL | 4 | 10 | 18 | 7 | | | |

GRAND TOTAL= 5357

CHI-SQUARE (OF TABLE) 337.67523
DF= 112

VALUES NOT ENTERED 2

| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 1303 | 9 | 5 |
| 4396 | 9 | 5 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.1160

| | | | |
|---|---|---|---|
| MEAN( 1)= | 4.80649 | SD( 1)= | 3.12331 |
| MEAN( 2)= | 5.66169 | SD( 2)= | 3.73926 |

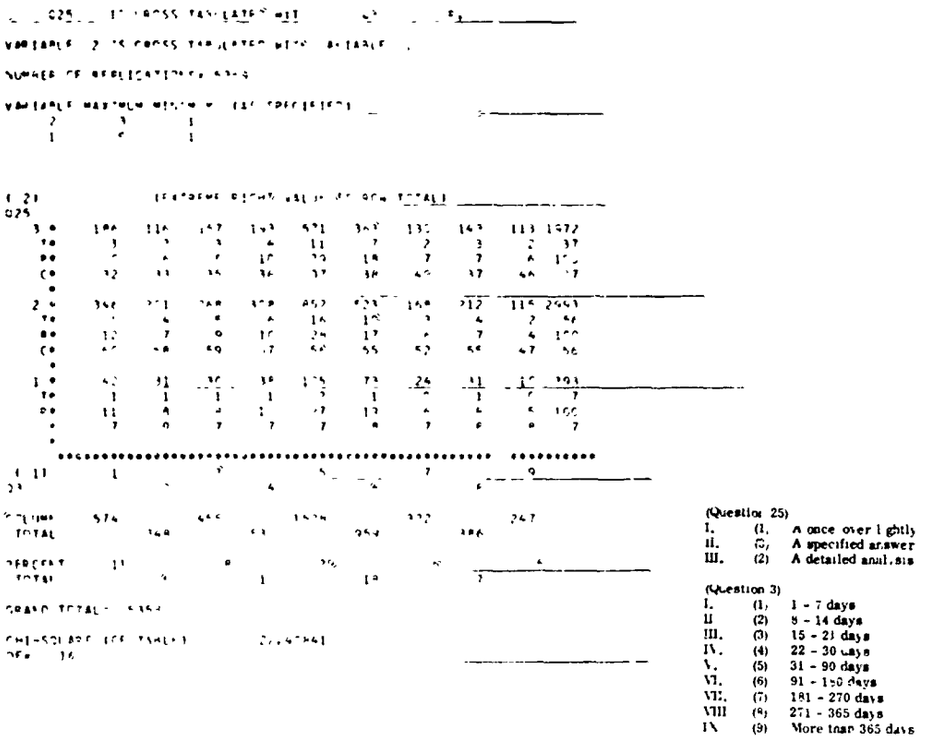
(Question 14)

| | | |
|---|---|---|
| I. | (01) | Received with task assignment |
| II. | (04) | Recalled it |
| III. | (09) | Searched own collection |
| IV. | (19) | Respondent's action |
| V. | (03) | Assigned subordinate to get it |
| VI. | (05) | Asked a colleague |
| VII. | (02) | Asked my supervisor |
| VIII. | (08) | Requested search of department files |
| IX. | (06) | Asked an internal company consultant |
| X. | (10) | Searched company TIC |
| X. | (7) | Requested library search |
| XI. | (15) | Requested data from manufacturer, vendor, or supplier |
| XI. | (14) | Searched manufacturer, vendor or supplier sources |
| XII | (11) | Searched an outside library |
| XIII. | (18) | Asked an external consultant or expert |
| XIV. | (13) | Requested search of DOD information/data center |
| XIV. | (12) | Searched DOD information/data center |
| XV. | (17) | Asked customer |

(Question 3)

| | | |
|---|---|---|
| I | (1) | 1 - 7 days |
| II. | (2) | 8 - 14 days |
| III. | (3) | 15 - 21 days |
| IV. | (4) | 22 - 30 days |
| V. | (5) | 31 - 90 days |
| VI | (6) | 91 - 180 days |
| VII. | (7) | 181 - 270 days |
| VIII. | (8) | 271 - 365 days |
| IX. | (9) | More than 365 days |

## Table 3-103. Desired Detail of Transporting Medium vs. Elapsed Time on Task



(Question 25)
I. (1) A once over lightly
II. (2) A specified answer
III. (2) A detailed analysis

(Question 3)
I. (1) 1 - 7 days
II (2) 8 - 14 days
III. (3) 15 - 21 days
IV. (4) 22 - 30 days
V. (5) 31 - 90 days
VI. (6) 91 - 180 days
VII. (7) 181 - 270 days
VIII (8) 271 - 365 days
IX (9) More than 365 days

# Table 3-104. Class of Information vs. Elapsed Time on Task

Q2P IS CROSS TABULATED WITH Q3

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS 6360

| VARIABLE | MAXIMUM | MINIMUM | (AS SPECIFIED) |
|---|---|---|---|
| 2 | 14 | 1 | |
| 1 | 9 | 1 | |

| Q 23 / Q2P | (EXTREME RIGHT VALUE IS ROW TOTAL) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 * | 12 | 10 | 18 | 13 | 47 | 32 | 5 | 12 | 11 | 160 |
| T* | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 3 |
| R* | 7 | 6 | 11 | 8 | 29 | 20 | 3 | 7 | 7 | 100 |
| C* | 2 | 4 | 4 | 4 | 3 | 3 | 2 | 3 | 4 | 3 |
| 13 * | 15 | 13 | 17 | 18 | 57 | 28 | 13 | 8 | 12 | 189 |
| T* | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| R* | 13 | 7 | 9 | 10 | 30 | 14 | 7 | 4 | 6 | 100 |
| C* | 4 | 4 | 4 | 3 | 4 | | 4 | 2 | 5 | 4 |
| 12 * | 37 | 23 | 26 | 17 | 87 | 55 | 20 | 29 | 24 | 328 |
| T* | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | 0 | 5 |
| R* | 11 | 7 | 8 | 5 | 27 | 20 | 6 | 9 | 7 | 100 |
| C* | 6 | 7 | 6 | 3 | 6 | 7 | 6 | 7 | 10 | 6 |
| 11 * | 22 | 18 | 33 | 15 | 60 | 44 | 14 | 12 | 6 | 224 |
| T* | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 4 |
| R* | 10 | 8 | 15 | 7 | 27 | 20 | 6 | 5 | 3 | 100 |
| C* | 4 | 5 | 7 | 3 | 4 | 5 | 4 | 3 | 2 | 4 |
| 10 * | 121 | 78 | 116 | 132 | 414 | 264 | 83 | 103 | 53 | 1349 |
| T* | 2 | 1 | 2 | 2 | 8 | 5 | 1 | 2 | 1 | 25 |
| R* | 5 | 6 | 9 | 10 | 31 | 20 | 6 | 8 | 4 | 100 |
| C* | 21 | 22 | 25 | 24 | 27 | 28 | 20 | 28 | 21 | 25 |
| 9 * | 91 | 59 | 78 | 98 | 254 | 117 | 44 | 50 | 35 | 813 |
| T* | 2 | 1 | 1 | 2 | 5 | 2 | 1 | 1 | 1 | 15 |
| R* | 11 | 7 | 9 | 12 | 31 | 14 | 5 | 6 | 4 | 100 |
| C* | 16 | 17 | 16 | 16 | 17 | 12 | 14 | 13 | 14 | 15 |
| 8 * | 26 | 16 | 16 | 21 | 60 | 31 | 9 | 13 | 7 | 189 |
| T* | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 4 |
| R* | 14 | 8 | 8 | 11 | 26 | 16 | 5 | 7 | 4 | 100 |
| C* | 5 | 5 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 4 |
| 7 * | 41 | 26 | 14 | 24 | 69 | 32 | 17 | 6 | 6 | 235 |
| T* | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 4 |
| R* | 17 | 11 | 6 | 10 | 29 | 14 | 7 | 3 | 3 | 100 |
| C* | 7 | 7 | 3 | 4 | 5 | 3 | 5 | 2 | 2 | 4 |
| 6 * | 12 | 16 | 13 | 10 | 49 | 31 | 23 | 14 | 13 | 187 |
| T* | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 3 |
| R* | 6 | 9 | 7 | 5 | 26 | 17 | 12 | 7 | 7 | 100 |
| C* | 2 | 5 | 3 | 3 | 3 | 4 | 7 | 4 | 5 | 3 |
| 5 * | 72 | 27 | 49 | 40 | 144 | 97 | 37 | 41 | 20 | 547 |
| T* | 1 | 1 | 1 | 1 | 3 | 2 | 1 | 1 | 0 | 0 |
| R* | 13 | 5 | 9 | 7 | 26 | 18 | 7 | 7 | 4 | 100 |
| C* | 13 | 8 | 11 | 11 | 9 | 10 | 11 | 11 | 8 | 10 |
| 4 * | 38 | 22 | 27 | 46 | 102 | 85 | 23 | 24 | 20 | 387 |
| T* | 1 | 0 | 1 | 1 | 2 | 2 | 0 | 0 | 0 | 7 |
| R* | 10 | 6 | 7 | 12 | 26 | 22 | 6 | 6 | 5 | 100 |
| C* | 7 | 6 | 6 | 9 | 7 | 9 | 7 | 6 | 8 | 7 |
| 3 * | 43 | 22 | 26 | 48 | 96 | 60 | 24 | 31 | 18 | 372 |
| T* | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 7 |
| R* | 12 | 6 | 7 | 13 | 26 | 16 | 6 | 8 | 5 | 100 |
| C* | 7 | 6 | 6 | 9 | 6 | 6 | 9 | 8 | 7 | 7 |
| 2 * | 34 | 18 | 25 | 41 | 99 | 74 | 26 | 39 | 22 | 378 |
| T* | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 1 | 0 | 7 |
| R* | 9 | 5 | 7 | 11 | 26 | 20 | 7 | 10 | 6 | 100 |
| C* | 4 | 5 | 5 | 8 | 6 | 8 | 8 | 10 | 9 | 7 |
| ( 1) Q3 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| COLUMN TOTAL | 574 | 348 | 455 | 530 | 1529 | 958 | 322 | 387 | 247 | |
| PERCENT TOTAL | 11 | 6 | 8 | 10 | 29 | 18 | 6 | 7 | 5 | |

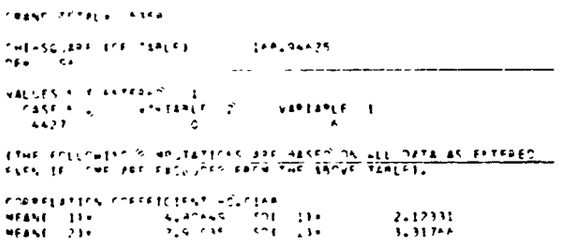
(Question 2P)

| | | |
|---|---|---|
| II. | (1) | Concepts |
| III | (8) | Raw data |
| IV | (5) | Math aids and formulae computer programs |
| V | (3) | Designs or design techniques |
| VI | (4) | Experimental processes and procedures |
| VII | (11) | Test processes and procedures |
| VIII | (13) | Evaluation |
| IX. | (9) | Specifications |
| X | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII | (12) | Utilization |
| XIV. | (2) | Cost and funding administrative action |

(Question 3)

| | | |
|---|---|---|
| I | (1) | 1 - 7 days |
| II | (2) | 8 - 14 days |
| III | (3) | 15 - 21 days |
| IV | (4) | 22 - 30 days |
| V | (5) | 31 - 90 days |
| VI | (6) | 91 - 180 days |
| VII | (7) | 181 - 270 days |
| VIII | (8) | 271 - 365 days |
| IX. | (9) | More than 365 days |

Table 3-104. (Continued)



# Table 3-105. Desired Class of Information vs. Type of Task Output

016 IS CR TO BE TABULATED WITH 05 ?0.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5000

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)

| | | |
|---|---|---|
| 2 | 14 | 1 |
| 1 | 7 | 1 |

| ( 2* 016 | | (EXTREME RIGHT VALUE IS ROW TOTAL) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 14 * | 21 | 62 | 48 | 48 | 112 | 21 | 115 | 427 |
| T* | 0 | 1 | 1 | 1 | 3 | 0 | 3 | 10 |
| R* | 5 | 15 | 11 | 11 | 26 | 5 | 27 | 100 |
| C* | 8 | 8 | 6 | 9 | 11 | 14 | 18 | 10 |
| * | | | | | | | | |
| 13 * | 6 | 50 | 33 | 15 | 44 | 5 | 31 | 187 |
| T* | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 4 |
| R* | 5 | 27 | 18 | 8 | 24 | 3 | 17 | 100 |
| C* | 4 | 7 | 4 | 3 | 4 | 3 | 5 | 4 |
| * | | | | | | | | |
| 12 * | 76 | 95 | 78 | 86 | 144 | 17 | 73 | 519 |
| T* | 1 | 2 | 2 | 2 | 3 | 0 | 2 | 12 |
| R* | 5 | 18 | 15 | 17 | 28 | 3 | 14 | 100 |
| C* | 10 | 12 | 9 | 16 | 14 | 11 | 12 | 12 |
| * | | | | | | | | |
| 11 * | 4 | 4 | 25 | 12 | 36 | | 25 | 106 |
| T* | 0 | 0 | 1 | 0 | 1 | | 1 | 3 |
| R* | 4 | 4 | 24 | 11 | 34 | | 24 | 100 |
| C* | 2 | 1 | 3 | 2 | 3 | | 4 | 3 |
| * | | | | | | | | |
| 10 * | 76 | 230 | 254 | 168 | 297 | 46 | 152 | 1223 |
| T* | 2 | 5 | 6 | 4 | 7 | 1 | 4 | 29 |
| R* | 6 | 19 | 21 | 14 | 24 | 4 | 12 | 100 |
| C* | 10 | 10 | 10 | 11 | 29 | 11 | 24 | 29 |
| * | | | | | | | | |
| 9 * | 36 | 67 | 137 | 42 | 100 | 24 | 83 | 489 |
| T* | 1 | 2 | 3 | 1 | 2 | 1 | 2 | 12 |
| R* | 7 | 14 | 28 | 9 | 20 | 5 | 17 | 100 |
| C* | 14 | 9 | 16 | 8 | 13 | 14 | 13 | 12 |
| * | | | | | | | | |
| 8 * | 11 | 30 | 32 | 33 | 56 | 8 | 16 | 186 |
| T* | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 4 |
| R* | 6 | 16 | 17 | 18 | 30 | 4 | 9 | 100 |
| C* | 5 | 4 | 4 | 6 | 5 | 5 | 3 | 4 |
| * | | | | | | | | |
| 7 * | 13 | 31 | 19 | 24 | 50 | 2 | 20 | 159 |
| T* | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 4 |
| R* | 8 | 19 | 12 | 15 | 31 | 1 | 13 | 100 |
| C* | 5 | 4 | 2 | 4 | 5 | 1 | 3 | 4 |
| * | | | | | | | | |
| 6 * | 4 | 6 | 1 | 10 | 7 | | 8 | 36 |
| T* | 0 | 0 | 0 | 0 | 0 | | 0 | 1 |
| R* | 11 | 17 | 3 | 28 | 19 | | 22 | 100 |
| C* | 2 | 1 | 0 | 2 | 1 | | 1 | 1 |
| * | | | | | | | | |
| 5 * | 39 | 76 | 146 | 26 | 96 | 15 | 50 | 448 |
| T* | 1 | 2 | 3 | 1 | 2 | 0 | 1 | 11 |
| R* | 9 | 17 | 33 | 6 | 21 | 3 | 11 | 100 |
| C* | 15 | 10 | 17 | 5 | 9 | 10 | 8 | 11 |
| * | | | | | | | | |
| 4 * | 5 | 36 | 68 | 40 | 33 | 5 | 31 | 165 |
| T* | 0 | 1 | 2 | 1 | 1 | 0 | 1 | 4 |
| R* | 3 | 22 | 41 | 24 | 20 | 3 | 19 | 100 |
| C* | 2 | 5 | 7 | 7 | 3 | 3 | 5 | 4 |
| * | | | | | | | | |
| 3 * | 1 | 20 | 3 | 11 | 9 | 2 | 9 | 55 |
| T* | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| R* | 2 | 36 | 5 | 20 | 16 | 4 | 16 | 100 |
| C* | 0 | 3 | 0 | 2 | 1 | 1 | 1 | 1 |
| * | | | | | | | | |
| 2 * | 1 | 6 | 11 | 6 | 17 | 1 | 5 | 47 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R* | 2 | 13 | 23 | 13 | 36 | 2 | 11 | 100 |
| C* | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| * | | | | | | | | |
| 1 * | 9 | 50 | 36 | 27 | 40 | 2 | 14 | 178 |
| T* | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 4 |
| R* | 5 | 28 | 20 | 15 | 22 | 1 | 8 | 100 |
| C* | 4 | 7 | 4 | 5 | 4 | 1 | 2 | 4 |
| * | | | | | | | | |
| ( 1) | 1 | | 3 | | 5 | | 7 | |
| 05 | | 2 | | 4 | | 6 | | |
| COLUMN TOTAL | 255 | 763 | 841 | 548 | 1038 | 148 | 631 | |
| PERCENT TOTAL | 6 | 18 | 20 | 13 | 25 | 4 | 15 | |

(Question 16)

| | | |
|---|---|---|
| I. | (15) | Recognized information source |
| II | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Methods and formulae, computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and processes |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI | (7) | Production processes and procedures |
| XII | (10) | Technical status |
| XIII | (12) | Utilization |
| XIV | (2) | Cost and funding administrative action |

(Question 5)

| | | |
|---|---|---|
| I | (7) | Hardware |
| II | (1) | Technical data or information |
| III. | (6) | A design (includes specifications) |
| IV | (2) | A finding |
| V. | (3) | A recommendation |
| VI | (4) | A decision |
| VII | (5) | A plan |

GRAND TOTAL= 4225

CHI-SQUARE (OF TABLE) 349.20617
DF= 78

VALUES NOT ENTERED= 34

(THE FOLLOWING ROW STATTINS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT .0.0511

| | | | | | |
|---|---|---|---|---|---|
| MEAN( 1)= | 4.01441 | SD( 1)= | 1.79605 |
| MEAN( 2)= | 7.21739 | SD( 2)= | 4.77774 |

## Table 3-106. Desired Volume of Transporting Medium vs. Type of Task Output

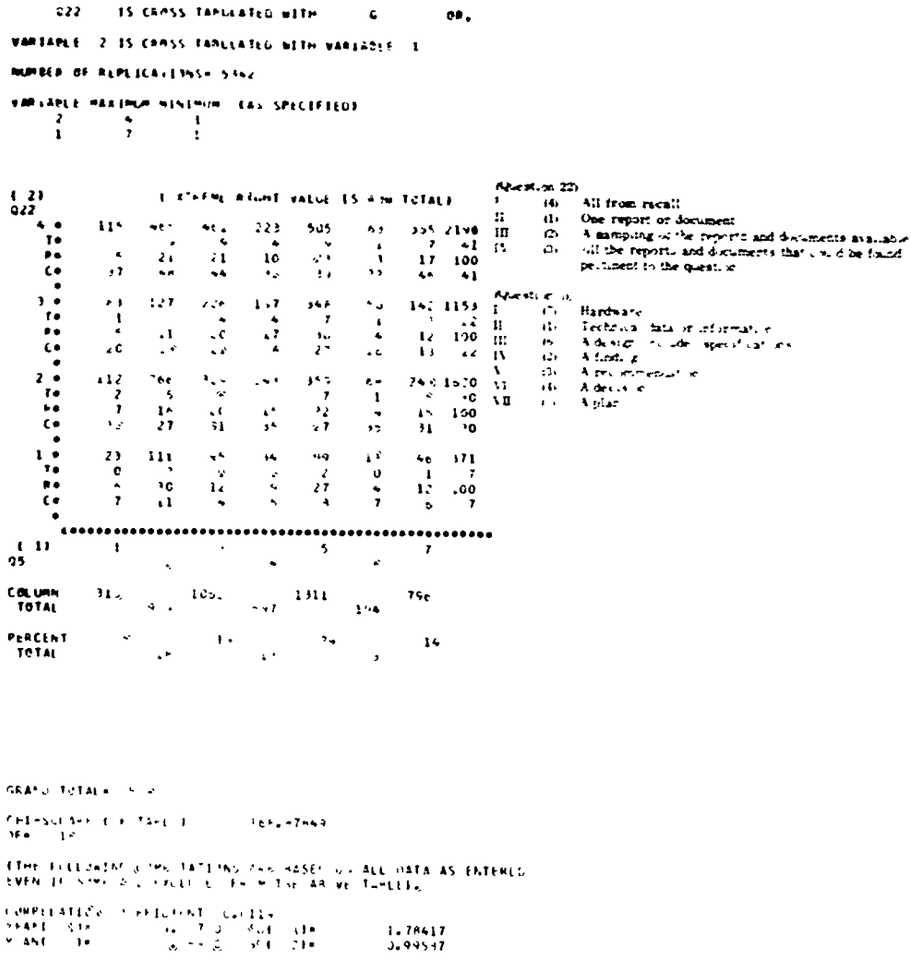
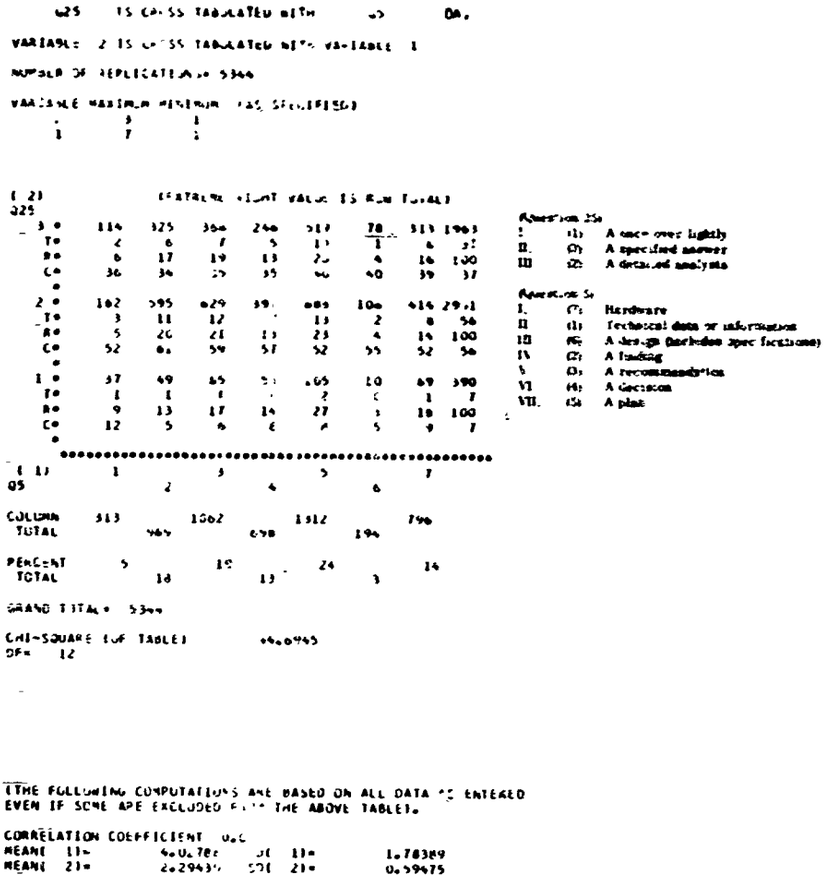


Table 3-107. Desired Detail of Transporting Medium vs. Type of Task Output



```
     Q25    IS CROSS TABULATED WITH      Q3       DA.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATES =  5346

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     1       3       1
     2       7       1


( 2)              CRITERION COUNT VALUE IS ROW TOTAL)
Q25
   3 .     114     325     364     246     519      78     313  1963
     T.       2       6       7       5      13       1       6    37
     R.       6      17      19      13      26       4      16   100
     C.      36      34      29      35      46      40      39    37
      .
   2 .     102     295     329     199     469     104     414  2013
     T.       3      11      12       7      13       2       8    56
     R.       5      15      16      10      23       5      21   100
     C.      32      31      26      35      41      53      52    38
      .
   1 .      37      69      65      51     165      10      69   390
     T.       1       1       1       1       2       0       1    7
     R.       9      18      17      13      42       3      18   100
     C.      12       7       6       6      15       5       9    7
      .
      ..........................................................
( 1)          1               3               5               7
Q5                    2               4               6

COLUMN      513            1062            1312            796
 TOTAL                 960             698             194

PERCENT       5              10              24              14
 TOTAL                  18              13               3

GRAND TOTAL=  5346

CHI-SQUARE FOR TABLE1          44.0965
DF=   12


(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0
MEAN( 1)=        4.04782(    SD( 1)=        1.78389
MEAN( 2)=        2.29439(    SD( 2)=        0.59675
```

(Question 25a
I. (1) A once over lightly
II. (2) A specified answer
III (3) A detailed analysis

(Question 5a
I. (7) Hardware
II (1) Technical data or information
III (6) A design (includes specifications)
IV (2) A loading
V (3) A recommendation
VI (4) A decision
VII. (5) A plan

## Table 3-108. Desired Layout of Transporting Medium vs. Type of Task Output

Q27 IS CROSS TABULATED WITH Q5 OR,

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5319

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
2 17 1
1 7 1

| Q27 | | (EXTREME RIGHT VALUE IS ROW TOTAL) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 17 | | 6 | 6 | 4 | 2 | 8 | 1 | 4 | 31 |
| | T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | R | 19 | 19 | 13 | 6 | 26 | 3 | 13 | 100 |
| | C | 2 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 16 | | 3 | 1 | 3 | 1 | 2 | | | 10 |
| | T | 0 | 0 | 0 | 0 | 0 | | | 0 |
| | R | 30 | 10 | 30 | 10 | 20 | | | 100 |
| | C | 1 | 0 | 0 | 0 | 0 | | | 0 |
| 15 | | | 1 | 3 | 3 | | | 3 | 10 |
| | T | | 0 | 0 | 0 | | | 0 | 0 |
| | R | | 10 | 30 | 30 | | | 30 | 100 |
| | C | | 0 | 0 | 0 | | | 0 | 0 |
| 14 | | 16 | 50 | 78 | 44 | 102 | 3 | 45 | 338 |
| | T | 0 | 1 | 1 | 1 | 2 | 0 | 1 | 6 |
| | R | 5 | 15 | 23 | 13 | 30 | 1 | 13 | 100 |
| | C | 2 | 5 | 7 | 6 | 8 | 2 | 6 | 6 |
| 13 | | 6 | 9 | 15 | 36 | 38 | 8 | 18 | 130 |
| | T | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| | R | 5 | 7 | 12 | 28 | 29 | 6 | 14 | 100 |
| | C | 2 | 1 | 1 | 5 | 3 | 4 | 2 | 2 |
| 12 | | 20 | 54 | 69 | 49 | 113 | 19 | 59 | 393 |
| | T | 1 | 1 | 1 | 1 | 2 | 0 | 1 | 7 |
| | R | 8 | 14 | 18 | 12 | 29 | 5 | 15 | 100 |
| | C | 10 | 6 | 7 | 7 | 9 | 10 | 7 | 7 |
| 11 | | 95 | 303 | 347 | 202 | 396 | 53 | 234 | 1630 |
| | T | 2 | 6 | 7 | 4 | 7 | 1 | 4 | 31 |
| | R | 6 | 19 | 21 | 12 | 24 | 3 | 14 | 100 |
| | C | 31 | 31 | 33 | 29 | 30 | 27 | 29 | 31 |
| 10 | | 8 | 9 | 10 | 6 | 25 | 3 | 9 | 69 |
| | T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | R | 12 | 13 | 14 | 7 | 36 | 4 | 13 | 100 |
| | C | 3 | 1 | 1 | 1 | 2 | 2 | 1 | 1 |
| 9 | | 12 | 18 | 35 | 26 | 25 | 9 | 23 | 148 |
| | T | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| | R | 8 | 12 | 24 | 18 | 17 | 6 | 16 | 100 |
| | C | 4 | 2 | 3 | 4 | 2 | 5 | 3 | 3 |
| 8 | | 2 | 16 | 7 | 14 | 7 | | 12 | 59 |
| | T | 0 | 0 | 0 | 0 | 0 | | 0 | 1 |
| | R | 5 | 27 | 12 | 24 | 12 | | 20 | 100 |
| | C | 1 | 2 | 1 | 4 | 1 | | 2 | 1 |
| 7 | | 33 | 126 | 150 | 85 | 180 | 14 | 137 | 730 |
| | T | 1 | 4 | 3 | 2 | 4 | 0 | 3 | 14 |
| | R | 5 | 17 | 21 | 12 | 25 | 3 | 19 | 100 |
| | C | 11 | 13 | 14 | 12 | 14 | 10 | 17 | 14 |
| 6 | | 16 | 100 | 76 | 84 | 144 | 18 | 74 | 477 |
| | T | 0 | 2 | 1 | 1 | 2 | 0 | 1 | 9 |
| | R | 3 | 21 | 16 | 17 | 30 | 4 | 15 | 100 |
| | C | 4 | 10 | 7 | 12 | 9 | 9 | 9 | 9 |
| 5 | | 24 | 92 | 131 | 55 | 80 | 23 | 51 | 466 |
| | T | 0 | 2 | 2 | 1 | 2 | 0 | 1 | 9 |
| | R | 5 | 20 | 28 | 11 | 17 | 5 | 11 | 100 |
| | C | 8 | 10 | 12 | 6 | 7 | 12 | 7 | 9 |
| 4 | | | 1 | 4 | | 4 | | 2 | 11 |
| | T | | 0 | 0 | | 0 | | 0 | 0 |
| | R | | 9 | 36 | | 36 | | 18 | 100 |
| | C | | 0 | 0 | | 0 | | 0 | 0 |
| 3 | | 10 | 22 | 24 | 14 | 38 | 9 | 22 | 139 |
| | T | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 |
| | R | 7 | 16 | 17 | 10 | 27 | 6 | 16 | 100 |
| | C | 3 | 2 | 2 | 2 | 3 | 5 | 3 | 3 |
| 2 | | 10 | 9 | 14 | 9 | 18 | 10 | 10 | 80 |
| | T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| | R | 13 | 11 | 18 | 11 | 23 | 13 | 13 | 100 |
| | C | 3 | 1 | 1 | 1 | 1 | 5 | 1 | 2 |
| 1 | | 36 | 148 | 90 | 68 | 148 | 19 | 89 | 598 |
| | T | 1 | 3 | 2 | 1 | 3 | 0 | 2 | 11 |
| | R | 6 | 25 | 15 | 11 | 25 | 3 | 15 | 100 |
| | C | 12 | 15 | 8 | 10 | 11 | 19 | 11 | 11 |

(Question 27)
I (14) Recall
II (13) Telephone conversation
III (11) Group discussion
IV (4) Photographs
V (3) Graphics (maps, graphs, etc.)
VI (2) Tables or lists
VII (1) Narrative text
VIII (18) Narrative text and tables or lists
IX (9) Graphics and lists
X (8) Photographs and text
XI (7) Graphics and text
XII (16) Graphics, text and oral
XIII (17) Graphics, text, oral, and recall
XIV (12) Informal briefing, with chalk or pencil drawings
XV (5) Microfilm - microfiche
XVI (6) Slides or motion pictures
XVII (10) Formal briefing or lecture

(Question 5)
I (7) Hardware
II (1) Technical data or information
III (6) A design (includes specifications)
IV (2) A finding
V (3) A recommendation
VI (4) A decision
VII (5) A plan

| (1) | 1 | 3 | 5 | 7 |
|---|---|---|---|---|
| Q5 | 2 | 4 | 6 | |
| COLUMN TOTAL | 308 | 1060 | 1306 | 794 |
| | 965 | 692 | 194 | |
| PERCENT TOTAL | 5 | 19 | 24 | 14 |
| | 18 | 13 | 3 | |

GRAND TOTAL= 5319

CHI-SQUARE (OF TABLE) 265.38402
DF= 96

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0133
MEAN( 1)= 4.03046 SD( 1)= 1.78546
MEAN( 2)= 8.25719 SD( 2)= 3.94676

# Table 3-109. Class of Information vs. Type of Task Output

Q28 IS CROSS TABULATED WITH Q5 OR,

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 4355

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 14 | 1 |
| 1 | 7 | 1 |

| I 2) | | | | (EXTREME RIGHT VALUE IS ROW TOTAL) | | | | |
|---|---|---|---|---|---|---|---|---|
| Q28 | | | | | | | | |
| 14 * | 9 | 18 | 13 | 18 | 52 | 5 | 44 | 159 |
| T* | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 3 |
| R* | 6 | 11 | 8 | 11 | 33 | 3 | 28 | 100 |
| C* | 3 | 2 | 1 | 3 | 4 | 3 | 6 | 3 |
| * | | | | | | | | |
| 13 * | 8 | 43 | 23 | 26 | 42 | 12 | 34 | 188 |
| T* | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 4 |
| R* | 4 | 23 | 12 | 14 | 22 | 6 | 18 | 100 |
| C* | 3 | 4 | 2 | 4 | 3 | 6 | 4 | 4 |
| * | | | | | | | | |
| 12 * | 24 | 60 | 41 | 46 | 92 | 9 | 52 | 324 |
| T* | 0 | 1 | 1 | 1 | 2 | 0 | 1 | 6 |
| R* | 7 | 19 | 13 | 14 | 28 | 3 | 16 | 100 |
| C* | 8 | 6 | 4 | 7 | 7 | 5 | 7 | 6 |
| * | | | | | | | | |
| 11 * | 14 | 35 | 52 | 26 | 56 | 9 | 42 | 224 |
| T* | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 4 |
| R* | 6 | 11 | 23 | 12 | 25 | 4 | 19 | 100 |
| C* | 4 | 3 | 5 | 4 | 4 | 5 | 5 | 5 |
| * | | | | | | | | |
| 10 * | 74 | 213 | 279 | 169 | 376 | 47 | 190 | 1348 |
| T* | 1 | 4 | 5 | 3 | 7 | 1 | 4 | 25 |
| R* | 5 | 16 | 21 | 13 | 28 | 3 | 14 | 100 |
| C* | 24 | 22 | 26 | 24 | 29 | 24 | 24 | 25 |
| * | | | | | | | | |
| 9 * | 65 | 129 | 215 | 2 | 175 | 27 | 129 | 811 |
| T* | 1 | 2 | 4 | 1 | 3 | 1 | 2 | 15 |
| R* | 8 | 16 | 27 | 9 | 22 | 3 | 16 | 100 |
| C* | 21 | 13 | 20 | 10 | 13 | 14 | 16 | 15 |
| * | | | | | | | | |
| 8 * | 4 | 37 | 24 | 40 | 54 | 6 | 24 | 189 |
| T* | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 4 |
| R* | 2 | 20 | 13 | 21 | 29 | 3 | 13 | 100 |
| C* | 1 | 4 | 2 | 4 | 4 | 3 | 3 | 4 |
| * | | | | | | | | |
| 7 * | 13 | 51 | 30 | 36 | 60 | 5 | 39 | 234 |
| T* | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 4 |
| R* | 6 | 22 | 13 | 15 | 26 | 2 | 17 | 100 |
| C* | 4 | 5 | 3 | 5 | 5 | 3 | 5 | 4 |
| * | | | | | | | | |
| 6 * | 8 | 50 | 25 | 37 | 41 | 8 | 16 | 185 |
| T* | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 3 |
| R* | 4 | 27 | 14 | 20 | 22 | 4 | 9 | 100 |
| C* | 3 | 5 | 2 | 5 | 3 | 4 | 2 | 3 |
| * | | | | | | | | |
| 5 * | 47 | 74 | 108 | 33 | 113 | 21 | 61 | 547 |
| T* | 1 | 1 | 4 | 1 | 2 | 0 | 1 | 10 |
| R* | 5 | 14 | 36 | 6 | 21 | 4 | 11 | 100 |
| C* | 16 | 8 | 19 | 5 | 9 | 11 | 8 | 10 |
| * | | | | | | | | |
| 4 * | 7 | 114 | 39 | 73 | 76 | 17 | 61 | 387 |
| T* | 0 | 2 | 1 | 1 | 1 | 0 | 1 | 7 |
| R* | 2 | 29 | 10 | 19 | 20 | 4 | 16 | 100 |
| C* | 2 | 12 | 4 | 10 | 6 | 9 | 8 | 7 |
| * | | | | | | | | |
| 3 * | 18 | 90 | 49 | 67 | 88 | 12 | 54 | 369 |
| T* | 0 | 2 | 1 | 1 | 2 | 0 | 1 | 7 |
| R* | 5 | 24 | 13 | 18 | 24 | 3 | 15 | 100 |
| C* | 6 | 9 | 5 | 8 | 7 | 6 | 7 | 7 |
| * | | | | | | | | |
| 2 * | 22 | 64 | 75 | 65 | 86 | 16 | 48 | 378 |
| T* | 0 | 1 | 1 | 1 | 2 | 0 | 1 | 7 |
| R* | 6 | 17 | 20 | 17 | 23 | 4 | 13 | 100 |
| C* | 7 | 7 | 7 | 9 | 7 | 8 | 6 | 7 |
| * | | | | | | | | |
| ( 1) | 1 | | 3 | | 5 | | 7 | |
| Q5 | | 2 | | 4 | | 6 | | |
| COLUMN TOTAL | 313 | 966 | 1062 | 698 | 1311 | 194 | 796 | |
| PERCENT TOTAL | 6 | 18 | 20 | 13 | 25 | 4 | 15 | |

(Question 28)

| | | |
|---|---|---|
| II | (1) | Concepts |
| III | (8) | Raw data |
| IV | (5) | Math aids and formulae, computer programs |
| V | (3) | Designs or design techniques |
| VI | (4) | Experimental processes and procedures |
| VII | (11) | Test processes and procedures |
| VIII | (13) | Evaluation |
| IX | (9) | Specifications |
| X | (6) | Performance and characteristics |
| XI | (7) | Production processes and procedures |
| XII | (10) | Technical status |
| XIII | (12) | Utilization |
| XIV | (2) | Cost and funding, administrative action |

(Question 5)

| | | |
|---|---|---|
| I | (7) | Hardware |
| II | (1) | Technical data or information |
| III | (6) | A design (includes specifications) |
| IV | (2) | A finding |
| V | (3) | A recommendation |
| VI | (4) | A decision |
| VII | (5) | A plan |

GRAND TOTAL= 4343

CHI-SQUARE (OF TABLE) 198.38313

DF= 72

VALUES NOT ENTERED 16

| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 1403 | 12 | 0 |
| 1412 | 13 | 0 |
| 1423 | 14 | 0 |
| 1428 | 3 | 0 |
| 1438 | 10 | 0 |
| 1448 | 3 | 0 |
| 1457 | 7 | 0 |
| 1458 | 3 | 0 |
| 1459 | 6 | 0 |
| 1467 | 12 | 0 |
| 1468 | 9 | 0 |
| 1469 | 9 | 0 |
| 1477 | 12 | 0 |
| 1478 | 12 | 0 |
| 1479 | 6 | 0 |
| 4427 | 0 | 5 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0693

| | | | | |
|---|---|---|---|---|
| MEAN( 1)= | 4.01661 | SD( 1)= | 1.79404 |
| MEAN( 2)= | 7.90035 | SD( 2)= | 3.31788 |

Table 3-110 Desired Class of Information vs. Class of Task Output

```
     Q16    IS CROSS TABULATED WITH      Q8       OR,

VARIABLE  2 IS CROSS  ABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2      14       1
     1      14       1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q16
  14 *    27    2   19   66   13   22   46   36   41   36   31   22   70  427
    T*     1    0    0    2    0    1    1    1    1    1    1    1    2   10
    R*     6    0    4   15    3    5   11    8   10    8    7    5   15  109
    C*     7    3    7    6    6    9   11   13    6   13   21   15   50   10
     *
  13 *    18    4   22   44   10    6   16   10   26    5    9   11    6  187
    T*     0    0    1    1    0    0    0    0    1    0    0    0    0    4
    R*    10    2   12   24    5    3    9    5   14    3    5    6    3  100
    C*     5    7    8    4    5    2    4    4    4    2    6    8    4    4
     *
  12 *    86    5   31  106   43   18   47   18   71   27   41   16   15  524
    T*     2    0    1    3    1    0    1    0    2    1    1    0    0   12
    R*    16    1    6   20    8    3    9    3   14    5    8    3    3  100
    C*    23    8   12   10   20    7   13    7   10   11   27   11   11   12
     *
  11 *     3         2   28    4    6    0    3    8   32    7    3    1  106
    T*     0         0    1    0    0    0    0    0    1    0    0    0    3
    R*     3         2   26    4    6    8    3    8   30    7    3    1  100
    C*     1         1    3    2    2    2    1    1   13    5    2    1    3
     *
  10 *    90   24   63  313   49   73  128   64  249   89   43   40   19 1225
    T*     2    1    1    7    1    2    3    2    6    2    1    1    0   29
    R*     7    2    5   26    4    6   10    5   20    7    3    3    2  100
    C*    25   39   24   30   23   30   31   25   36   31   22   28   14   29
     *
   9 *    33    7   17  143   19   47   37   56   53   30    9   16   14  490
    T*     1    0    0    3    0    1    1    1    1    0    0    0    0   12
    R*     7    1    3   29    4   10    8   11   13    6    2    3    3  100
    C*     9   11    6   14    9   19    9   22    9   12    5   11   13   12
     *
   8 *    20    2   11   38   17    3   18    8   42    9    7    9    2  186
    T*     0    0    0    1    0    0    0    0    1    0    0    0    0    4
    R*    11    1    6   20    9    2   10    4   23    5    4    5    1  100
    C*     5    3    4    4    8    1    4    3    6    4    5    6    1    4
     *
   7 *     5    4    5   23   11   31   18    7   38   11    2    1         159
    T*     0    0    0    1    0    1    0    0    1    0    0    0         4
    R*     3    4    4   14    7   19   11    4   24    7    1    1         100
    C*     1   10    2    2    5   13    4    3    6    4    1    1         4
     *
   6 *     5    1    5    1    9         5    1    7         2              36
    T*     0    0    0    0    0         0    0    0         0              1
    R*    14    3   14    3   25        14    3   19         5              100
    C*     1    2    2    0    4         1    0    1         1              1
     *
   5 *    24    5   16  186   16   27   40   36   54   20    2   15    7  448
    T*     1    0    0    4    0    1    1    1    1    0    0    0    0   11
    R*     5    1    4   42    4    6    9    8   12    4    0    3    2  100
    C*     7    8    5   18    8   11   10   14    8    8    1   10    5   11
     *
   4        19        54   30    1    4    7    7   35    1    4    3    1  165
    T*     0         1    1    0    0    0    0    1    0    0    0    0    4
    R*    11        31   18    1    2    4    4   21    1    2    2    1  100
    C*     5        22    3    0    2    2    3    5    0    3    2    1    4
     *
   3 *     9         6    5    4    1    8    2   13         1    3    2   55
    T*     0         0    0    0    0    0    0    0         0    0    0    1
    R*    16        11   11    7    2   15    4   24         2    5    4  100
    C*     2         2    1    2    0    2    1    2         1    2    1    1
     *
   2 *     6         5   18    6    2    1    1   11              1         47
    T*     0         0    0    0    0    0    0    0              0         1
    R*    13        11   38    6    4    2    2   23              2         100
    C*     2         2    2    1    1    0    0    2              1         1
     *
   1 *    20    3   13   43   13    4   29   11   28    5    3    4    2  179
    T*     1    0    0    1    0    0    1    0    1    0    0    0    0    4
    R*    11    3    6   24    7         16    6   16    3    2    2    1  100
    C*     6    4    4    4    6    2    7    4    4    2    2    3    1    4
     *
 ( 11      3         4         5         7         8         10        12        16
 14                  3         5         7         9         11        13

 COLUMN  1564      2538      2210      4094      5866      1511      1394
 TOTAL         961       1045       2448       2588       2564       1446

 PERCENT    9         5         5        10        16         4         3
 TOTAL          1         15         5         6         6         3
```

Table 3-110. (Continued)

GRAND TOTAL= 4234

CHI-SQUARE (OF TABLE) 1168.32587
DF= 156

VALUES NOT ENTERED1125

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0885

| | | | | | |
|---|---|---|---|---|---|
| MEAN( 1)= | 7.30379 | SD( 1)= | 3.22566 |
| MEAN( 2)= | 7.21739 | SD( 2)= | 4.77774 |

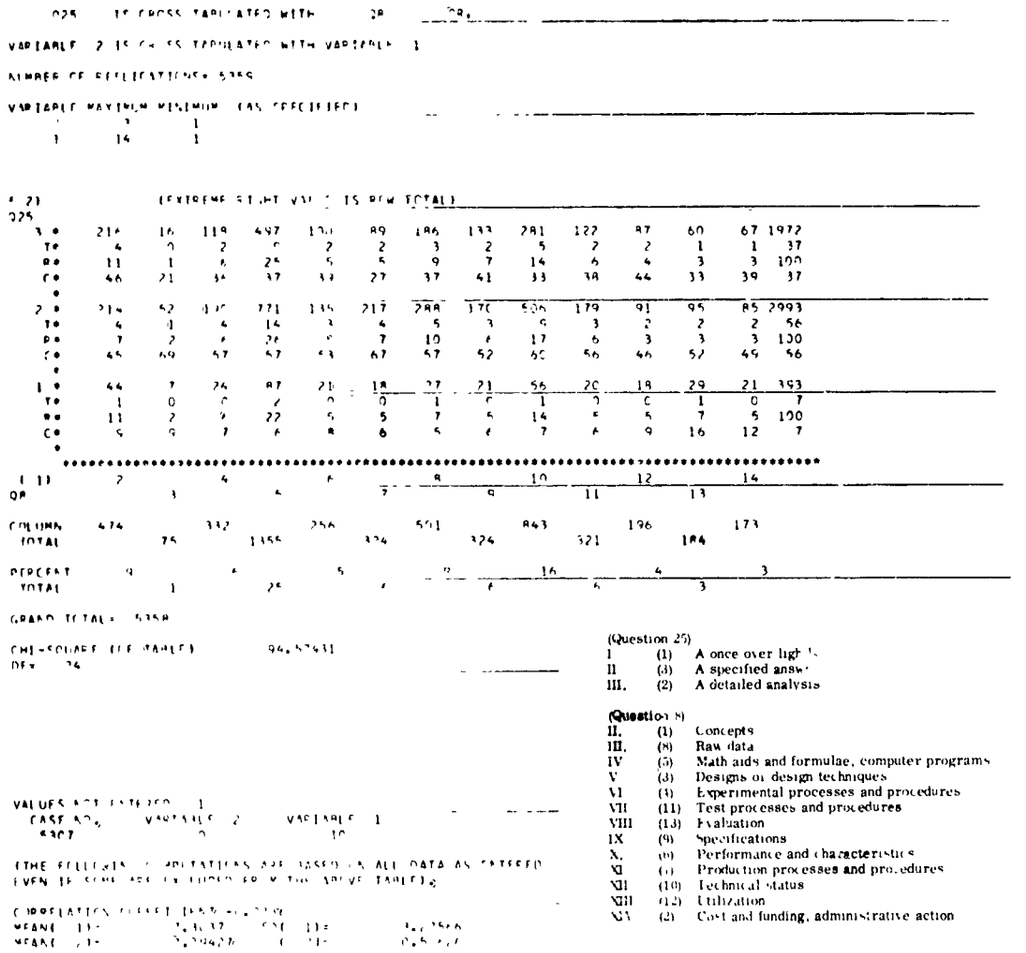
(Question 16)

| | | |
|---|---|---|
| I. | (15) | Requested information source |
| II | (1) | Concepts |
| III | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V | (3) | Designs or design techniques |
| VI | (4) | Experimental processes and procedures |
| VII | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX | (9) | Specifications |
| X | (6) | Performance and characteristics |
| XI | (7) | Production processes and procedures |
| XII | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV | (2) | Cost and funding, administrative action |

(Question 8)

| | | |
|---|---|---|
| II | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V | (3) | Designs or design techniques |
| VI | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX | (9) | Specifications |
| X | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

## Table 3-111. Desired Detail of Transporting Medium vs. Class of Task Output



Q25 IS CROSS TABULATED WITH Q8

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5358

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)

| | 2 | 1 |
|---|---|---|
| 1 | 14 | 1 |

( 2) (EXTREME RIGHT VALUE IS RAW TOTAL)

| Q25 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | * | 214 | 16 | 119 | 497 | 130 | 89 | 186 | 133 | 281 | 122 | 87 | 60 | 67 1972 |
| | T* | 4 | 0 | 2 | 6 | 2 | 2 | 3 | 2 | 5 | 2 | 2 | 1 | 1 37 |
| | R* | 11 | 1 | 6 | 25 | 6 | 5 | 9 | 7 | 14 | 6 | 4 | 3 | 3 100 |
| | C* | 46 | 21 | 34 | 37 | 33 | 27 | 37 | 41 | 33 | 38 | 44 | 33 | 39 37 |
| | * | | | | | | | | | | | | | |
| 2 | * | 214 | 52 | 137 | 771 | 135 | 217 | 288 | 170 | 506 | 179 | 91 | 95 | 85 2993 |
| | T* | 4 | 1 | 4 | 14 | 3 | 4 | 5 | 3 | 9 | 3 | 2 | 2 | 2 56 |
| | R* | 7 | 2 | 4 | 26 | 5 | 7 | 10 | 6 | 17 | 6 | 3 | 3 | 3 100 |
| | C* | 45 | 69 | 57 | 57 | 53 | 67 | 57 | 52 | 60 | 56 | 46 | 52 | 49 56 |
| | * | | | | | | | | | | | | | |
| 3 | * | 44 | 7 | 26 | 87 | 21 | 18 | 27 | 21 | 56 | 20 | 18 | 29 | 21 393 |
| | T* | 1 | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 0 7 |
| | R* | 11 | 2 | 9 | 22 | 5 | 5 | 7 | 5 | 14 | 5 | 5 | 7 | 5 100 |
| | C* | 9 | 9 | 7 | 6 | 8 | 6 | 5 | 6 | 7 | 8 | 9 | 16 | 12 7 |
| | * | | | | | | | | | | | | | |

( 1) 2 4 6 8 10 12 14

Q8 3 5 7 9 11 13

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COLUMN TOTAL | 474 | 75 | 332 | 1355 | 256 | 324 | 501 | 324 | 843 | 321 | 196 | 184 | 173 |
| PERCENT TOTAL | 9 | 1 | 6 | 25 | 5 | 6 | 9 | 6 | 16 | 6 | 4 | 3 | 3 |

GRAND TOTAL= 5358

CHI-SQUARE (FOR TABLE) 94.57431

DF= 24

VALUES NOT ENTERED 1

| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 4307 | 0 | 10 |

(THE CORRELATION COEFFICIENTS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT [R]= [illegible]

MEAN (1)= [illegible] SD (1)= [illegible]

MEAN (2)= [illegible] SD (2)= [illegible]

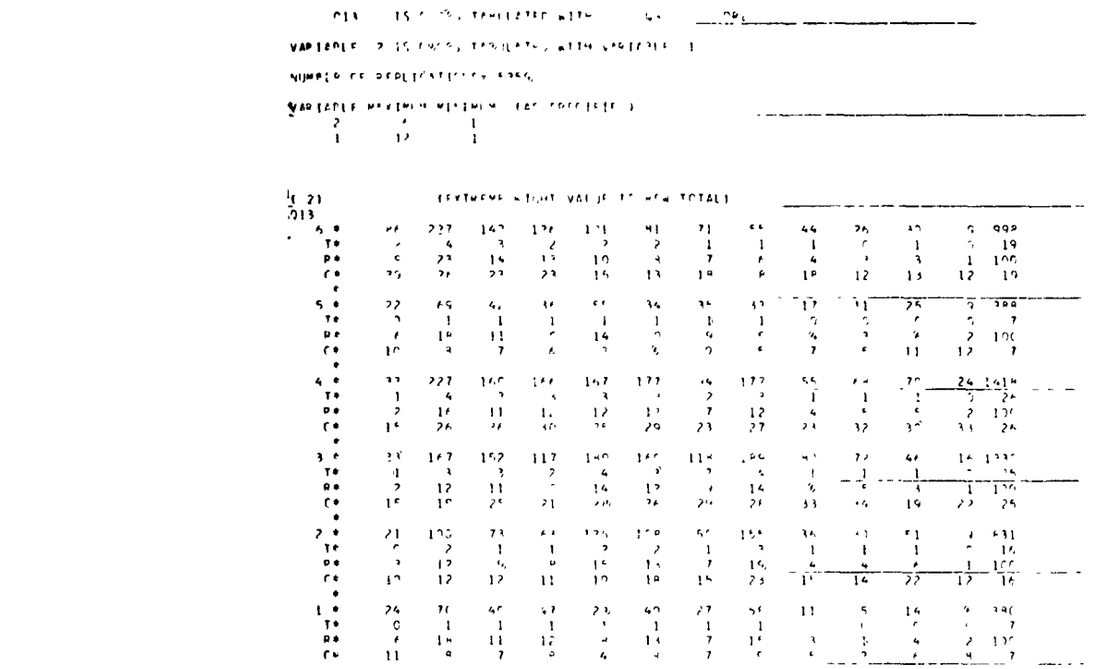
(Question 25)

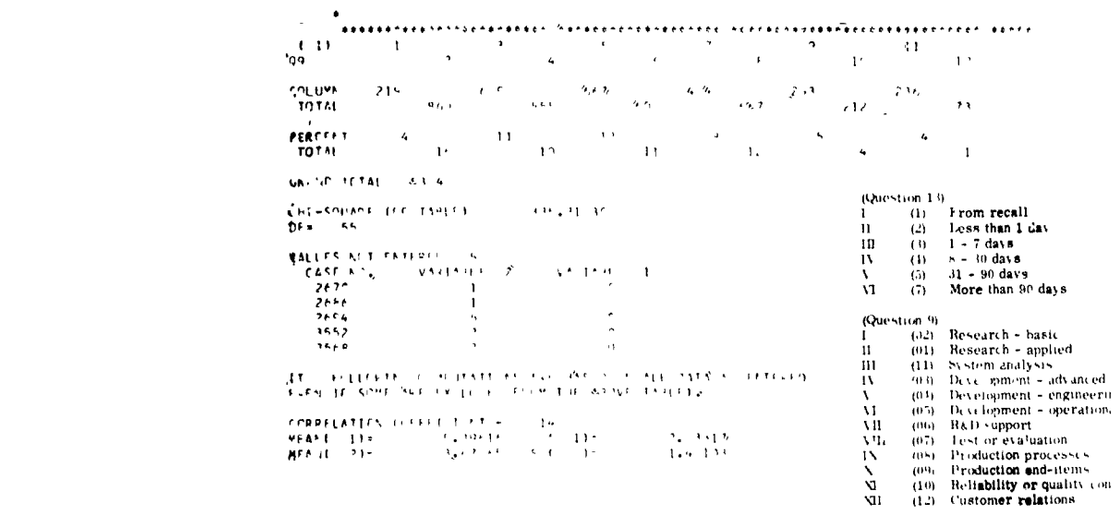
| | | |
|---|---|---|
| I | (1) | A once over light |
| II | (3) | A specified answer |
| III. | (2) | A detailed analysis |

(Question 8)

| | | |
|---|---|---|
| II. | (1) | Concepts |
| III. | (8) | Raw data |
| IV | (5) | Math aids and formulae, computer programs |
| V | (3) | Designs or design techniques |
| VI | (4) | Experimental processes and procedures |
| VII | (11) | Test processes and procedures |
| VIII | (13) | Evaluation |
| IX | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI | (7) | Production processes and procedures |
| XII | (10) | Technical status |
| XIII | (12) | Utilization |
| XV | (2) | Cost and funding, administrative action |

## Table 3-112. Desired Acquisition Time for Information vs. Kind of Task Output





(Question 14)

| | | |
|---|---|---|
| I | (1) | From recall |
| II | (2) | Less than 1 day |
| III | (3) | 1 - 7 days |
| IV | (4) | 8 - 30 days |
| V | (5) | 31 - 90 days |
| VI | (7) | More than 90 days |

(Question 9)

| | | |
|---|---|---|
| I | (02) | Research - basic |
| II | (01) | Research - applied |
| III | (11) | System analysis |
| IV | (04) | Development - advanced |
| V | (03) | Development - engineering |
| VI | (05) | Development - operational system |
| VII | (06) | R&D support |
| VIII | (07) | Test or evaluation |
| IX | (08) | Production processes |
| X | (09) | Production end-items |
| XI | (10) | Reliability or quality control |
| XII | (12) | Customer relations |

Table 3-113. Location of First Source for Information vs. Kind of Task Output

14 IS CROSS TABULATED WITH 9 [illegible]

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5350

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 19 | 1 |
| 1 | 12 | 1 |

( 21 (EXTREME RIGHT VALUE IS ROW TOTAL)

| 14 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 • | 7 | 21 | 21 | 13. | 16 | 4 | 5 | 10 | 1 | 2 | 5 | | 100 |
| T• | 0 | 0 | 0 | • 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 2 |
| R• | 2 | 21 | 21 | 13 | 16 | 4 | 5 | 10 | 1 | 2 | 5 | | 100 |
| C• | 1 | 2 | 3 | 2 | 2 | 1 | 1 | 2 | 0 | 1 | 2 | | 2 |
| • | | | | | | | | | | | | | |
| 14 • | 2 | 12 | 13 | 3 | 6 | 10 | 4 | 5 | 2 | 4 | 1 | 5 | 67 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 3 | 18 | 19 | 4 | 9 | 15 | 6 | 7 | 3 | 6 | 1 | 7 | 100 |
| C• | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 0 | 2 | 1 |
| • | | | | | | | | | | | | | |
| 13 • | 3 | 10 | 14 | 2 | 4 | 6 | 3 | | | 1 | 2 | 1 | 46 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | 0 | 0 | 1 |
| R• | 7 | 22 | 30 | 4 | 9 | 13 | 7 | | | 2 | 4 | 2 | 100 |
| C• | 1 | 1 | 2 | 0 | 1 | 1 | 1 | | | 0 | 1 | 1 | 1 |
| • | | | | | | | | | | | | | |
| 12 • | 2 | 8 | 5 | | 2 | 1 | 5 | 4 | 1 | 2 | 1 | | 31 |
| T• | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 1 |
| R• | 6 | 26 | 16 | | 6 | 3 | 16 | 13 | 3 | 6 | 3 | | 100 |
| C• | 1 | 1 | 1 | | 0 | 0 | 1 | 1 | 0 | 1 | 0 | | 1 |
| • | | | | | | | | | | | | | |
| 11 • | | 36 | 42 | 44 | 49 | 46 | 14 | 25 | 26 | 17 | 17 | 3 | 320 |
| T• | | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| R• | | 11 | 13 | 14 | 15 | 14 | 4 | 8 | 8 | 5 | 5 | 1 | 100 |
| C• | | 4 | 7 | 8 | 7 | 8 | 3 | 4 | 11 | 6 | 7 | 4 | 4 |
| • | | | | | | | | | | | | | |
| 10 • | 33 | 120 | 45 | 51 | 41 | 40 | 42 | 56 | 16 | 11 | 32 | 7 | 494 |
| T• | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 9 |
| R• | 7 | 24 | 9 | 10 | 8 | 8 | 9 | 11 | 3 | 2 | 6 | 1 | 100 |
| C• | 15 | 14 | 7 | 9 | 6 | 7 | 10 | 8 | 7 | 5 | 14 | 10 | 9 |
| • | | | | | | | | | | | | | |
| 9 • | 7 | 52 | 43 | 48 | 40 | 63 | 52 | 64 | 25 | 36 | 35 | 5 | 507 |
| T• | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 9 |
| R• | 1 | 10 | 8 | 9 | 16 | 12 | 10 | 13 | 5 | 7 | 7 | 1 | 100 |
| C• | 3 | 6 | 7 | 9 | 12 | 10 | 13 | 10 | 10 | 17 | 15 | 7 | 9 |
| • | | | | | | | | | | | | | |
| 8 • | 7 | 38 | 32 | 39 | 31 | 65 | 15 | 41 | 6 | 21 | 15 | 4 | 297 |
| T• | 0 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 6 |
| R• | 2 | 13 | 11 | 13 | 9 | 22 | 5 | 13 | 2 | 7 | 5 | 1 | 100 |
| C• | 3 | 4 | 5 | 5 | 3 | 11 | 4 | 6 | 2 | 10 | 7 | 5 | 6 |
| • | | | | | | | | | | | | | |
| 7 • | | 6 | 10 | 10 | 5 | 6 | 14 | 14 | 2 | 3 | | | 72 |
| T• | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 1 |
| R• | | 8 | 14 | 14 | 7 | 8 | 19 | 22 | 3 | 4 | | | 100 |
| C• | | 1 | 2 | 2 | 1 | 1 | 3 | 2 | 1 | 1 | | | 1 |
| • | | | | | | | | | | | | | |
| 6 • | 21 | 126 | 83 | 76 | 83 | 87 | 67 | 110 | 42 | 22 | 31 | 19 | 769 |
| T• | 0 | 2 | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 0 | 1 | 0 | 14 |
| R• | 3 | 17 | 11 | 11 | 11 | 11 | 9 | 14 | 5 | 3 | 4 | 2 | 100 |
| C• | 3 | 15 | 13 | 14 | 12 | 14 | 12 | 12 | 12 | 13 | 13 | 26 | 14 |
| • | | | | | | | | | | | | | |
| 5 • | 9 | 60 | 24 | 27 | 29 | 21 | 13 | 41 | 14 | 5 | 9 | 4 | 236 |
| T• | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| R• | 4 | 17 | 10 | 11 | 12 | 9 | 6 | 17 | 6 | 2 | 4 | 2 | 100 |
| C• | 4 | 5 | 4 | 5 | 4 | 3 | 3 | 6 | 5 | 3 | 4 | 5 | 4 |
| • | | | | | | | | | | | | | |
| 4 • | 9 | 27 | 14 | 9 | 15 | 14 | | 15 | 9 | 5 | 3 | 1 | 136 |
| T• | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| R• | 7 | 20 | 11 | 7 | 11 | 12 | 7 | 11 | 7 | 4 | 2 | 1 | 100 |
| C• | 4 | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 4 | 2 | 1 | 1 | 3 |
| • | | | | | | | | | | | | | |
| 3 • | 51 | 133 | 71 | 70 | 110 | 68 | 44 | 76 | 17 | 21 | 10 | 3 | 696 |
| T• | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 13 |
| R• | 7 | 19 | 10 | 10 | 16 | 10 | 6 | 11 | 2 | 3 | 1 | 0 | 100 |
| C• | 23 | 15 | 18 | 13 | 16 | 11 | 11 | 11 | 7 | 11 | 13 | 4 | 13 |
| • | | | | | | | | | | | | | |
| 2 • | 63 | 179 | 135 | 114 | 103 | 135 | 65 | 113 | 57 | 35 | 17 | 11 | 1507 |
| T• | 1 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 1 | 0 | 19 |
| R• | 4 | 12 | 9 | 8 | 7 | 9 | 4 | 8 | 4 | 2 | 1 | 1 | 100 |
| C• | 29 | 21 | 21 | 21 | 15 | 17 | 16 | 17 | 23 | 17 | 16 | 15 | 19 |

Table 3-113. (Continued)

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 * | 11 | 50 | 67 | 57 | 101 | 71 | 52 | 88 | 25 | 25 | 17 | 10 | 574 |
| T* | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 11 |
| R* | 2 | 9 | 12 | 10 | 18 | 12 | 9 | 15 | 4 | 4 | 3 | 2 | 100 |
| C* | 5 | 6 | 11 | 10 | 15 | 12 | 13 | 13 | 10 | 12 | 7 | 14 | 11 |

| ( 1) | 1 | 3 | 5 | 7 | 9 | 11 |
|---|---|---|---|---|---|---|
| 9 | 2 | 4 | 6 | 8 | 10 | 12 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COLUMN TOTAL | 219 | 800 | 639 | 555 | 667 | 609 | 404 | 665 | 243 | 212 | 236 | 73 |
| PERCENT TOTAL | 4 | 16 | 11 | 10 | 12 | 11 | 8 | 12 | 5 | | 4 | 1 |

GRAND TOTAL= 5352

CHI-SQUARE (OF TABLE) 500.12693
DF= 154

VALUES NOT ENTERED 7

| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 1303 | 0 | 9 |
| 2679 | 2 | 0 |
| 2686 | 2 | 0 |
| 2694 | 10 | 0 |
| 3552 | 1 | 0 |
| 3568 | 1 | 0 |
| 4389 | 0 | 8 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0202

| | | | |
|---|---|---|---|
| MEAN( 1)= | 5.39616 | SD( 1)= | 2.83317 |
| MEAN( 2)= | 5.66169 | SD( 2)= | 3.73005 |

(Question 14)

| | | |
|---|---|---|
| I | (01) | Received with task assignment |
| II | (04) | Recalled it |
| III | (09) | Searched own collection |
| IV | (19) | Respondent's action |
| V | (03) | Assigned subordinate to get it |
| VI | (05) | Asked a colleague |
| VII | (02) | Asked my supervisor |
| VIII | (08) | Requested search of department files |
| IX. | (06) | Asked an internal company consultant |
| X. | (10) | Searched company TIC |
| X | (7) | Requested library search |
| XI | (15) | Requested data from manufacturer, vendor or supplier |
| XI. | (14) | Searched manufacturer, vendor or supplier sources |
| XII | (11) | Searched an outside library |
| XIII | (18) | Asked an external consultant or expert |
| XIV | (13) | Requested search of DOD information/data center |
| XIV | (12) | Searched DOD information/data center |
| XV | (17) | Asked customer |

(Question 9)

| | | |
|---|---|---|
| I | (02) | Research - basic |
| II | (01) | Research - applied |
| III | (11) | System analysis |
| IV. | (03) | Development - advanced |
| V | (04) | Development - engineering |
| VI | (05) | Development - operational system |
| VII | (06) | R&D support |
| VIII | (07) | Test or evaluation |
| IX | (08) | Production processes |
| X | (09) | Production end-items |
| XI | (10) | Reliability or quality control |
| XII | (12) | Customer relations |

## Table 3-114. Desired Volume of Transporting Medium vs. Kind of Task Output

```
     Q32    IS CROSS TABULATED WITH      Q9       OR.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5252

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       4       1
     1      12       1


* ( 23            (EXTREME RIGHT VALUE IS ROW TOTAL)
Q22
    4 *      92     149     259     219     277     207     146     231     105     123      98      28 2204
     T*       2       7       5       4       5       5       3       4       2       2       2       1   41
     R*       4      10      12      10      13      12       7      10       5       6       4       1  100
     C*      42      41      44      39      42      44      36      35      43      58      42      38   41
      *
    3 *      78     258     118     133     127     105      82     115      67      31      46      13 1153
     T*       1       5       2       2       2       2       2       2       1       1       1       0   22
     R*       7      22      10      12      11       9       7      10       4       3       4       1  100
     C*      36      30      15      24      19      17      20      17      19      15      19      18   22
      *
    2 *      34     188     175     159     226     200     154     261      65      50      76      30 1623
     T*       1       4       3       3       4       4       3       5       1       1       1       1   30
     R*       2      12      11      10      14      12       9      16       4       3       5       2  100
     C*      15      32      25      29      44      43      38      39      28      24      32      41   30
      *
    1 *      17      54      49      44      37      37      22      59      22       8      16       2  372
     T*       0       1       1       1       1       1       0       1       0       0       0       0   7
     R*       5      17      14      14      10      10       6      16       6       2       4       1  100
     C*       8       7       7       8       6       6       5       9       9       4       7       3   7
      *
      ********************************************************************************************************
 ( 11)       1               3               5               7               9              11
Q9                      4               6               8              10              12

COLUMN     219             309             667             404             243             230
 TOTAL                 459             555             609             666             212              73

PERCENT      4              11              12               7               4               4
 TOTAL                 15              10              11              12               9               1

GRAND T TAL=  5252

CHI-SQUARE FOR TABLE          1801.0989
DF=   33

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =  0.0344
MEAN( 11)=      5.4651 +-  .030  (1)=      2.8.4.01
MEAN( 21)=      2.7.56 +-  .030  (1)=      0.9986.6
```

(Question 22)

| | | |
|---|---|---|
| I | (4) | All from recall |
| II | (1) | One report or document |
| III | (2) | A sampling of the reports and documents available |
| IV | (3) | All the reports and documents that could be found pertinent to the question |

(Question 9)

| | | |
|---|---|---|
| I | (02) | Research - basic |
| II | (01) | Research - applied |
| III | (11) | System analysis |
| IV | (0 ) | Development - advanced |
| V | (04) | Development - engineering |
| VI | (05) | Development - operational system |
| VII | (06) | R&D support |
| VIII | (07) | Test or evaluation |
| IX | (08) | Production processes |
| X | (09) | Production end items |
| XI | (10) | Reliability or quality control |
| XII | (12) | Customer relations |

## Table 3-115. Usefulness of Title Listings or Abstracts vs. Kind of Task Output

```
      23    IS CROSS TABULATED WITH       9       OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE 23 FROM MINIMUM  (AS SPECIFIED)
     2        3        1
     1       12        1

-                  --  --

I 21              (EXTREME RIGHT VALUE IS ROW TOTAL)
 23
   3 *    101    325    138    139    108    125     76    100     36     30     51     17 1246
    T*      2      6      3      3      2      2      1      2      1      1      1      0   23
    R*      8     26     11     11      9     10      6      8      3      2      4      1  100
    C*     46     38     23     25     16     21     19     15     15     14     22     23   23
     *
   2 *     24    169    140    125    142     98     83    127     45     51     35     10 1043
    T*      0      3      3      2      3      2      2      2      1      1      1      0   20
    R*      2     16     13     12     14      9      8     12      4      5      3      1  100
    C*     11     20     23     23     21     16     21     19     19     24     15     14   20
     *
   1 *     94    367    331    291    417    386    245    440    152    131    150     46 3060
    T*      2      7      6      5      8      7      5      8      3      2      3      1   57
    R*      3     12     11     10     14     13      8     14      5      4      5      2  100
    C*     43     43     58     52     63     63     61     66     67     67     64     63   57
     *
      ********************************************************************************

I 11         1              3              5              7              9             11
 9                 2              4              6              8             10             12

COLUMN     219            609            467            604            243            236
 TOTAL             860            555            609            667            212             73

PERCENT      4             11             12              8              5              4
 TOTAL            16             10             11             12              4              1

GRAND TOTAL=  5354

CHI-SQUARE (OF TABLE)        274.91500
DF=   22

VALUES NOT ENTERED   5
  CASE NO.      VARIABLE  2      VARIABLE  1
    2679             1                0
    2686             1                0
    2694             1                0
    3552             1                0
    3568             1                0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT = 0.1621
MEAN  11=        5.33615    SD1  11=        2.83317
MEAN  21=        1.66057    SD1  21=        0.83028
```

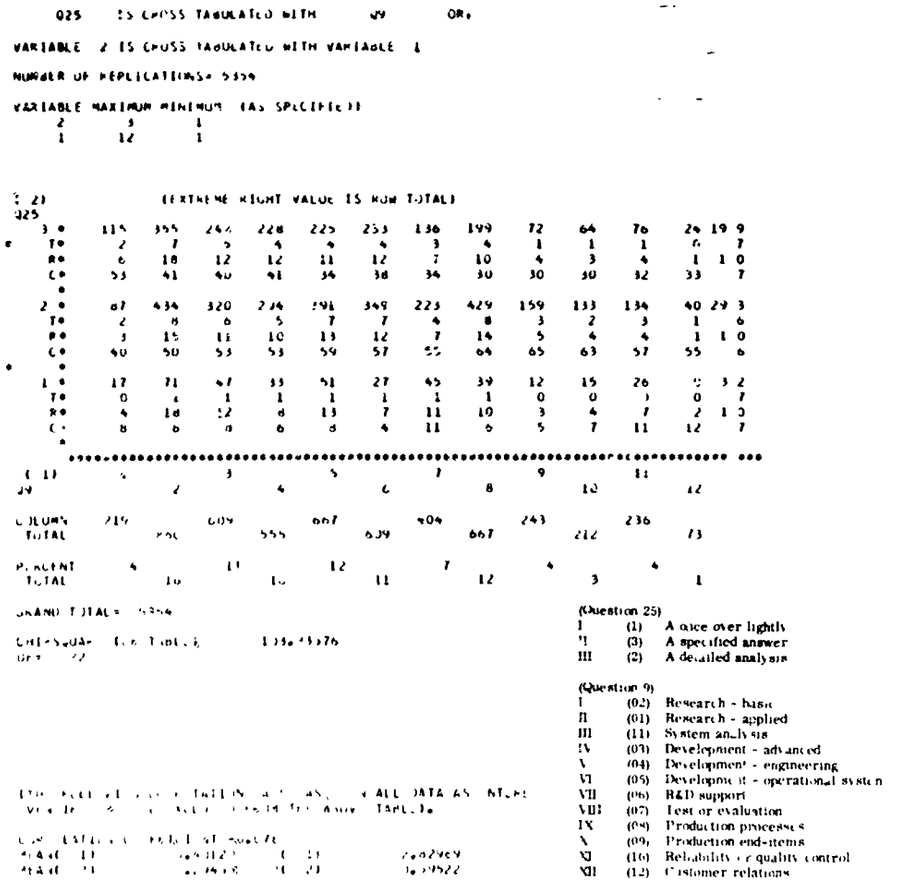
(Question 23)

| | | |
|---|---|---|
| I | (3) | Would not have been useful |
| II | (2) | Would have found them useful |
| III | (1) | Used them for this chunk |

(Question 9)

| | | |
|---|---|---|
| I | (02) | Research - basic |
| II | (01) | Research - applied |
| III | (11) | System analysis |
| IV | (03) | Development - advanced |
| V | (04) | Development - engineering |
| VI | (05) | Development - operational system |
| VII | (06) | R&D support |
| VIII | (07) | Test or evaluation |
| IX | (08) | Production processes |
| X | (09) | Production end-items |
| XI | (10) | Reliability or quality control |
| XII | (12) | Customer relations |

# Table 3-116. Desired Detail of Transporting Medium vs. Kind of Task Output



025 IS CROSS TABULATED WITH 99 OR.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5554

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
2 3 1
1 12 1

(EXTREME RIGHT VALUE IS ROW TOTAL)

| 025 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 115 | 355 | 244 | 228 | 225 | 253 | 136 | 199 | 72 | 64 | 76 | 26 | 19 9 |
| T | 2 | 7 | 5 | 4 | 4 | 4 | 3 | 4 | 1 | 1 | 1 | 0 | 7 |
| R | 6 | 18 | 12 | 12 | 11 | 12 | 7 | 10 | 4 | 3 | 4 | 1 | 1 0 |
| C | 53 | 41 | 40 | 41 | 34 | 38 | 34 | 30 | 30 | 30 | 32 | 33 | 7 |
| 2 | 87 | 434 | 320 | 246 | 298 | 349 | 223 | 429 | 159 | 133 | 136 | 40 | 29 3 |
| T | 2 | 8 | 6 | 5 | 7 | 7 | 4 | 8 | 3 | 2 | 3 | 1 | 6 |
| R | 3 | 15 | 11 | 10 | 13 | 12 | 7 | 14 | 5 | 4 | 4 | 1 | 1 0 |
| C | 40 | 50 | 53 | 53 | 59 | 57 | 55 | 64 | 65 | 63 | 57 | 55 | 6 |
| 1 | 17 | 71 | 47 | 33 | 51 | 27 | 45 | 39 | 12 | 15 | 26 | 0 | 3 2 |
| T | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 7 |
| R | 4 | 18 | 12 | 8 | 13 | 7 | 11 | 10 | 3 | 4 | 7 | 2 | 1 0 |
| C | 8 | 6 | 8 | 6 | 8 | 4 | 11 | 6 | 5 | 7 | 11 | 12 | 7 |

| C ID | 1 | 3 | 5 | 7 | 9 | 11 |
|---|---|---|---|---|---|---|
| 99 | 2 | 4 | 6 | 8 | 10 | 12 |
| COLUMN TOTAL | 719 | 609 | 667 | 604 | 243 | 236 |
| | 706 | 555 | 639 | 667 | 212 | 73 |
| PERCENT TOTAL | 6 | 11 | 12 | 7 | 4 | 4 |
| | 10 | 10 | 11 | 12 | 3 | 1 |

GRAND TOTAL= 5554

CHI-SQUARE (FOR TABLE) 1336.45376
DF= 22

(Question 25)
I (1) A nice over lights
II (3) A specified answer
III (2) A detailed analysis

(Question 9)
I (02) Research - basic
II (01) Research - applied
III (11) System analysis
IV (03) Development - advanced
V (04) Development - engineering
VI (05) Development - operational system
VII (06) R&D support
VIII (07) Test or evaluation
IX (08) Production processes
X (09) Production end-items
XI (10) Reliability or quality control
XII (12) Customer relations

Table 3-117. Desired Layout of Transporting Medium vs. Kind of Task Output

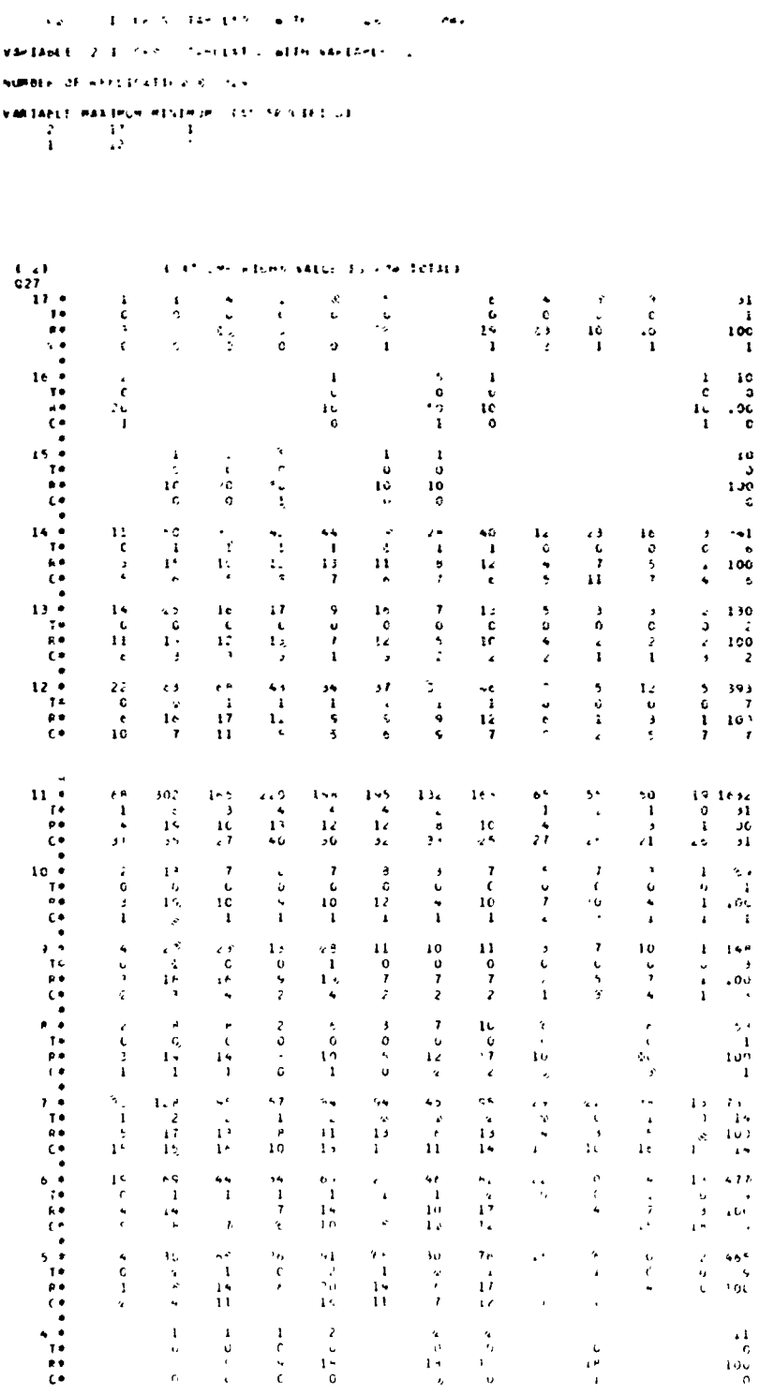


Table 3-117. (Continued)

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 • | 1 | 21 | 27 | 17 | 14 | 25 | 4 | 23 | 9 | 5 | 5 | 2 | 139 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| R• | 1 | 15 | 9 | 12 | 10 | 18 | 3 | 17 | 6 | 4 | 4 | 1 | 100 |
| C• | 0 | | 2 | 1 | | 4 | 1 | 2 | 4 | 2 | 3 | 3 | 3 |
| 2 • | 1 | 7 | 3 | 4 | 13 | 14 | 2 | 9 | 7 | 4 | 6 | 2 | 90 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| R• | 1 | | 4 | 5 | 23 | 15 | 6 | 11 | 9 | 5 | 6 | 3 | 100 |
| C• | 0 | 1 | 0 | 1 | 3 | 3 | 1 | 1 | 3 | 2 | 3 | 3 | 2 |
| 1 • | 24 | 109 | 91 | 87 | 72 | 91 | 44 | 77 | 35 | 20 | 27 | 9 | 602 |
| T• | 1 | 3 | 1 | 4 | 1 | | 1 | 1 | 1 | 0 | 1 | 0 | 11 |
| R• | 4 | 18 | 16 | 11 | 10 | 16 | 7 | 13 | 6 | 3 | 4 | 1 | 100 |
| C• | 16 | 1 | 18 | 12 | | 20 | 10 | 12 | 15 | 7 | 12 | 12 | 11 |
| ( 11) | 1 | | | | | | | | | | 11 | | |
| 99 | | | | | | | | | | | | | |
| COLUMN TOTAL | 217 | | 8 | | 725 | | 402 | | 240 | | 134 | | |
| PERCENT TOTAL | 4 | 15 | 11 | 10 | 12 | 11 | 7 | 12 | 4 | 3 | 4 | 1 | |

GRAND TOTAL = 53 9

CHI-SQUARE (M TABLE) 971.16
DF= 377

(THE FOLLOWING [illegible] ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME [illegible] IN THE ABOVE TABLE)

CORRELATION COEFFICIENT = [illegible]
MEAN (1)= [illegible] SD( 1)= [illegible]
MEAN ( )= [illegible] SD( )= [illegible]

(Question 27)

| | | |
|---|---|---|
| I | (14) | Recall |
| II | (13) | Telephone conversation |
| III | (12) | Group discussion |
| IV | (4) | Photographs |
| V | (3) | Graphics (maps, graphs, etc.) |
| VI | (2) | Tables or lists |
| VII | (1) | Narrative text |
| VIII | (15) | Narrative text and tables or lists |
| IX | (9) | Graphics and lists |
| X | (8) | Photographs and text |
| XI | (7) | Graphics and text |
| XII | (16) | Graphics, text and oral |
| XIII | (17) | Graphics, text, oral and recall |
| XIV | (12) | Informal briefing with chalk or pencil drawings |
| XV | (5) | Microfilm - microfiche |
| XVI | (6) | Index or motion pictures |
| XVII | (10) | Formal briefing or lecture |

(Question 9)

| | | |
|---|---|---|
| I | (02) | Research - basic |
| II | (01) | Research - applied |
| III | (11) | System analysis |
| IV | (04) | Development - advanced |
| V | (03) | Development - engineering |
| VI | (05) | Development - operational system |
| VII | (06) | R&D support |
| VIII | (07) | Test or evaluation |
| IX | (08) | Production processes |
| X | (09) | Production end-items |
| XI | (10) | Reliability or quality control |
| XII | (12) | Customer relations |

Table 3-118. Class of Information vs. Kind of Task Output

Q28 IS CROSS TABULATED WITH Q9 OR.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5465

| VARIABLE | MAXIMUM | MINIMUM | (AS SPECIFIED) |
|---|---|---|---|
| 2 | 14 | 1 | |
| 1 | 12 | 1 | |

( 2)
Q28 (EXTREME RIGHT VALUE IS ROW TOTAL)

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 * | 4 | 19 | 18 | 16 | 20 | 8 | 17 | 17 | 11 | 10 | 4 | 15 | 160 |
| T* | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| R* | 4 | 11 | 11 | 10 | 13 | 5 | 11 | 11 | 7 | 6 | 2 | 9 | 100 |
| C* | 3 | 2 | 3 | 4 | 3 | 1 | 4 | 3 | 5 | 6 | 2 | 21 | 4 |
| * | | | | | | | | | | | | | |
| 13 * | 4 | 27 | 28 | 22 | 10 | 18 | 14 | 31 | 11 | | 9 | 6 | 189 |
| T* | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| R* | 2 | 14 | 15 | 12 | 5 | 10 | 7 | 16 | 6 | 5 | 5 | 3 | 100 |
| C* | 2 | 3 | 5 | 4 | 1 | 3 | 3 | 5 | 5 | 4 | 4 | 8 | 4 |
| * | | | | | | | | | | | | | |
| 12 * | 10 | 29 | 35 | 35 | 25 | 30 | 32 | 28 | 12 | 8 | 11 | 12 | 329 |
| T* | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 6 |
| R* | 4 | 24 | 12 | 11 | 7 | 9 | 10 | 9 | 4 | 2 | 3 | 4 | 100 |
| C* | 9 | 9 | 8 | 5 | 3 | 5 | 8 | 4 | 5 | 4 | 5 | 14 | 6 |
| * | | | | | | | | | | | | | |
| 11 * | 3 | 20 | 9 | 8 | 31 | 26 | 6 | 19 | 44 | 33 | 22 | 2 | 223 |
| T* | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 4 |
| R* | 1 | 9 | 4 | 4 | 14 | 12 | 3 | 9 | 20 | 15 | 10 | 1 | 100 |
| C* | 1 | 2 | 1 | 1 | 5 | 4 | 1 | 3 | 18 | 16 | 9 | 3 | 4 |
| * | | | | | | | | | | | | | |
| 10 * | 50 | 217 | 170 | 191 | 101 | 164 | 94 | 144 | 62 | 42 | 39 | 10 | 1347 |
| T* | 1 | 4 | 3 | 3 | 2 | 3 | 2 | 3 | 1 | 1 | 1 | 0 | 25 |
| R* | 4 | 16 | 13 | 14 | 8 | 12 | 7 | 11 | 5 | 3 | 3 | 1 | 100 |
| C* | 23 | 25 | 28 | 33 | 27 | 27 | 21 | 22 | 26 | 20 | 17 | 14 | 25 |
| * | | | | | | | | | | | | | |
| 9 * | 7 | 63 | 74 | 77 | 132 | 121 | 67 | 139 | 30 | 36 | 62 | 5 | 813 |
| T* | 0 | 1 | 1 | 1 | 2 | 2 | 1 | 3 | 1 | 1 | 1 | 0 | 15 |
| R* | 1 | 8 | 9 | 9 | 16 | 15 | 8 | 17 | 4 | 4 | 8 | 1 | 100 |
| C* | 3 | 7 | 12 | 14 | 20 | 20 | 17 | 21 | 12 | 17 | 26 | 7 | 15 |
| * | | | | | | | | | | | | | |
| 8 * | 2 | 55 | 37 | 8 | 15 | 10 | 16 | 24 | 4 | 12 | 10 | 4 | 188 |
| T* | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| R* | 2 | 14 | 20 | 4 | 8 | 5 | 9 | 13 | 2 | 6 | 10 | 2 | 100 |
| C* | 1 | 4 | 4 | 1 | 2 | 2 | 4 | 4 | 2 | 6 | 8 | 5 | 4 |
| * | | | | | | | | | | | | | |
| 7 * | 2 | 31 | 21 | 17 | 19 | 24 | 11 | 82 | 11 | 4 | 12 | 1 | 235 |
| T* | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 4 |
| R* | 1 | 13 | 9 | 7 | 8 | 10 | 5 | 35 | 5 | 2 | 5 | 0 | 100 |
| C* | 1 | 4 | 3 | 3 | 3 | 4 | 3 | 12 | 5 | 2 | 5 | 1 | 4 |
| * | | | | | | | | | | | | | |
| 6 * | 34 | 79 | 6 | 10 | 13 | 6 | 9 | 17 | 4 | | 2 | 1 | 187 |
| T* | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 3 |
| R* | 18 | 42 | 3 | 5 | 7 | 3 | 5 | 9 | 2 | | 1 | 1 | 100 |
| C* | 16 | 9 | 1 | 2 | 2 | 1 | 2 | 3 | 2 | | 1 | 1 | 3 |
| * | | | | | | | | | | | | | |
| 5 * | 4 | 46 | 31 | 67 | 114 | 106 | 44 | 47 | 17 | 42 | 16 | 4 | 546 |
| T* | 0 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 0 | 1 | 0 | 0 | 10 |
| R* | 1 | 8 | 7 | 12 | 21 | 19 | 8 | 9 | 3 | 8 | 3 | 1 | 100 |
| C* | 2 | 5 | 4 | 12 | 17 | 17 | 11 | 7 | 7 | 20 | 7 | 5 | 10 |
| * | | | | | | | | | | | | | |
| 4 * | 23 | 92 | 64 | 46 | 80 | 60 | 37 | 42 | 9 | 7 | 11 | 1 | 387 |
| T* | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 7 |
| R* | 6 | 24 | 17 | 9 | 8 | 15 | 10 | 11 | 1 | | 3 | 0 | 100 |
| C* | 11 | 11 | 11 | 6 | 4 | 7 | 9 | 6 | 1 | 3 | 5 | 1 | 7 |
| * | | | | | | | | | | | | | |
| 3 * | 17 | 58 | 54 | 25 | 40 | 25 | 35 | 52 | 28 | 6 | 24 | 8 | 372 |
| T* | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 7 |
| R* | 5 | 16 | 15 | 7 | 11 | 7 | 9 | 14 | 8 | 2 | 6 | 2 | 100 |
| C* | 8 | 7 | 6 | 5 | 6 | 4 | 9 | 6 | 12 | 3 | 10 | 11 | 7 |
| * | | | | | | | | | | | | | |
| 2 * | 6 | 55 | 60 | 47 | 38 | 30 | 32 | 22 | 7 | 3 | 5 | 4 | 378 |
| T* | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 7 |
| R* | 2 | 25 | 13 | 12 | 10 | 8 | 8 | 6 | 2 | 1 | 1 | 1 | 100 |
| C* | 11 | 11 | 11 | 8 | 6 | 5 | 8 | 3 | 3 | 1 | 2 | 5 | 5 |
| * | | | | | | | | | | | | | |

| ( 1)<br>Q9 | 1 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COLUMN TOTAL | 219 | 631 | 667 | 404 | 667 | 243 | 217 | 236 | 74 | | | |
| PERCENT TOTAL | 4 | 11 | 12 | 8 | 12 | 5 | 4 | 4 | 1 | | | |

Table 3-118 (Continued)

```
GRAND TOTAL=  5353

CHI-SQUARE (OF TABLE)       1310.25291
DF=  132

VALUES NOT ENTERED   A
  CASE NO.      VARIABLE  2      VARIABLE  1
   2175              10               0
   2684               8               0
   2854              10               0
   3592              11               0
   3588               5               0
   4427               0               4

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1083
MEAN  1)=        5.33616    SDE  1)=        2.83317
MEAN  2)=        7.00036    SDE  2)=        3.31766
```

(Question 24)

| | | |
|---|---|---|
| II | (1) | Concepts |
| III | (5) | Raw data |
| IV | (5) | Math aids and formulae: computer programs |
| V | (3) | Designs or design techniques |
| VI | (4) | Experimental processes and procedures |
| VII | (11) | Test processes and procedures |
| VIII | (12) | Evaluation |
| IX | (9) | Specifications |
| X | (6) | Performance and characteristics |
| XI | (7) | Production processes and procedures |
| XII | (10) | Technical status |
| XIII | (12) | Utilization |
| XIV | (2) | Cost and funding, administrative action |

(Question 9)

| | | |
|---|---|---|
| I | (02) | Research - basic |
| II | (01) | Research - applied |
| III | (11) | System analysis |
| IV | (03) | Development - advanced |
| V | (04) | Development - engineering |
| VI | (05) | Development - operational system |
| VII | (06) | R&D support |
| VIII | (07) | Test or evaluation |
| IX | (08) | Production processes |
| X | (09) | Production end-items |
| XI | (10) | Reliability or quality control |
| XII | (12) | Customer relations |

Table 3-119. Location of First Source for Information vs. Field of Task Output

Q14 IS CROSS TABULATED WITH Q10 OR.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5359

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 15 | 1 |
| 1 | 9 | 1 |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q14 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 8 | 2 | 8 | 27 | 26 | 14 | 7 | 8 | | 100 |
| | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | | 2 |
| R* | 8 | 2 | 8 | 27 | 26 | 14 | 7 | 8 | | 100 |
| C* | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | | 2 |
| 14 * | 4 | 1 | 11 | 16 | 22 | 4 | 5 | 2 | | 65 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 1 |
| R* | 6 | 2 | 17 | 25 | 34 | 6 | 8 | 3 | | 100 |
| C* | 1 | 1 | 3 | 1 | 2 | 1 | 1 | 0 | | 1 |
| 13 * | 6 | 7 | 1 | 3 | 9 | 8 | 5 | 7 | | 46 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 1 |
| R* | 13 | 15 | 2 | 7 | 20 | 17 | 11 | 15 | | 100 |
| C* | 1 | 6 | 0 | 0 | 1 | 1 | 1 | 2 | | 1 |
| 12 * | 3 | 7 | 1 | 6 | 5 | 3 | 3 | 3 | | 31 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 1 |
| R* | 10 | 23 | 3 | 19 | 16 | 10 | 10 | 10 | | 100 |
| C* | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 1 | | 1 |
| 11 * | 28 | 6 | 17 | 84 | 93 | 36 | 34 | 20 | | 318 |
| T* | 1 | 0 | 0 | 2 | 2 | 1 | 1 | 0 | | 6 |
| R* | 9 | 2 | 5 | 26 | 29 | 11 | 11 | 6 | | 100 |
| C* | 6 | 5 | 5 | 7 | 7 | 6 | 5 | 4 | | 6 |
| 10 * | 30 | 14 | 28 | 95 | 117 | 101 | 62 | 34 | 7 | 488 |
| T* | 1 | 0 | 1 | 2 | 2 | 2 | 1 | 1 | 0 | 9 |
| R* | 6 | 3 | 6 | 19 | 24 | 21 | 13 | 7 | 1 | 100 |
| C* | 6 | 12 | 8 | 8 | 9 | 16 | 9 | 7 | 13 | 9 |
| 9 * | 55 | | 47 | 144 | 91 | 55 | 71 | 41 | 1 | 505 |
| T* | 1 | | 1 | 3 | 2 | 1 | 1 | 1 | 0 | 9 |
| R* | 11 | | 9 | 29 | 18 | 11 | 14 | 8 | 0 | 100 |
| C* | 11 | | 14 | 11 | 7 | 9 | 10 | 9 | 2 | 9 |
| 8 * | 28 | 2 | 18 | 84 | 77 | 32 | 41 | 14 | 1 | 297 |
| T* | 1 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 6 |
| R* | 9 | 1 | 6 | 28 | 26 | 11 | 14 | 5 | 0 | 100 |
| C* | 6 | 2 | 5 | 7 | 6 | 5 | 6 | 3 | 2 | 6 |
| 7 * | 7 | 2 | 2 | 19 | 20 | 9 | 11 | 2 | | 72 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 1 |
| R* | 10 | 3 | 3 | 26 | 28 | 13 | 15 | 3 | | 100 |
| C* | 1 | 2 | 1 | 2 | 2 | 1 | 2 | 0 | | 1 |
| 6 * | 69 | 16 | 51 | 190 | 176 | 65 | 87 | 99 | 16 | 769 |
| T* | 1 | 0 | 1 | 4 | 3 | 1 | 2 | 2 | 0 | 14 |
| R* | 9 | 2 | 7 | 25 | 23 | 8 | 11 | 13 | 2 | 100 |
| C* | 14 | 13 | 15 | 15 | 14 | 10 | 13 | 21 | 31 | 14 |
| 5 * | 50 | 5 | 9 | 41 | 54 | 31 | 25 | 13 | 4 | 232 |
| T* | 1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 4 |
| R* | 22 | 2 | 4 | 18 | 23 | 13 | 11 | 6 | 2 | 100 |
| C* | 10 | 4 | 3 | 3 | 4 | 5 | 4 | 3 | 8 | 4 |
| 4 * | 16 | 5 | 16 | 21 | 30 | 23 | 16 | 9 | | 136 |
| T* | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | 3 |
| R* | 12 | 4 | 12 | 15 | 22 | 17 | 12 | 7 | | 100 |
| C* | 3 | 4 | 5 | 2 | 2 | 4 | 2 | 2 | | 3 |
| 3 * | 54 | 19 | 47 | 148 | 169 | 62 | 122 | 66 | 9 | 696 |
| T* | 1 | 0 | 1 | 3 | 3 | 1 | 2 | 1 | 0 | 13 |
| R* | 8 | 3 | 7 | 21 | 24 | 9 | 18 | 9 | 1 | 100 |
| C* | 11 | 16 | 14 | 12 | 13 | 10 | 18 | 14 | 17 | 13 |
| 2 * | 94 | 29 | 50 | 227 | 255 | 127 | 128 | 84 | 10 | 1004 |
| T* | 2 | 1 | 1 | 4 | 5 | 2 | 2 | 2 | 0 | 19 |
| R* | 9 | 3 | 5 | 23 | 25 | 13 | 13 | 8 | 1 | 100 |
| C* | 19 | 24 | 15 | 18 | 20 | 20 | 19 | 18 | 19 | 19 |

Table 3-119. (Continued)

```
 1 *      43     6    29   153   151    63    64    62     4  575
  T*       1     0     1     3     3     1     1     1     0   11

  R*       7     1     5    27    26    11    11    11     1  100
  C*       9     5     9    12    12    10     9    13     8   11
```

```
( 1)       1           3           5           7           9
Q10                2           4           6           8

COLUMN    495         335        1295         681          52
 TOTAL            121         1258         633         464

PERCENT     9           6          24          13           1
 TOTAL              2          24          12           9
```

GRAND TOTAL= 5334

CHI-SQUARE (OF TABLE) = 390.36718
DF= 112

VALUES NOT ENTERED 25

| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 465 | 14 | 0 |
| 472 | 2 | 0 |
| 479 | 14 | 0 |
| 1303 | 0 | 6 |
| 1433 | 10 | 7 |
| 1443 | 2 | 0 |
| 1453 | 9 | 0 |
| 1515 | 10 | 0 |
| 1566 | 10 | 0 |
| 1665 | 10 | 0 |
| 1675 | 10 | 0 |
| 1685 | 10 | 0 |
| 2548 | 2 | 0 |
| 2584 | 5 | 0 |
| 2589 | 2 | 0 |
| 2594 | 2 | 0 |
| 2763 | 5 | 0 |
| 2769 | 5 | 0 |
| 2827 | 9 | 0 |
| 2835 | 10 | 0 |
| 2843 | 1 | 0 |
| 4389 | 0 | 5 |
| 5296 | 5 | 0 |
| 5309 | 11 | 0 |
| 5350 | 11 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0350

| | | | |
|---|---|---|---|
| MEAN( 1)= | 4.85258 | SD( 1)= | 1.95276 |
| MEAN( 2)= | 5.66169 | SD( 2)= | 3.73006 |

(Question 14)

| | | |
|---|---|---|
| I | (04) | Received with task assignment |
| II | (04) | Recalled it |
| III | (09) | Searched own collection |
| IV | (19) | Respondent's action |
| V | (03) | Assigned subordinate to get it |
| VI | (05) | Asked a colleague |
| VII | (02) | Asked my supervisor |
| VIII | (08) | Requested search of department files |
| IX | (06) | Asked an internal company consultant |
| X | (10) | Searched company TIC |
| XI | (7) | Requested library search |
| XII | (15) | Requested data from manufacturer vendor or supplier |
| XI | (14) | Searched manufacturer vendor or supplier sources |
| XII | (11) | Searched an outside library |
| XIII | (18) | Asked an external consultant or expert |
| XIV | (13) | Requested search of DOD information/data center |
| XIV | (12) | Searched DOD information/data center |
| XV | (17) | Asked customer |

(Question 20)

I. Production Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II Medical Sciences
- (16) Medical sciences

III Mechanical, Industrial, Civil, and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided Missiles
- (19) Navigation

V Electronics and Electrical Engineering
- (04) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics electronic equipment

VI Chemical Science and Materials
- (00) Chemical warfare equipment and materials
- (01) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII Physical Science
- (02) Astronomy geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII Research and Research Equipment
- (30) Research and research equipment

IX Mathematics
- (15) Mathematics

# Table 3-120. Desired Class of Information S2 vs. Field of Task Output

Q15 IS CROSS TABULATED WITH Q10 IN.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5359

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 14 | 1 |
| 1 | 9 | 1 |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q16 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 * | 90 | 6 | 59 | 77 | 84 | 39 | 30 | 37 | 1 | 423 |
| T* | 2 | 0 | 1 | 2 | 2 | 1 | 1 | 1 | 0 | 10 |
| R* | 21 | 1 | 14 | 18 | 20 | 9 | 7 | 9 | 0 | 100 |
| C* | 23 | 6 | 22 | 8 | 8 | 8 | 5 | 10 | 3 | 10 |
| * | | | | | | | | | | |
| 13 * | 14 | 11 | 10 | 47 | 42 | 15 | 16 | 29 | 3 | 187 |
| T* | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 4 |
| R* | 7 | 6 | 5 | 25 | 22 | 8 | 9 | 16 | 2 | 100 |
| C* | 4 | 11 | 4 | 5 | 4 | 3 | 3 | 8 | 8 | 4 |
| * | | | | | | | | | | |
| 12 * | 58 | 17 | 24 | 89 | 113 | 89 | 84 | 40 | 6 | 520 |
| T* | 1 | 0 | 1 | 2 | 3 | 2 | 2 | 1 | 0 | 12 |
| R* | 11 | 3 | 5 | 17 | 22 | 17 | 16 | 8 | 1 | 100 |
| C* | 15 | 18 | 9 | 9 | 11 | 18 | 15 | 11 | 15 | 12 |
| * | | | | | | | | | | |
| 11 * | 25 | | 2 | 16 | 23 | 26 | 10 | 4 | | 106 |
| T* | 1 | | 0 | 0 | 1 | 1 | 0 | 0 | | 3 |
| R* | 24 | | 2 | 15 | 22 | 25 | 9 | 4 | | 100 |
| C* | 0 | | 1 | 2 | 2 | 5 | 2 | 1 | | 3 |
| * | | | | | | | | | | |
| 10 * | 81 | 25 | 55 | 328 | 286 | 157 | 180 | 104 | 3 | 1219 |
| T* | 2 | 1 | 5 | 8 | 7 | 4 | 4 | 2 | 0 | 29 |
| R* | 7 | 2 | 5 | 27 | 23 | 13 | 15 | 9 | 0 | 100 |
| C* | 20 | 26 | 21 | 33 | 28 | 31 | 33 | 28 | 8 | 29 |
| * | | | | | | | | | | |
| 9 * | 44 | 6 | 46 | 125 | 148 | 43 | 48 | 30 | | 490 |
| T* | 1 | 0 | 1 | 3 | 4 | 1 | 1 | 1 | | 12 |
| R* | 9 | 1 | 9 | 26 | 30 | 9 | 10 | 6 | | 100 |
| C* | 11 | 6 | 17 | 13 | 15 | 9 | 9 | 8 | | 12 |
| * | | | | | | | | | | |
| 8 * | 18 | 4 | 13 | 42 | 41 | 29 | 25 | 12 | 2 | 136 |
| T* | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 4 |
| R* | 10 | 2 | 7 | 23 | 22 | 16 | 13 | 6 | 1 | 100 |
| C* | 5 | 4 | 5 | 4 | 4 | 4 | 5 | 3 | 5 | 4 |
| * | | | | | | | | | | |
| 7 * | 8 | 2 | | 46 | 41 | 27 | 21 | 11 | 2 | 158 |
| T* | 0 | 0 | | 1 | 1 | 1 | 0 | 0 | 0 | 5 |
| R* | 5 | 1 | | 29 | 26 | 17 | 13 | 7 | 1 | 100 |
| C* | 2 | 2 | | 5 | 4 | 5 | 4 | 3 | 5 | 4 |
| * | | | | | | | | | | |
| 6 * | 3 | 6 | 2 | 2 | 2 | | 8 | 3 | 5 | 36 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| R* | 8 | 17 | 6 | 6 | 6 | 14 | 22 | 8 | 14 | 100 |
| C* | 1 | 6 | 1 | 0 | 0 | 1 | 1 | 1 | 13 | 1 |
| * | | | | | | | | | | |
| 5 * | 41 | 8 | 33 | 115 | 145 | 29 | 48 | 28 | 1 | 448 |
| T* | 1 | 0 | 1 | 3 | 3 | 1 | 1 | 1 | 0 | 11 |
| R* | 9 | 2 | 7 | 26 | 32 | 6 | 11 | 6 | 0 | 100 |
| C* | 10 | 5 | 12 | 12 | 14 | 6 | 9 | 8 | 3 | 11 |
| * | | | | | | | | | | |
| 4 * | 5 | 1 | 4 | 28 | 26 | 7 | 31 | 50 | 13 | 165 |
| T* | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 4 |
| R* | 3 | 1 | 2 | 17 | 16 | 4 | 19 | 30 | 8 | 100 |
| C* | 1 | 1 | 1 | 3 | 3 | 1 | 6 | 13 | 33 | 4 |
| * | | | | | | | | | | |
| 3 * | 4 | 3 | 2 | 12 | 11 | 6 | 11 | 6 | | 55 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 1 |
| R* | 7 | 5 | 4 | 22 | 20 | 11 | 20 | 11 | | 100 |
| C* | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | | 1 |
| * | | | | | | | | | | |
| 2 * | 4 | 2 | | 12 | 13 | 3 | 9 | 3 | 1 | 47 |
| T* | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R* | 9 | 4 | | 26 | 28 | 6 | 19 | 6 | 2 | 100 |
| C* | 1 | 2 | | 1 | 1 | 1 | 2 | 1 | 3 | 1 |
| * | | | | | | | | | | |
| 1 * | 4 | 6 | 17 | 44 | 37 | 30 | 25 | 14 | 2 | 179 |
| T* | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 4 |
| R* | 2 | 3 | 9 | 25 | 21 | 17 | 14 | 8 | 1 | 100 |
| C* | 1 | 6 | 6 | 4 | 4 | 6 | 5 | 4 | 5 | 4 |
| * | | | | | | | | | | |
| ( 1) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| Q10 | | | | | | | | | | |
| COLUMN TOTAL | 399 | 97 | 267 | 983 | 1012 | 505 | 546 | 371 | 39 | |
| PERCENT TOTAL | 9 | 2 | 6 | 23 | 24 | 12 | 13 | 9 | 1 | |

(Question 16)

| | | |
|---|---|---|
| I | (15) | Requested information source |
| II | (1) | Concepts |
| III | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V | (3) | Designs or design techniques |
| VI | (4) | Experimental processes and procedures |
| VII | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X | (6) | Performance and characteristics |
| XI | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII | (12) | Utilization |
| XIV | (2) | Cost and funding, administrative action |

(Question 10)

| | | |
|---|---|---|
| I | | Production Management and Social Sciences |
| | (32) | Miscellaneous arts and sciences |
| | (23) | Personnel and training |
| | (26) | Production and management |
| | (28) | Psychology and human engineering |
| II | | Medical Sciences |
| | (16) | Medical sciences |
| III | | Mechanical, Industrial, Civil, and Marine Engineering |
| | (11) | Ground transportation equipment |
| | (13) | Installations and constructions |
| | (18) | Military sciences and operations |
| | (24) | Photography and other reproduction processes |
| | (29) | Quartermaster equipment and supplies |
| | (31) | Ships and marine equipment |
| | (33) | Transportation |
| IV | | Aeronautics and Space Technology |
| | (01) | Aircraft and flight equipment |
| | (12) | Guided Missiles |
| | (19) | Navigation |
| V. | | Electronics and Electrical Engineering |
| | (05) | Communications |
| | (06) | Detection |
| | (07) | Electrical equipment |
| | (08) | Electronics, electronic equipment |
| VI | | Chemical Science and Materials |
| | (03) | Chemical warfare equipment and materials |
| | (04) | Chemistry |
| | (10) | Fuels and combustion |
| | (14) | Materials (nonmetallic) |
| | (17) | Metallurgy |
| | (22) | Ordnance |
| VII | | Physical Science |
| | (02) | Astronomy, geophysics and geography |
| | (09) | Fluid mechanics |
| | (20) | Nuclear physics and nuclear chemistry |
| | (21) | Nuclear propulsion |
| | (25) | Physics |
| | (27) | Propulsion systems |
| VIII | | Research and Research Equipment |
| | (30) | Research and research equipment |
| IX | | Mathematics |
| | (15) | Mathematics |

CHI-SQUARE (OF TABLE) 714.54311
DF= 104

VALUES NOT ENTERED(140)

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.0537

MEAN 1)= 4.85258 SDE 1)= 1.95276
MEAN 2)= 7.21739 SDE 2)= 4.77774

# Table 3-121 Desired Volume of Transporting Medium vs. Field of Task Output

Q22 IS CROSS TABULATED WITH Q10 ONE.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5344

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 4 | 1 |
| 1 | 11 | 1 |

(EXTREME RIGHT VALUE IS ROW TOTAL)

| Q22 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 * | 209 | 52 | 151 | 464 | 549 | 477 | 278 | 180 | 19 | 2193 |
| T* | 4 | 1 | 3 | 9 | 10 | 8 | 5 | 3 | 0 | 41 |
| R* | 5 | 2 | 7 | 22 | 25 | 13 | 13 | 8 | 1 | 100 |
| C* | 41 | 40 | 45 | 36 | 42 | 44 | 41 | 39 | 37 | 41 |
| * | | | | | | | | | | |
| 3 * | 124 | 33 | 87 | 260 | 258 | 123 | 160 | 106 | 17 | 1148 |
| T* | 4 | 1 | 3 | 8 | 9 | 4 | 5 | 3 | 0 | 42 |
| R* | 11 | 3 | 8 | 23 | 22 | 11 | 14 | 9 | 1 | 100 |
| C* | 25 | 27 | 26 | 24 | 25 | 26 | 25 | 23 | 33 | 22 |
| * | | | | | | | | | | |
| 2 * | 134 | 43 | 101 | 399 | 401 | 169 | 218 | 145 | 13 | 1623 |
| T* | 3 | 0 | 2 | 7 | 8 | 3 | 4 | 3 | 0 | 30 |
| R* | 4 | 1 | 3 | 25 | 25 | 12 | 13 | 9 | 1 | 100 |
| C* | 27 | 19 | 30 | 32 | 31 | 30 | 32 | 31 | 25 | 30 |
| * | | | | | | | | | | |
| 1 * | 54 | 23 | 31 | 107 | 97 | 44 | 25 | 33 | 3 | 370 |
| T* | 1 | 0 | 0 | 3 | 2 | 1 | 0 | 1 | 0 | 7 |
| R* | 3 | 4 | 4 | 29 | 26 | 12 | 7 | 9 | 1 | 100 |
| C* | 7 | 11 | 5 | 9 | 7 | 7 | 4 | 7 | 6 | 7 |
| * | | | | | | | | | | |

| Q10 | 1 | 3 | 5 | 7 | 9 |
|---|---|---|---|---|---|
| | 2 | 4 | 6 | 8 | |
| COLUMN TOTAL | 466 | 335 | 1,195 | 681 | 52 |
| | 321 | 1251 | 633 | 464 | |
| PERCENT TOTAL | 5 | 9 | 24 | 12 | 0 |
| | | 23 | 11 | 8 | |

GRAND TOTAL= [illegible]

CHI-SQUARE (IN TABLE) = 47.26774
DF= 29

(THE FOLLOWING [illegible] ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE REJECTED FOR THE ABOVE TABLE):

CORRELATION COEFFICIENT = -0.00045
MEAN (1)= 2.73127 SD (1)= 1.73104
MEAN (2)= 2.41 SD (2)= 1.00687

(Question 22)
- I (4) All from recall
- II (1) One report or document
- III (2) A sampling of the reports and documents available
- IV (3) All the reports and documents that could be found pertinent to the question

(Question 10)
- I Production, Management and Social Sciences
  - (32) Miscellaneous arts and sciences
  - (23) Personnel and training
  - (26) Production and management
  - (28) Psychology and human engineering
- II Medical Sciences
  - (16) Medical sciences
- III Mechanical, Industrial, Civil, and Marine Engineering
  - (11) Ground transportation equipment
  - (14) Installations and constructions
  - (18) Military sciences and operations
  - (21) Photography and other reproduction processes
  - (29) Quartermaster equipment and supplies
  - (41) Ships and marine equipment
  - (43) Transportation
- IV Aeronautics and space Technology
  - (01) Aircraft and flight equipment
  - (12) Guided Missiles
  - (19) Navigation
- V Electronics and Electrical Engineering
  - (05) Communications
  - (06) Detection
  - (07) Electrical equipment
  - (08) Electronics - electronic equipment
- VI Chemical Science and Materials
  - (03) Chemical warfare equipment and materials
  - (04) Chemistry
  - (10) Fuels and combustion
  - (13) Materials (nonmetallic)
  - (15) Metallurgy
  - (22) Ordnance
- VII Physical Science
  - (02) Astronomy, geophysics and geography
  - (09) Fluid mechanics
  - (20) Nuclear physics and nuclear chemistry
  - (24) Nuclear propulsion
  - (25) Physics
  - (27) Propulsion systems
- VIII Research and Research Equipment
  - (30) Research and research equipment
- IX Mathematics
  - (17) Mathematics

# Table 3-122. Desired Detail of Transporting Medium vs. Field of Task Output

```
    Q25    IS CROSS TABULATED WITH        J10        5R.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5330

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       3       1
     1      11       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q25
    3 *     196     69     109     410     519     223     267     150      13  1966
     T*       4      1       2       9      10       4       5       3       0    37
     R*      10      4       6      21      26      11      14       8       1   100
     C*      40     57      33      33      40      35      39      33      33    37
      *
    2 *     253     49     199     765     681     367     363     270      31  2978
     T*       5      1       4      14      13       7       7       5       1    56
     R*       8      2       7      25      23      12      12       9       1   100
     C*      51     40      54      61      53      58      53      58      60    56
      *
    1 *      46      3      27      83      96      44      51      38       4   392
     T*       1      0       1       2       2       1       1       1       0     7
     R*      12      1       7      21      24      11      13      10       1   100
     C*       9      2       8       7       7       7       7       8       8     7
      *
      ********************************************************************************
( 1)        1               3               5               7               9
J10                 2               4               6               8

COLUMN    495             335            1296             681              52
 TOTAL              121            1258             634             464

PERCENT     9               6              24              12               0
 TOTAL                  2              23              11               8

GRAND TOTAL=  5330

CHI-SQUARE (OF TABLE)        54.98700
DF=   18



(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =-0.0119
MEAN(  1)=      4.873350   SD(  1)=      1.93074
MEAN(  2)=      2.029473   SD(  2)=      0.99578
```

(Question 25)

I. (1) A once over lightly
II (3) A specified answer
III (2) A detailed analysis

(Question 10)

I Production Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (3) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II Medical Sciences
- (16) Medical sciences

III Mechanical, Industrial, Civil, and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and construction
- (38) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided Missiles
- (19) Navigation

V Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics electronic equipment

VI Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX Mathematics
- (15) Mathematics

# Table 3-123. Desired Layout of Transporting Medium vs. Field of Task Output

Q27 IS CROSS TABULATED WITH Q10 <R>

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5411

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
1 17 1
2 41 1

(Q27 (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q27 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 * | 4 | 3 | 4 | 6 | 7 | 4 | 2 | 2 | | 31 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 1 |
| R* | 13 | 6 | 13 | 19 | 23 | 13 | 6 | 6 | | 100 |
| C* | 1 | 2 | 1 | 0 | 1 | 1 | 0 | 0 | | 1 |
| * | | | | | | | | | | |
| 16 * | 1 | | | 1 | 1 | 4 | 3 | | | 10 |
| T* | 0 | | | 0 | 0 | 0 | 0 | | | 0 |
| R* | 10 | | | 10 | 10 | 40 | 30 | | | 100 |
| C* | 0 | | | 0 | 0 | 1 | 0 | | | 0 |
| * | | | | | | | | | | |
| 15 * | | | | | | | 3 | 2 | | 11 |
| T* | | | | | | | 0 | 0 | | 0 |
| R* | 20 | | | 10 | 10 | | 30 | 20 | | 100 |
| C* | 0 | | | 0 | 0 | 0 | 0 | 0 | | 0 |
| * | | | | | | | | | | |
| 14 * | 28 | 2 | 21 | 69 | 86 | 39 | 43 | 47 | 5 | 340 |
| T* | 1 | 0 | 0 | 1 | 2 | 1 | 1 | 1 | 0 | 8 |
| R* | 8 | 1 | 6 | 20 | 25 | 11 | 13 | 14 | 1 | 100 |
| C* | 2 | 2 | 5 | 5 | 7 | 3 | 6 | 10 | 10 | 8 |
| * | | | | | | | | | | |
| 13 * | 13 | 10 | 7 | 22 | 31 | 10 | 26 | 11 | | 130 |
| T* | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | 2 |
| R* | 10 | 8 | 5 | 17 | 24 | 8 | 20 | 8 | | 100 |
| C* | 3 | 8 | 2 | 2 | 2 | 2 | 4 | 2 | | 2 |
| * | | | | | | | | | | |
| 12 * | 38 | 15 | 33 | 94 | 75 | 43 | 49 | 39 | 7 | 393 |
| T* | 1 | 0 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 7 |
| R* | 10 | 4 | 8 | 24 | 19 | 11 | 12 | 10 | 2 | 100 |
| C* | 8 | 13 | 10 | 8 | 6 | 7 | 7 | 8 | 13 | 7 |
| * | | | | | | | | | | |
| 11 * | 135 | 22 | 94 | 196 | 436 | 190 | 228 | 114 | 15 | 1622 |
| T* | 3 | 0 | 2 | 7 | 8 | 4 | 4 | 2 | 0 | 31 |
| R* | 8 | 1 | 5 | 24 | 27 | 12 | 14 | 7 | 1 | 100 |
| C* | 28 | 14 | 25 | 32 | 36 | 30 | 34 | 25 | 27 | 31 |
| * | | | | | | | | | | |
| 10 * | 5 | 7 | 9 | 14 | 16 | 12 | 6 | 4 | | 83 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 1 |
| R* | 7 | 10 | 6 | 21 | 24 | 14 | 9 | 6 | | 100 |
| C* | 1 | 5 | 1 | 1 | 1 | 2 | 1 | 1 | | 1 |
| * | | | | | | | | | | |
| 9 * | 17 | 6 | 11 | 37 | 7 | 13 | 20 | 7 | 1 | 145 |
| T* | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 3 |
| R* | 11 | 4 | 7 | 25 | 25 | 9 | 14 | 5 | 1 | 100 |
| C* | 1 | 3 | 1 | 3 | 3 | 2 | 3 | 2 | 2 | 3 |
| * | | | | | | | | | | |
| 8 * | 6 | 3 | 7 | 15 | 12 | 5 | 2 | 1 | 1 | 59 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R* | 10 | 5 | 12 | 25 | 21 | 10 | 3 | 10 | 2 | 100 |
| C* | 1 | 3 | 2 | 1 | 1 | 1 | 0 | 1 | 2 | 1 |
| * | | | | | | | | | | |
| 7 * | 82 | 26 | 32 | 146 | 164 | 56 | 83 | 50 | 42 | 730 |
| T* | 2 | 0 | 1 | 3 | 3 | 2 | 2 | 2 | 2 | 14 |
| R* | 11 | 4 | 4 | 20 | 22 | 13 | 11 | 12 | 5 | 100 |
| C* | 17 | 27 | 10 | 14 | 13 | 15 | 12 | 19 | 33 | 14 |
| * | | | | | | | | | | |
| 6 * | 47 | 5 | 45 | 104 | 109 | 68 | 58 | 47 | 2 | 471 |
| T* | 1 | 0 | 1 | 2 | 2 | 1 | 1 | 1 | 0 | 4 |
| R* | 10 | 1 | 9 | 21 | 22 | 14 | 11 | 10 | 0 | 100 |
| C* | 10 | 4 | 13 | 8 | 8 | 11 | 8 | 10 | 4 | 8 |
| * | | | | | | | | | | |
| 5 * | 43 | 2 | 47 | 156 | 121 | 51 | 60 | 12 | 1 | 447 |
| T* | 0 | 0 | 1 | 2 | 2 | 1 | 1 | 0 | 0 | 4 |
| R* | 9 | 0 | 10 | 34 | 26 | 7 | 14 | 3 | 0 | 100 |
| C* | 5 | 2 | 14 | 12 | 9 | 5 | 10 | 3 | 2 | 5 |
| * | | | | | | | | | | |
| 4 * | 2 | | 3 | 2 | 1 | 1 | 1 | | | 10 |
| T* | 0 | | 0 | 0 | 0 | 0 | 0 | | | 0 |
| R* | 20 | | 10 | 20 | 10 | 10 | 10 | | | 100 |
| C* | 0 | | 0 | 0 | 0 | 0 | 0 | | | 0 |

(Question 27)
I. (14) Recall
II. (13) Telephone conversation
III. (11) Group discussion
IV. (4) Photographs
V. (3) Graphics (maps, graphs, etc.)
VI. (2) Tables or lists
VII. (1) Narrative text
VIII. (18) Narrative text and tables or lists
IX. (9) Graphics and lists
X. (8) Photographs and text
XI. (7) Graphics and text
XII. (16) Graphics, text and oral
XIII. (17) Graphics, text, oral, and recall
XIV. (12) Informal briefing, with chalk or pencil drawings
XV. (5) Microfilm - microfiche
XVI. (6) Slides or motion pictures
XVII. (10) Formal briefing or lecture

(Question 10)
I. Production, Management and Social Sciences
(32) Miscellaneous area and sciences
(23) Personnel and training
(26) Production and management
(28) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III. Mechanical, Industrial, Civil, and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided Missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

Table 3-123. (Continued)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 • | 25 | 5 | 5 | 16 | 27 | 24 | 14 | 19 | 4 | 139 |
| T• | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | |
| R• | 18 | 4 | 4 | 12 | 19 | 17 | 9 | 14 | | 100 |
| C• | 5 | 4 | 1 | 1 | 2 | 4 | 1 | 4 | 0 | 3 |
| 2 • | 6 | 1 | 4 | 17 | 14 | 15 | 17 | 6 | | 80 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 2 |
| R• | 6 | 1 | 5 | 21 | 18 | 19 | 21 | 8 | | 100 |
| C• | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | | 2 |
| 1 • | 56 | 15 | 29 | 153 | 154 | 79 | 65 | 52 | 4 | 601 |
| T• | 1 | 0 | 1 | 3 | 3 | 1 | 1 | 1 | 0 | 11 |
| R• | 9 | 2 | 5 | 25 | 26 | 12 | 11 | 9 | 1 | 100 |
| C• | 11 | 13 | 9 | 12 | 12 | 11 | 10 | 11 | 8 | 11 |

| ( 1) | 1 | 3 | 5 | 7 | 9 |
|---|---|---|---|---|---|
| Q10 | 2 | 4 | 6 | 8 | |
| COLUMN | 464 | 335 | 1286 | 680 | 52 |
| TOTAL | 120 | 1253 | 629 | 462 | |
| PERCENT | 9 | 6 | 24 | 12 | 0 |
| TOTAL | 2 | 23 | 11 | 8 | |

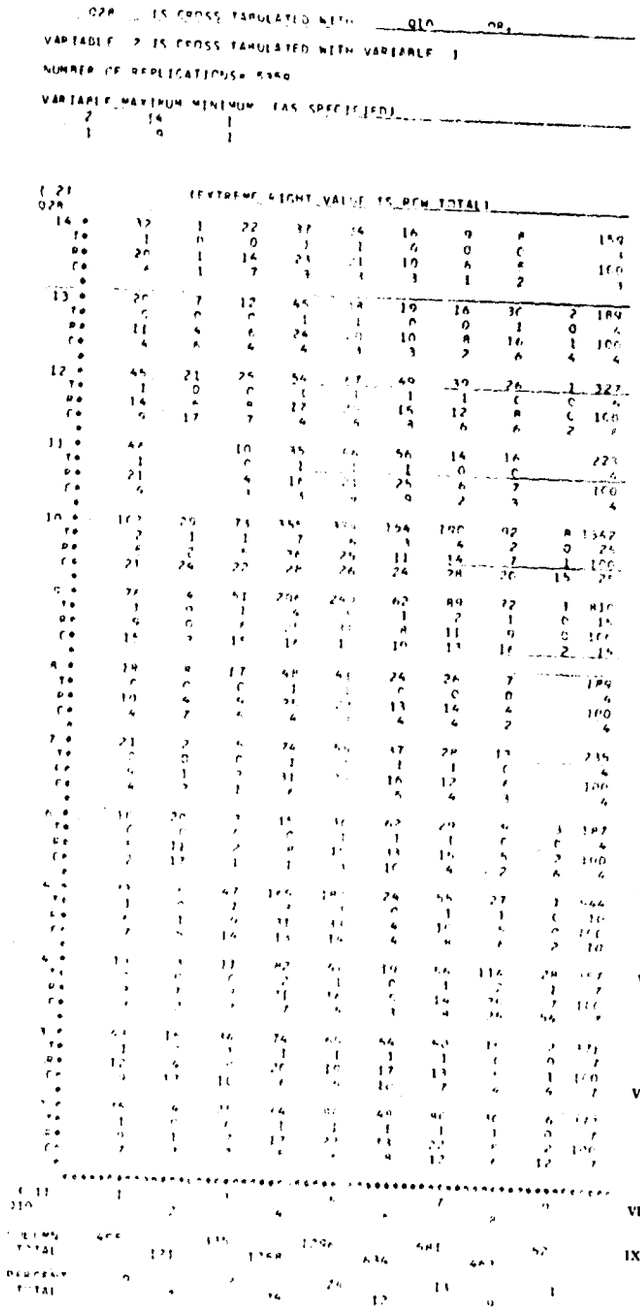
GRAND TOTAL= 5311

CHI-SQUARE (OF TABLE) 337.33150
DF= 128

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0193
MEAN (1)= 4.87272 SD( 1)= 1.93247
MEAN (2)= 8.25249 SD( 2)= 3.95099

# Table 3-124. Class of Information vs. Field of Task Output



(Question 28)
II. (1) Concepts
III. (8) Raw data
IV. (5) Math aids and formulae; computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (9) Specifications
X. (6) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding; administrative action

(Question 10)
I. Production, Management and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(26) Production and management
(28) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III. Mechanical, Industrial, Civil, and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided Missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

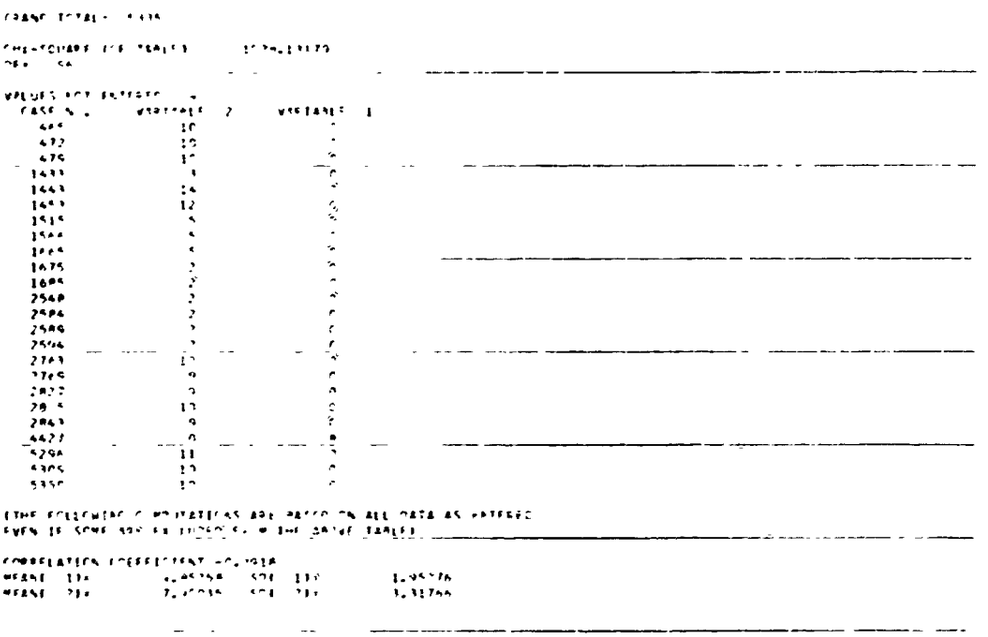
VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

Table 3-124. (Continued)



# Table 3-125. Desired Acquisition Time for Information vs. Actual Acquisition Time for Information

```
    Q13   IS CROSS TABULATED WITH      Q12     OR.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       6       1
     1       7       1


( 2)          (EXTREME RIGHT VALUE IS ROW TOTAL)
Q13
   6 *      30       2      68      79     150     651      10     999
     T*      1       0       1       1       3      12       0      19
     R*      4       0       7       8      15      65       1     100
     C*      6      67       4       7      15      67      45      19
     *
   5 *      15                      46      42     101     179       5     388
     T*       0                      1       1       2       3       0       7
     R*       4                     12      11      26      46       1     100
     C*       2                      3       3      10      18      23       7
     *
   4 *      53       1     219     353     685     111       5    1427
     T*       1       0       4       7      13       2       0      26
     R*       4       0      15      25      48       8       0     100
     C*       7      33      14      20      68      11      33      26
     *
   3 *      67                     437     691      59      23       2    1339
     T*       1                      9      13       1       0       0      25
     R*       5                     33      52       4       2       0     100
     C*      11                     32      57       6       2       9      25
     *
   2 *      78                     698      38      12       7                933
     T*       1                      13       1       0       0                17
     R*       5                      84       5       1       1               100
     C*      13                      48       3       1       1                17
     *
   1 *     376                       4                                       382
     T*       7                       0                                        7
     R*      98                       1                                      100
     C*      71                       0                                        7
```

(Question 13)

| | | |
|---|---|---|
| I. | (1) | From recall |
| II. | (2) | Less than 1 day |
| III. | (3) | 1 - 7 days |
| IV. | (4) | 8 - 30 days |
| V. | (5) | 31 - 90 days |
| VI. | (7) | More than 90 days |

(Question 12)

| | | |
|---|---|---|
| I. | (1) | From recall |
| II. | (6) | Task generated |
| III. | (2) | Less than 1 day |
| IV. | (3) | 1 - 7 days |
| V. | (4) | 8 - 30 days |
| VI. | (5) | More than 30 days |
| VII. | (7) | Received only part of chunk |

```
     *
     ********************************************************
( 13)       1       3       5       7
Q12             2       4       6

COLUMN     AIR      1534    1637      71
 TOTAL               1203     971

PERCENT    12       29      19        0
 TOTAL       0       22      18

GRAND TOTAL= 5359

CHI-SQUARE FOR TABLE      7194.22205
DF=   30

VALUES NOT ENTERED   1
  CASE NO.    VARIABLE  2     VARIABLE  1
    1987          4               0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE)=

CORRELATION COEFFICIENT  0.7175
MEAN  13=       1.02954   591  13=       1.50297
MEAN  23=       1.67065   591  23=       1.44501
```

# Table 3-126. Location of First Source for Information vs. Actual Acquisition Time for Information

Q14 IS CROSS TABULATED WITH Q12 OR,

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5355

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 15 | 1 |
| 1 | 7 | 1 |

| ( 2) | | EXTREME RIGHT VALUE IS ROW TOTAL | | | | | |
|---|---|---|---|---|---|---|---|
| Q14 | | | | | | | |
| 15 * | 1 | 15 | 23 | 28 | 31 | 2 | 100 |
| T* | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| R* | 1 | 15 | 23 | 28 | 31 | 2 | 100 |
| C* | 0 | 1 | 2 | 3 | 3 | 10 | 2 |
| * | | | | | | | |
| 14 * | 1 | 9 | 16 | 19 | 22 | | 67 |
| T* | 0 | 0 | 0 | 0 | 0 | | 1 |
| R* | 1 | 13 | 24 | 28 | 33 | | 100 |
| C* | 0 | 1 | 1 | 2 | 2 | | 1 |
| * | | | | | | | |
| 13 * | | 4 | 8 | 15 | 20 | | 46 |
| T* | | 0 | | 0 | 0 | | 1 |
| R* | | 7 | 17 | 30 | 43 | | 100 |
| C* | | 0 | 1 | 1 | 2 | | 1 |
| * | | | | | | | |
| 12 * | 1 | 7 | 9 | 9 | 8 | | 31 |
| T* | 0 | 0 | 0 | 0 | 0 | | 1 |
| R* | 3 | 23 | 29 | 29 | 26 | | 100 |
| C* | 33 | 0 | 0 | 1 | 1 | | 1 |
| * | | | | | | | |
| 11 * | 1 | 21 | 85 | 114 | 99 | | 320 |
| T* | 0 | 0 | 2 | 2 | 2 | | 5 |
| R* | 0 | 7 | 27 | 36 | 31 | | 100 |
| C* | 0 | 1 | 7 | 11 | 10 | | 6 |
| * | | | | | | | |
| 10 * | 7 | 99 | 150 | 103 | 127 | 7 | 495 |
| T* | 0 | 2 | 3 | 2 | 2 | 0 | 9 |
| R* | 1 | 20 | 30 | 21 | 26 | 1 | 100 |
| C* | 1 | 6 | 12 | 10 | 13 | 33 | 9 |
| * | | | | | | | |
| 9 * | 6 | 91 | 136 | 131 | 116 | 3 | 507 |
| T* | 0 | 2 | 3 | 2 | 2 | 0 | 9 |
| R* | 1 | 18 | 31 | 26 | 23 | 1 | 100 |
| C* | 1 | 6 | 13 | 13 | 12 | 14 | 9 |
| * | | | | | | | |
| 8 * | 10 | 126 | 70 | 54 | 32 | | 297 |
| T* | 0 | 2 | 1 | 1 | 1 | | 6 |
| R* | 3 | 42 | 24 | 20 | 11 | | 100 |
| C* | 2 | 8 | 5 | 6 | 3 | | 5 |
| * | | | | | | | |
| 7 * | 1 | 17 | 21 | 15 | 18 | | 72 |
| T* | 0 | 0 | 0 | 0 | 0 | | 1 |
| R* | 1 | 24 | 29 | 21 | 25 | | 100 |
| C* | 0 | 1 | 2 | 1 | 2 | | 1 |
| * | | | | | | | |
| 6 * | 16 | 176 | 232 | 182 | 138 | 5 | 761 |
| T* | 0 | 4 | 4 | 3 | 3 | 0 | 14 |
| R* | 2 | 25 | 30 | 24 | 18 | 1 | 100 |
| C* | 3 | 13 | 19 | 18 | 14 | 24 | 14 |
| * | | | | | | | |
| 5 * | 6 | 39 | 60 | 61 | 66 | 1 | 235 |
| T* | 0 | 1 | 1 | 1 | 1 | 0 | 4 |
| R* | 3 | 17 | 25 | 25 | 29 | 0 | 101 |
| C* | 1 | 3 | 5 | 6 | 7 | 5 | 4 |
| * | | | | | | | |
| 4 * | 3 | 18 | 26 | 30 | 52 | 1 | 130 |
| T* | 0 | 0 | 0 | 1 | 1 | 0 | 3 |
| R* | 2 | 13 | 19 | 26 | 34 | 1 | 100 |
| C* | 0 | 1 | 2 | | 3 | 5 | 3 |
| * | | | | | | | |
| 3 * | 34 | 1 317 | 157 | 105 | 5 | 1 | 665 |
| T* | 1 | 0 5 | 3 | 2 | 1 | 0 | 13 |
| R* | 5 | 0 46 | 23 | 15 | 12 | 0 | 101 |
| C* | 6 | 33 21 | 13 | 10 | 3 | 0 | 14 |
| * | | | | | | | |
| 2 * | 507 | 1 186 | 126 | 81 | 107 | 1 | 1006 |
| T* | 9 | 0 3 | 2 | 2 | 4 | 0 | 19 |
| R* | 50 | 0 18 | 12 | 8 | 11 | 0 | 100 |
| C* | 82 | 33 17 | 10 | 6 | 11 | 5 | 19 |
| * | | | | | | | |
| 1 * | 22 | 384 | 67 | 30 | 44 | | 547 |
| T* | 0 | 1 | 1 | 1 | 1 | | 11 |
| R* | 4 | 67 | 12 | 5 | 8 | | 100 |
| C* | 4 | 25 | 6 | 3 | 5 | | 11 |
| * | | | | | | | |

(Question 14)

| | | |
|---|---|---|
| I | (01) | Received with task assignment |
| II | (04) | Recalled it |
| III | (09) | Searched own collection |
| IV. | (09) | Respondent's action |
| V | (03) | Assigned subordinate to get it |
| VI. | (05) | Asked a colleague |
| VII | (02) | Asked my supervisor |
| VIII. | (08) | Requested search of department files |
| IX | (06) | Asked an internal company consultant |
| X | (10) | Searched company TIC |
| X | (7) | Requested library search |
| XI | (15) | Requested data from manufacturer vendor, or supplier |
| XI | (14) | Searched manufacturer vendor or supplier sources |
| XII | (11) | Searched an outside library |
| XIII | (18) | Asked an external consultant or expert |
| XIV | (13) | Requested search of DOD information/data center |
| XIV. | (12) | Searched DOD information data center |
| XV | (17) | Asked customer |

(Question 12)

| | | |
|---|---|---|
| I | (1) | From recall |
| II | (8) | Task generated |
| III | (2) | Less than 1 day |
| IV | (3) | 1 - 7 days |
| V | (4) | 8 - 30 days |
| VI | (5) | More than 30 days |
| VII | (7) | Received only part of chunk |

| ( 1) | 1 | 3 | 5 | 7 |
|---|---|---|---|---|
| Q12 | 2 | 4 | 6 | |
| COLUMN TOTAL | 617 | 1533 | 1007 | 21 |
| | 3 | 1203 | 471 | |
| PERCENT TOTAL | 11 | 28 | 18 | 0 |
| | 0 | 22 | 14 | |

GRAND TOTAL= 5355

CHI-SQUARE (OF TABLE) 2623.83510
DF= 84

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.3965

| | | | |
|---|---|---|---|
| MEAN( 1)= | 5.92941 | SD( 1)= | 1.50051 |
| MEAN( 2)= | 5.56443 | SD( 2)= | 3.72585 |

# Table 3-127. Actual Composition of Transporting Medium vs. Actual Acquisition Time for Information

Q18 IS CROSS TABULATED WITH Q12 OR VARIABLE 4
IS CROSS TABULATED WITH VARIABLE 2
NUMBER OF REPLICATIONS = 10,997

| Q18 | Column No. 1 | 2 | 3 | 4 | 5 | 6 | 7 | Row Total |
|---|---|---|---|---|---|---|---|---|
| 27 | 33 | 0 | 102 | 119 | 84 | 83 | 2 | 423 |
| T | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 4 |
| R | 8 | 0 | 24 | 28 | 20 | 20 | 0 | 100 |
| C | 3 | 1 | 4 | 5 | 4 | 4 | 9 | 4 |
| 26 | 26 | 0 | 83 | 121 | 125 | 143 | 1 | 499 |
| T | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 4 |
| R | 5 | 0 | 17 | 24 | 25 | 29 | 0 | 100 |
| C | 3 | 0 | 3 | 5 | 5 | 6 | 5 | 4 |
| 25 | 7 | 0 | 27 | 22 | 35 | 37 | 0 | 128 |
| T | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| R | 6 | 0 | 21 | 17 | 27 | 29 | 0 | 100 |
| C | 1 | 0 | 1 | 1 | 2 | 2 | 0 | 1 |
| 24 | 60 | 3 | 339 | 324 | 337 | 365 | 5 | 1,428 |
| T | 1 | 0 | 3 | 3 | 3 | 3 | 0 | 13 |
| R | 4 | 0 | 24 | 23 | 23 | 26 | 0 | 100 |
| C | 6 | 5% | 12 | 13 | 15 | 16 | 23 | 13 |
| 23 | 0 | [illegible] | 47 | 23 | 28 | 27 | 0 | 434 |
| T | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| R | 7 | 0 | 35 | 17 | 21 | 20 | 0 | 100 |
| C | 1 | 0 | 2 | 1 | 1 | 1 | 0 | [illegible] |
| 22 | 15 | 0 | 126 | 79 | 43 | 58 | 0 | 321 |
| T | [illegible] | 0 | 1 | 1 | 0 | 1 | 0 | 3 |
| R | 5 | 0 | 39 | 25 | 13 | 18 | 0 | 100 |
| C | 2 | 0 | 4 | 3 | 2 | 3 | 0 | 3 |
| 21 | 16 | 0 | 84 | 61 | 45 | 48 | 0 | 254 |
| T | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| R | 6 | 0 | 33 | 24 | 18 | 19 | 0 | 100 |
| C | 2 | 0 | 3 | 2 | 2 | 2 | 0 | 2 |
| 20 | 2 | 0 | 58 | 17 | 15 | 14 | 0 | 86 |
| T | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| R | 2 | 0 | 44 | 20 | 17 | 16 | 0 | 100 |
| C | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 |
| 19 | 7 | 0 | 42 | 36 | 20 | 13 | 0 | 118 |
| T | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| R | 6 | 0 | 36 | 30 | 17 | 11 | 0 | 100 |
| C | 1 | 0 | 2 | 1 | 1 | 1 | 0 | 1 |
| 18 | 2 | 0 | 37 | 67 | 53 | 50 | 0 | 209 |
| T | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| R | 1 | 0 | 18 | 32 | 25 | 24 | 0 | 100 |
| C | 0 | 0 | 1 | 3 | 2 | 2 | 0 | 2 |
| 17 | 3 | 0 | 32 | 43 | 67 | 56 | 0 | 211 |
| T | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| R | 1 | 0 | 15 | 25 | 32 | 27 | 0 | 100 |
| C | 0 | 0 | 1 | 2 | 3 | 2 | 0 | 2 |
| 16 | 0 | 0 | 8 | 8 | 8 | 16 | 1 | 41 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| R | 0 | 0 | 14 | 20 | 40 | 39 | 2 | 100 |
| C | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 20 |
| 15 | 1 | 0 | 148 | 111 | 75 | 58 | 0 | 461 |
| T | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 4 |
| R | 4 | 0 | 43 | 24 | 16 | 13 | 0 | 100 |
| C | 2 | 0 | 5 | 4 | 3 | 3 | 0 | 4 |
| 14 | 0 | 0 | 1 | 2 | 6 | 4 | 0 | 13 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| R | 0 | 0 | 8 | 25 | 46 | 31 | 0 | 100 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | 2 | 0 | 2 | 7 | 14 | 3 | 0 | 28 |
| T | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| R | 0 | 0 | 0 | 25 | 50 | 11 | 0 | 100 |
| C | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 12 | 0 | 0 | 47 | 43 | 33 | 31 | 0 | 160 |
| T | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| R | 4 | 0 | 27 | 27 | 21 | 19 | 0 | 100 |
| C | 2 | 0 | 2 | 2 | 2 | 1 | 0 | 1 |

Table 3-127. (Continued)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 11 | 3 | 0 | 16 | 9 | 18 | 8 | 0 | 54 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| R | 6 | 0 | 30 | 17 | 33 | 14 | 0 | 100 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 7 | 5 | 6 | 10 | 0 | 28 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| R | 0 | 0 | 25 | 18 | 21 | 36 | 0 | 100 |
| C | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 15 | 0 | 200 | 144 | 124 | 88 | 0 | 571 |
| T | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 5 |
| R | 3 | 0 | 35 | 25 | 22 | 15 | 0 | 100 |
| C | 2 | 0 | 7 | 6 | 5 | 4 | 0 | 5 |
| 8 | 20 | 1 | 174 | 151 | 183 | 146 | 0 | 675 |
| T | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 6 |
| R | 3 | 0 | 26 | 22 | 27 | 22 | 0 | 100 |
| C | | | | | | | | 6 |
| 7 | 80 | 0 | 91 | 92 | 51 | 65 | 1 | 380 |
| T | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 3 |
| R | 21 | 0 | 24 | 24 | 14 | 17 | 0 | 100 |
| C | 8 | 0 | 3 | 4 | 2 | 3 | 5 | 3 |
| 6 | 8 | 0 | 53 | 64 | 80 | 92 | 1 | 298 |
| T | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 3 |
| R | 3 | 0 | 18 | 21 | 27 | 31 | 0 | 100 |
| C | 1 | 0 | 2 | 2 | 4 | 3 | 5 | 3 |
| 5 | 5 | 0 | 11 | 23 | 13 | 38 | 0 | 90 |
| T | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R | 6 | 0 | 12 | 26 | 14 | 42 | 0 | 100 |
| C | 1 | 0 | 0 | 1 | 1 | 2 | 0 | 1 |
| 4 | 9 | 0 | 57 | 98 | 119 | 140 | 2 | 425 |
| T | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 4 |
| R | 2 | 0 | 13 | 23 | 28 | 33 | 1 | 100 |
| C | 0 | 0 | 2 | 4 | 5 | 6 | 9 | 4 |
| 3 | 112 | 1 | 600 | 595 | 478 | 475 | 7 | 2,268 |
| T | 1 | 0 | 6 | 6 | 4 | 4 | 0 | 21 |
| R | 5 | 0 | 27 | 26 | 21 | 21 | 0 | 100 |
| C | 11 | 17 | 21 | 23 | 21 | 30 | 32 | 21 |
| 2 | 10 | 0 | 37 | 39 | 55 | 68 | 0 | 209 |
| T | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| R | 5 | 0 | 17 | 19 | 26 | 33 | 0 | 100 |
| C | 1 | 0 | 1 | 2 | 2 | 3 | 0 | 2 |
| 1 | 515 | 1 | 349 | 255 | 177 | 186 | 2 | 1,485 |
| T | 5 | 0 | 3 | 2 | 2 | 2 | 0 | 14 |
| R | 35 | 0 | 23 | 17 | 12 | 13 | 0 | 100 |
| C | 52 | 17 | 12 | 10 | 8 | 8 | 9 | 14 |
| Q12 (Codes) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |
| COLUMN TOTAL | 985 | 6 | 4,807 | 2,568 | 2,287 | 2,322 | 22 | |
| PERCENT TOTAL | 9.0% | .1% | 25.5% | 23.3% | 20.8% | 21.1% | .2% | |

GRAND TOTAL = 10,997

CHI-SQUARE (OF TABLE) = 90,692.15
DF = 156

CORRELATION COEFFICIENT = .1179

MEAN (1)= 11.444 SD (1) = 9.373

MEAN (2)= 4.111 SD (2) = 1.443

(Question 18)

| | | |
|---|---|---|
| I. | (22) | Previous knowledge |
| II | (9) | Meetings and symposia |
| III | (8) | Oral contacts - all other |
| IV | (7) | Oral contacts with manufacturers |
| V | (15) | Live demonstrations |
| VI. | (25) | Physical measurement or experiment |
| VII. | (24) | Personal notes, logs and files |
| VIII | (11) | Correspondence, memos and TWX |
| IX | (4) | Drawings and schematics |
| X. | (20) | Photographs, maps and files |
| XI | (5) | Parts lists |
| XII | (23) | Computer printout |
| XIII | (26) | Microfilm or microfiche |
| XIV. | (27) | Slides or motion pictures |
| XV. | (6) | System specification document |
| XVI | (14) | Newsletters and other mass media |
| XVII | (1) | Brochures |
| XVIII | (2) | Catalogs |
| XIX. | (3) | Standards and codes |
| XX. | (10) | Directives |
| XXI | (12) | Handbooks |
| XXII. | (13) | Manuals |
| XXIII | (17) | Proposals |
| XXIV | (18) | Reports |
| XXV | (16) | Preprints and reprints |
| XXVI. | (21) | Journals |
| XXVII. | (19) | Textbooks |

(Question 12)

| | | |
|---|---|---|
| I | (1) | From recall |
| II. | (8) | Task generated |
| III. | (2) | Less than 1 day |
| IV | (3) | 1 - 7 days |
| V | (4) | 8 - 30 days |
| VI | (5) | More than 30 days |
| VII | (7) | Received only part of chunk |

# Table 3-128. Actual Volume of Transporting Medium vs. Actual Acquisition Time for Information

```
     Q21    IS CROSS TABULATED WITH      Q12      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5343

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       4       1
     1       7       1


( 2)              (ATTRIBUTE WEIGHT VALUE IS ROW TOTAL)
Q21
   4 *     80          450    330    305    350          1515
    T*      1            6      7      6      7            29
    R*      5           29     25     19     22           100
    C*     13           29     32     30     36            29
     *
   3 *    122      2   372    535    491    502      9  2033
    T*      2      0     7     10      9      9      0    38
    R*      6      0    18     26     24     25      0   100
    C*     20     67    24     45     49     52     75    38
     *
   2 *    108      1   662    260    202    106      5  1364
    T*      2      0    13      5      4      2      0    25
    R*      8      0    52     19     15      8      0   100
    C*     17     33    44     22     20     11     25    26
     *
   1 *    308          90     17      8      8          371
    T*      6          1      0      0      0            7
    R*     83          8      5      2      2          100
    C*     50          2      1      1      1            7
     *
      ********************************************************
 ( 1)      1           3           5           7
Q12
             2           4           6

COLUMN    618        1534        1006          12
 TOTAL              5          1202          968

PERCENT    11          24          18           0
 TOTAL              0          22           1


GRAND TOTAL=  5343

CHI-SQUARE ( 6 TABLES)       2490.40796
DF=   18

(THE RECOMMENDED COMPUTATIONS ARE HAS BEEN ALL DATA AS ENTERED
EVEN IF S.A.P. EXCLUDED IT IN THE ABOVE TABLES).

CORRELATION COEFFICIENT  .0.739
MEAN( 1)          6.22214     SD( 1)=        1.50263
MEAN( 2)=         4.90062     SD( 2)=        1.70446
```

(Question 21)

| | | |
|---|---|---|
| I | (4) | All from recall |
| II. | (1) | One report of document |
| III. | (2) | A sampling of the reports and documents available |
| IV | (3) | All reports and documents that could be found pertinent to the question |

(Question 12)

| | | |
|---|---|---|
| I | (1) | From recall |
| II | (8) | Task generated |
| III | (2) | Less than 1 day |
| IV | (3) | 1 - 7 days |
| V | (4) | 8 - 30 days |
| VI | (5) | More than 30 days |
| VII | (7) | Received only part of chunk |

Table 3-129. Actual Detail of Transporting Medium vs. Actual Acquisition Time for Information

```
_   Q24    IS CROSS TABULATED WITH      Q12      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5358

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       3       1
     1       7       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q24
   3 *    151     1   456   367   356   345        1696
    T*      3     0     9     7     7     6          32
    R*      9     0    27    23    21    20         100
    C*     24    33    30    32    35    36          32
     *
   2 *    404     2   855   601   452   391     5 2710
    T*      8     0    16    11     8     7     0   51
    R*     15     0    32    22    17    14     0  100
    C*     65    67    56    50    45    40    23   51
     *
   1 *     63         223   215   199   235    17  952
    T*      1           4     4     4     4     0   18
    R*      7          23    23    21    25     2  100
    C*     10          15    18    20    24    77   18
     *
      **********************************************
 ( 1)       1           3           5           7
Q12                2           4           6

COLUMN    618        1534        1007          22
 TOTAL              3        1203         971

PERCENT    11          28          18           0
 TOTAL              0          22          18

GRAND TOTAL= 5358

CHI-SQUARE (OF TABLE)       191.51999
DF=   12
```

(Question 24)

| | | |
|---|---|---|
| I | (1) | A once o er lightly |
| II | (3) | A specific answer |
| III | (2) | A detailed analysis |

(Question 12)

| | | |
|---|---|---|
| I. | (1) | From recall |
| II | (6) | Task generated |
| III | (2) | Less than 1 day |
| IV | (3) | 1 - 7 days |
| V | (4) | 8 - 30 days |
| VI | (5) | More than 30 days |
| VII | (7) | Received only part of chunk |

```
(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0216
MEAN( 1)=        3.92926   SD( 1)=        1.50726
MEAN( 2)=        2.13886   SD( 2)=        0.68922
```

# Table 3-130. Class of Information vs. Actual Acquisition Time for Information

```
     G28    IS CROSS TABULATED WITH      G12      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5357

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       14       1
     1        7       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
G28
  14 *      12          25      46      38      35          160
    T*       0           0       1       1       1            3
    R*       7          16      29      24      24          100
    C*       2           2       4       4       4            3
     *
  13 *      37          37      40      33      42          189
    T*       1           1       1       1       1            4
    R*      20          20      21      17      22          100
    C*       6           2       3       3       4            4
     *
  12 *      33          57      76      72      90          328
    T*       1           1       1       1       2            6
    R*      10          17      23      22      27          100
    C*       5           4       6       7       9            6
     *
  11 *      32          51      53      50      39          224
    T*       1           1       1       1       1            4
    R*      14          22      24      22      17          100
    C*       5           3       4       5       4            4
     *
  10 *     129         341     307     288     275        9 1349
    T*       2           6       6       5       6       25
    R*      10          25      23      21      20        1 100
    C*      21          22      20      29      28       41  25
     *
   9 *      55       2  362     180     123      90        2  813
    T*       1       0   7       3       2       2        0   15
    R*       7       0  45      22      15      11        0  100
    C*       9      33  24      15      12       9        9   15
     *
   8 *      30          45      42      34      36        1  188
    T*       1           1       1       1       1        0    4
    R*      16          24      22      18      19        1  100
    C*       5           3       3       3       4        5    4
     *
   7 *      44       1  78      51      36      24        1  235
    T*       1       0   1       1       1       0        0    4
    R*      19       0  33      22      15      10        0  100
    C*       7      33   5       4       4       2        5    4
     *
   6 *      28          38      41      39      39        2  187
    T*       1           1       1       1       1        0    3
    R*      15          20      22      21      21        1  100
    C*       5           2       3       4       4        9    3
     *
   5 *      58       1  85     113      99      90        1  547
    T*       1       0   3       4       2       2        0   10
    R*      11       0  34      21      18      16        0  100
    C*       9      33  12       9      10       9        5   10
     *
   4 *      77          126      78      51      52        3  387
    T*       1           2       1       1       1        0    7
    R*      20          33      20      13      13        1  100
    C*      12           8       6       5       5       14    7
     *
   3 *      13          93     105      68      92        1  372
    T*       0           2       2       1       2        0    7
    R*       3          25      28      18      25        0  100
    C*       2           6       9       7       9        5    7
     *
   2 *      70          97      71      76      62        2  378
    T*       1           2       1       1       1        0    7
    R*      19          26      19      20      16        1  100
    C*      11           6       6       8       6        9    7
     *
     ********************************************************
( 1)       1           3           5           7
G12            2           4           6

COLUMN    618        1514        1077          22
 TOTAL              3          4203          5970

PERCENT    11          28          18           0
 TOTAL              0          22          18
```

(Question 28)

| | | |
|---|---|---|
| II | (1) | Concepts |
| III | (8) | Raw data |
| IV | (4) | Math aids and formulae, computer programs |
| V | (3) | Designs or design techniques |
| VI | (5) | Experimental processes and procedures |
| VII | (11) | Test processes and procedures |
| VIII | (13) | Evaluation |
| IX | (9) | Specifications |
| X | (6) | Performance and characteristics |
| XI | (7) | Production processes and procedures |
| XII | (10) | Technical status |
| XIII | (12) | Utilization |
| XIV | (2) | Cost and funding, administrative action |

(Question 12)

| | | |
|---|---|---|
| I | (1) | From recall |
| II | (8) | Task generated |
| III | (2) | Less than 1 day |
| IV | (3) | 1 - 7 days |
| V | (4) | 8 - 30 days |
| VI | (5) | More than 30 days |
| VII | (7) | Received only part of chunk |

```
GRAND TOTAL=  5357

CHI-SQUARE (OF TABLE)        368.99263
DF=   72

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0514
MEAN( 1)=         3.92888    SD( 1)=         1.50713
MEAN( 2)=         7.90181    SD( 2)=         3.31652
```

Table 3-131. Field of Information vs. Actual Acquisition Time for Information

```
     Q29    IS CROSS TABULATED WITH      Q12      BY,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5333

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       9       1
     1       7       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q29
    9 *      43          46     37     22     19     2   169
     T*       1           1      1      0      0     0     3
     R*      25          27     22     13     11     1   100
     C*       7           3      3      2      2     9     3
      *
    8 *      68         140     97     77     66           448
     T*       1           3      2      1      1           8
     R*      15          31     22     17     15          100
     C*      11           9      8      8      7           8
      *
    7 *      68         242    158    128    146     4   746
     T*       1           5      3      2      3     0    14
     R*       9          32     21     17     20     1   100
     C*      31          16     13     13     15    18    14
      *
    6 *      91         177    145    138    154     7   712
     T*       2           3      3      3      3     0    13
     R*      13          25     20     19     22     1   100
     C*      15          12     12     14     16    32    13
      *
    5 *     134         377    305    242    230     3  1291
     T*       3           7      6      5      4     0    24
     R*      10          29     24     19     18     0   100
     C*      22          25     26     24     24    14    24
      *
    4 *      87     2   282    209    186    132     2   900
     T*       2     0     5      4      3      2     0    17
     R*      10     0    31     23     21     15     0   100
     C*      14    67    18     17     19     14     9    17
      *
    3 *      42     1    89     74     67     81     1   355
     T*       1     0     2      1      1      2     0     7
     R*      12     0    25     21     19     23     0   100
     C*       7    33     6      6      7      8     5     7
      *
    2 *      14          17     18     18     27     1    95
     T*       0           0      0      0      1     0     2
     R*      15          18     19     19     28     1   100
     C*       2           1      2      2      3     5     2
      *
    1 *      67         159    153    125    111     2   617
     T*       1           3      3      2      2     0    12
     R*      11          26     25     20     18     0   100
     C*      11          16     13     12     11     9    12
      *
      ********************************************************
( 1)       1           3           5           7
Q12                2           4           6

COLUMN    654        1529        1003          22
 TOTAL              3        1196         986

PERCENT    11          28          18           0
 TOTAL              6          22          18

GRAND TOTAL=  5333

CHI-SQUARE (OF TABLE)       126.42188
DF=  48

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0487
MEAN( 1)=        3.92990   SD( 1)=        1.50677
MEAN( 2)=        4.97394   SD( 2)=        2.09827
```

(Question 9)

I Production Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II Medical Sciences
- (16) Medical sciences

III Mechanical Industrial Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics electronic equipment

VI Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX Mathematics
- (15) Mathematics

(Question 12)

I. (1) From recall
II (8) Task generated
III (2) Less than 1 day
IV (3) 1 - 7 days
V (4) 8 - 30 days
VI (5) More than 30 days
VII. (7) Received only part of chunk

# Table 3-132. Location of First Source for Information vs. Desired Acquisition Time for Information

```
    Q14    IS CROSS TABULATED WITH    Q13    OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    2      15       1
    1       6       1
```

| I 21 / Q14 | (EXTREME RIGHT VALUE IS ROW TOTAL) | | | | | |
|---|---|---|---|---|---|---|
| 15 • | 9 | 20 | 34 | 13 | 24 | 100 |
| T• | 0 | 0 | 1 | 0 | 0 | 2 |
| R• | 9 | 20 | 34 | 13 | 24 | 100 |
| C• | 1 | 1 | 2 | 3 | 2 | 2 |
| 14 • | 4 | 17 | 22 | 5 | 24 | 67 |
| T• | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 6 | 18 | 33 | 7 | 36 | 100 |
| C• | 0 | 1 | 2 | 1 | 2 | 1 |
| 13 • | 3 | 7 | 10 | 8 | 19 | 66 |
| T• | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 7 | 15 | 22 | 17 | 39 | 100 |
| C• | 0 | 1 | 1 | 2 | 2 | 1 |
| 12 • | 6 | 5 | 12 | 6 | 6 | 31 |
| T• | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 13 | 16 | 39 | 13 | 19 | 100 |
| C• | 0 | 0 | 1 | 1 | 1 | 1 |
| 11 • | 15 | 63 | 175 | 74 | 93 | 320 |
| T• | 0 | 1 | 2 | 0 | 2 | 6 |
| R• | 5 | 20 | 54 | 23 | 29 | 100 |
| C• | 2 | 5 | 9 | 6 | 9 | 6 |
| 10 • | 53 | 129 | 146 | 36 | 132 | 495 |
| T• | 1 | 2 | 3 | 1 | 2 | 9 |
| R• | 11 | 26 | 29 | 7 | 27 | 100 |
| C• | 4 | 10 | 10 | 9 | 13 | 9 |

(Question 14)

| | | |
|---|---|---|
| I | (01) | Received with task assignment |
| II | (04) | Recalled it |
| III. | (09) | Searched own collection |
| IV. | (19) | Responde..t's action |
| V. | (03) | Assigned subordinate to get it |
| VI | (05) | Asked a colleague |
| VII. | (02) | Asked my supervisor |
| VIII | (08) | Requested search of department files |
| IX | (06) | Asked an internal company consultant |
| X | (10) | Searched company TIC |
| X | (7) | Requested library search |
| XI | (15) | Requested data from manufacturer, vendor, or supplier |
| XI. | (14) | Searched manufacturer, vendor, or supplier sources |
| XII | (11) | Searched an outside library |
| XIII. | (18) | Asked an external consult..t or expert |
| XIV | (12) | Searched DOD information/data center |
| XV. | (17) | Asked customer |

(Question 13)

| | | |
|---|---|---|
| I | (1) | From recall |
| II. | (2) | Less than 1 day |
| III. | (3) | 1 - 7 days |
| IV. | (4) | 8 - 30 days |
| V | (5) | 31 - 90 days |
| VI | (7) | More than 90 days |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9 • | 4 | 43 | 131 | 173 | 44 | 92 | 507 |
| T• | 0 | 1 | 2 | 3 | 1 | 2 | 9 |
| R• | 1 | 8 | 26 | 34 | 13 | 18 | 100 |
| C• | 1 | 5 | 10 | 12 | 17 | 9 | 9 |
| 8 • | 2 | 42 | 98 | 80 | 25 | 40 | 297 |
| T• | 0 | 1 | 2 | 1 | 0 | 1 | 6 |
| R• | 1 | 14 | 33 | 27 | 8 | 13 | 100 |
| C• | 1 | 6 | 7 | 6 | 6 | 4 | 6 |
| 7 • | 1 | 5 | 21 | 24 | 8 | 12 | 72 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 1 | 7 | 29 | 35 | 11 | 17 | 100 |
| C• | 0 | 1 | 2 | 2 | 2 | 1 | 1 |
| 6 • | 0 | 83 | 241 | 223 | 68 | 145 | 749 |
| T• | 0 | 2 | 4 | 4 | 1 | 3 | 14 |
| R• | 1 | 11 | 31 | 29 | 9 | 19 | 100 |
| C• | 3 | 10 | 18 | 16 | 18 | 15 | 14 |
| 5 • | 2 | 18 | 58 | 48 | 11 | 59 | 236 |
| T• | 0 | 0 | 1 | 2 | 0 | 1 | 4 |
| R• | 1 | 8 | 25 | 37 | 6 | 25 | 100 |
| C• | 1 | 2 | 4 | 6 | 3 | 6 | 4 |
| 4 • | 1 | 3 | 20 | 40 | 13 | 54 | 136 |
| T• | 0 | 0 | 0 | 1 | 0 | 1 | 3 |
| R• | 1 | 2 | 15 | 29 | 10 | 39 | 100 |
| C• | 0 | 1 | 1 | 3 | 3 | 5 | 3 |
| 3 • | 17 | 129 | 220 | 179 | 44 | 107 | 696 |
| T• | 0 | 2 | 4 | 3 | 1 | 2 | 13 |
| R• | 2 | 19 | 32 | 26 | 6 | 15 | 100 |
| C• | 4 | 16 | 16 | 13 | 11 | 11 | 13 |
| 2 • | 333 | 146 | 183 | 140 | 41 | 137 | 1009 |
| T• | 6 | 3 | 3 | 3 | 1 | 3 | 19 |
| R• | 33 | 14 | 18 | 14 | 4 | 14 | 100 |
| C• | 67 | 23 | 14 | 11 | 11 | 14 | 19 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 • | 13 | 239 | 131 | 113 | 23 | 57 | 576 |
| T• | 0 | 4 | 2 | 2 | 0 | 1 | 11 |
| R• | 2 | 41 | 23 | 20 | 4 | 10 | 100 |
| C• | 3 | 29 | 10 | 8 | 6 | 6 | 11 |

| I 1 / Q13 | 1 | 2 | 4 | 6 |
|---|---|---|---|---|
| COLUMN TOTAL | 382 | 1339 | 397 | |
| | 832 | 1418 | 999 | |
| PERCENT TOTAL | 7 | 25 | 7 | |
| | 16 | 26 | 19 | |

```
GRAND TOTAL=  5357

CHI-SQUARE (OF TABLE)       1500.46932
DF=  20

VALUES NOT ENTERED   2
  CASE NO.      VARIABLE  2      VARIABLE  1
    1303             0                5
    4385             0                2

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2960
MEAN( 1)=       3.67765    SD( 1)=       1.69103
MEAN( 2)=       5.66169    SD( 2)=       3.73906
```

## Table 3-133. Desired Class of Information vs. Desired Acquisition Time for Information

Q16 IS CROSS TABULATED WITH Q13 ON

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5359

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 14 | 1 |
| 1 | 6 | 1 |

| ( 2) | | | (EXTREME RIGHT VALUE IS ROW TOTAL) | | | | |
|---|---|---|---|---|---|---|---|
| Q16 | | | | | | | |
| 14 * | 25 | 63 | 101 | 110 | 34 | 90 | 427 |
| T* | 1 | 1 | 2 | 3 | 1 | 2 | 10 |
| R* | 7 | 15 | 24 | 26 | 8 | 21 | 100 |
| C* | 11 | 9 | 9 | 10 | 11 | 12 | 10 |
| 13 * | 26 | 31 | 46 | 44 | 9 | 31 | 187 |
| T* | 1 | 1 | 1 | 1 | 0 | 1 | 4 |
| R* | 14 | 17 | 25 | 24 | 5 | 17 | 100 |
| C* | 10 | 5 | 4 | 4 | 3 | 4 | 4 |
| 12 * | 39 | 67 | 103 | 103 | 41 | 121 | 524 |
| T* | 0 | 1 | 2 | 4 | 1 | 3 | 12 |
| R* | 4 | 11 | 20 | 35 | 8 | 23 | 100 |
| C* | 7 | 8 | 9 | 16 | 14 | 16 | 12 |
| 11 * | 8 | 14 | 25 | 28 | 10 | 23 | 106 |
| T* | 0 | 0 | 1 | 1 | 0 | 1 | 3 |
| R* | 8 | 13 | 24 | 26 | 9 | 22 | 100 |
| C* | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| 10 * | 53 | 176 | 330 | 336 | 82 | 248 | 1225 |
| T* | 1 | 4 | 8 | 8 | 2 | 6 | 29 |
| R* | 4 | 14 | 27 | 27 | 7 | 20 | 100 |
| C* | 20 | 28 | 30 | 30 | 27 | 32 | 29 |
| 9 * | 29 | 125 | 143 | 112 | 33 | 48 | 490 |
| T* | 1 | 3 | 3 | 3 | 1 | 1 | 12 |
| R* | 6 | 26 | 29 | 23 | 7 | 10 | 100 |
| C* | 11 | 18 | 13 | 10 | 11 | 6 | 12 |
| 8 * | 20 | 36 | 46 | 38 | 14 | 32 | 186 |
| T* | 0 | 1 | 1 | 1 | 0 | 1 | 4 |
| R* | 11 | 19 | 25 | 20 | 8 | 17 | 100 |
| C* | 8 | 5 | 4 | 3 | 5 | 4 | 4 |
| 7 * | 22 | 35 | 40 | 31 | 5 | 22 | 159 |
| T* | 1 | 1 | 1 | 1 | 0 | 1 | 4 |
| R* | 14 | 25 | 25 | 19 | 3 | 14 | 100 |
| C* | 8 | 6 | 4 | 3 | 2 | 3 | 4 |
| 6 * | 4 | 1 | 3 | 10 | 2 | 16 | 36 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R* | 11 | 3 | 8 | 28 | 6 | 44 | 100 |
| C* | 2 | 0 | 0 | 1 | 1 | 2 | 1 |
| 5 * | 30 | 86 | 121 | 116 | 38 | 57 | 468 |
| T* | 1 | 2 | 3 | 3 | 1 | 1 | 11 |
| R* | 7 | 19 | 27 | 26 | 8 | 13 | 100 |
| C* | 11 | 13 | 11 | 10 | 13 | 7 | 11 |
| 4 * | 17 | 29 | 39 | 31 | 16 | 33 | 165 |
| T* | 0 | 1 | 1 | 1 | 0 | 1 | 4 |
| R* | 10 | 18 | 24 | 19 | 10 | 20 | 100 |
| C* | 6 | 4 | 4 | 3 | 5 | 4 | 4 |
| 3 * | 3 | 6 | 15 | 1 | 6 | 12 | 56 |
| T* | 0 | 0 | 0 | | 0 | 0 | 1 |
| R* | 5 | 11 | 27 | 25 | 3 | 22 | 100 |
| C* | 1 | 1 | 1 | 1 | 2 | 2 | 1 |
| 2 * | 4 | 6 | 13 | 12 | 1 | 11 | 47 |
| T* | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| R* | 9 | 13 | 28 | 26 | 2 | 23 | 100 |
| C* | 2 | 1 | 1 | 1 | 0 | 1 | 1 |
| 1 * | 3 | 15 | 47 | 51 | 11 | 32 | 179 |
| T* | 0 | 0 | 2 | 1 | 0 | 1 | 4 |
| R* | 2 | 8 | 27 | 28 | 6 | 18 | 100 |
| C* | 1 | 2 | 2 | 5 | 4 | 4 | 4 |
| ( 1) | 1 | | 3 | | 5 | | |
| Q13 | | 2 | | 4 | | 6 | |
| COLUMN TOTAL | 268 | 586 | 1092 | 1116 | 301 | 776 | |
| PERCENT TOTAL | 6 | 16 | 26 | 26 | 7 | 19 | |

(Question 16)

| | | |
|---|---|---|
| I. | (15) | Requested information source |
| II. | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Math aids and formulae computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX | (9) | Specifications |
| X | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding administrative action |

(Question 13)

| | | |
|---|---|---|
| I | (1) | From recall |
| II. | (2) | Less than 1 day |
| III. | (3) | 1 - 7 days |
| IV | (4) | 8 - 30 days |
| V. | (5) | 31 - 90 days |
| VI. | (7) | More than 90 days |

GRAND TOTAL= 4234

CHI-SQUARE (OF TABLE) 246.34430
DF= 65

VALUES NOT ENTERED 1125

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -.0226

| | | | |
|---|---|---|---|
| MEAN( 1)= | 3.67165 | SD( 1)= | 1.49103 |
| MEAN( 2)= | 7.21739 | SD( 2)= | 4.77776 |

## Table 3-134. Usual Composition of Transporting Medium vs. Desired Acquisition Time for Information

```
     Q19    IS CROSS TABULATED WITH      Q13      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     2       3       1
     1       6       1
```

| I 2 / Q19 | | (EXTREME RIGHT VALUE IS ROW TOTAL) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | | 51 | 121 | 239 | 248 | 65 | 183 | 907 |
| | T | 1 | 2 | 4 | 5 | 1 | 3 | 17 |
| | R | 6 | 13 | 26 | 27 | 7 | 20 | 100 |
| | C | 13 | 15 | 18 | 17 | 17 | 18 | 17 |
| 2 | | 325 | 695 | 1054 | 1127 | 307 | 787 | 4295 |
| | T | 6 | 13 | 20 | 21 | 6 | 15 | 80 |
| | R | 8 | 16 | 25 | 26 | 7 | 18 | 100 |
| | C | 85 | 83 | 79 | 79 | 79 | 79 | 80 |
| 1 | | 6 | 17 | 46 | 43 | 16 | 29 | 157 |
| | T | 0 | 0 | 1 | 1 | 0 | 1 | 3 |
| | R | 4 | 11 | 29 | 27 | 10 | 18 | 100 |
| | C | 2 | 2 | 3 | 3 | 4 | 3 | 3 |
| I 1 / Q19 | | 1 | | 3 | | 5 | | |
| | | 2 | | 4 | | 6 | | |
| COLUMN TOTAL | | 382 | | 1319 | | 348 | | 999 |
| PERCENT TOTAL | | 7 | | 25 | | 7 | | 19 |

GRAND TOTAL= 5359

CHI-SQUARE (OF TABLE) 18.56426
DF= 10

(Question 19)
I (3) None indicated in Question 18
II. (1) Some as those indicated in Question 18
III. (2) Some as those indicated in Question 18 and other media

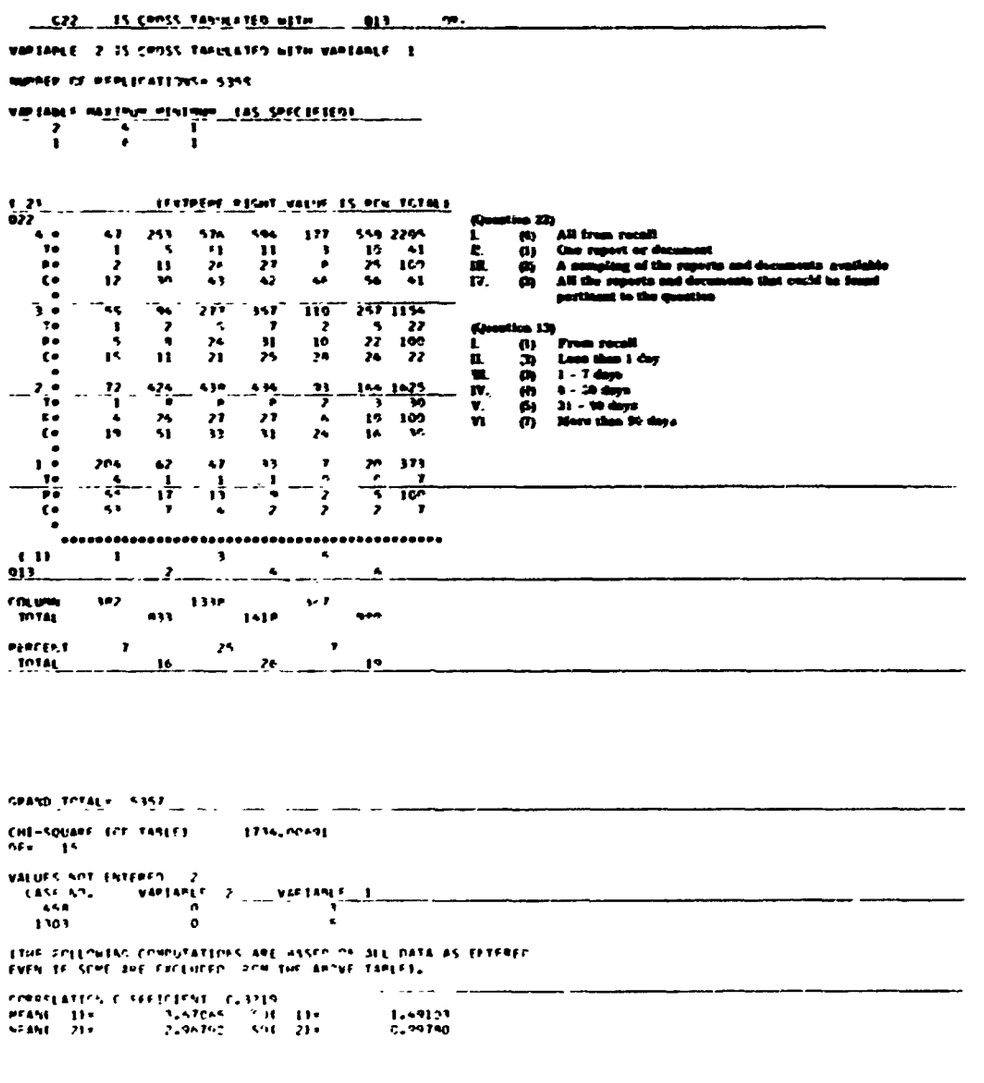
(Question 13)
I. (1) From recall
II. (2) Less than 1 day
III. (3) 1 - 7 days
IV. (4) 8 - 30 days
V. (5) 31 - 90 days
VI. (7) More than 90 days

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0701

| | | | | | |
|---|---|---|---|---|---|
| MEAN( 1)= | 3.67045 | SD( 1)= | 1.49103 | | |
| MEAN( 2)= | 2.13935 | SD( 2)= | 0.42307 | | |

## Table 3-135. Desired Volume of Transporting Medium vs. Desired Acquisition Time for Information



C22 IS CROSS TABULATED WITH Q13 ON.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5357

VARIABLE MAXIMUM MINIMUM HAS SPECIFIED

| | | |
|---|---|---|
| 2 | 4 | 1 |
| 1 | 6 | 1 |

| Q 21 | | (EXTREME RIGHT VALUE IS ROW TOTALS | | | | | |
|---|---|---|---|---|---|---|---|
| Q22 | | | | | | | |
| 4.0 | 47 | 253 | 534 | 594 | 177 | 550 | 2205 |
| TO | 1 | 5 | 11 | 11 | 3 | 10 | 41 |
| BO | 2 | 11 | 24 | 27 | 8 | 25 | 107 |
| CO | 12 | 50 | 63 | 62 | 66 | 56 | 41 |
| 3.0 | 55 | 96 | 279 | 357 | 110 | 257 | 1154 |
| TO | 1 | 2 | 5 | 7 | 2 | 5 | 22 |
| BO | 5 | 9 | 24 | 31 | 10 | 22 | 100 |
| CO | 15 | 11 | 21 | 25 | 28 | 26 | 22 |
| 2.0 | 72 | 426 | 430 | 496 | 93 | 164 | 1625 |
| TO | 1 | 8 | 8 | 8 | 2 | 3 | 30 |
| BO | 4 | 24 | 27 | 27 | 6 | 18 | 109 |
| CO | 19 | 51 | 33 | 51 | 24 | 16 | 95 |
| 1.0 | 206 | 62 | 47 | 33 | 7 | 20 | 373 |
| TO | 6 | 1 | 1 | 1 | 0 | 0 | 7 |
| BO | 54 | 17 | 13 | 9 | 2 | 5 | 100 |
| CO | 53 | 7 | 6 | 2 | 2 | 2 | 7 |
| ( 1) | 1 | | 3 | | 5 | | |
| Q13 | | 2 | | 4 | | 6 | |
| COLUMN TOTAL | 392 | | 1338 | | 547 | | |
| | | 833 | | 1418 | | 909 | |
| PERCENT TOTAL | 7 | 16 | 25 | 26 | 10 | 17 | |

(Question 22)
1. (1) All from recall
2. (2) One report or document
3. (3) A sampling of the reports and documents available
4. (4) All the reports and documents that could be found pertinent to the question

(Question 13)
1. (1) From recall
2. (2) Less than 1 day
3. (3) 1 - 7 days
4. (4) 8 - 30 days
5. (5) 31 - 90 days
6. (7) More than 90 days

GRAND TOTAL= 5357

CHI-SQUARE FOR TABLE= 1736.00491
DF= 15

VALUES NOT ENTERED 2

| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 448 | 0 | 1 |
| 1303 | 0 | 1 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT= 0.3219

| | | | | | |
|---|---|---|---|---|---|
| MEAN 1= | 3.447045 | SD 1= | 1.49129 |
| MEAN 2= | 2.994702 | SD 2= | 0.99740 |

## Table 3-136. Desired Detail of Transporting Medium vs. Desired Acquisition Time for Information

```
    Q25   IS CROSS TABULATED WITH      Q13      QR.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    2        7       1
    1        A       1


( 2)          (EXTREME RIGHT VALUE IS ROW TOTAL)
Q25
   1 *    105   295   421   581   157   413 1972
     T*     2     6     8    11     3     9   37
     R*     5    15    21    29     8    21  100
     C*    28    35    31    41    40    41   37
     *
  ---------------------------------------------------
   2 *    245   482   824   739   202   501 2993
     T*     5     9    15    14     4     9   56
     R*     8    16    28    25     7    17  100
     C*    44    58    62    52    50    50   56
     *
  ---------------------------------------------------
   1 *     31    56    94    58    29    85  393
     T*     1     1     2     2     1     2    7
     R*     8    14    24    25     7    22  100
     C*     8     7     7     7     7     9    7
     *
     ********************* ********************
( 1)          1           3           5
Q13           2           4           6

COLUMN      381        1339         3881
 TOTAL                  933        1418         999

PERCENT       7          25           7
 TOTAL       16          24          19

GRAND TOTAL= 5358

CHI-SQUARE (OF TABLE)        60.20091
DF=  10


VALUES NOT ENTERED   1
  CASE NO.      VARIABLE  2      VARIABLE  1
    5307            0               1

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0593
MEAN( 1)=        3.67065    SD( 1)=        1.49103
MEAN( 2)=        2.29427    SD( 2)=        0.59626
```

(Question 25)

| | | |
|---|---|---|
| I | (1) | A once over lightly |
| II | (3) | A specified answer |
| III. | (2) | A detailed analysis |

(Question 13)

| | | |
|---|---|---|
| I. | (1) | From recall |
| II | (2) | Less than 1 day |
| III. | (3) | 1 - 7 days |
| IV | (4) | 8 - 30 days |
| V | (5) | 31 - 90 days |
| VI | (7) | More than 90 days |

## Table 3-137. Why First Source Used vs. Location of First Source for Information

```
     Q15    IS CROSS TABULATED WITH      Q14      ...

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       6       1
     1      15       1
```

(Question 15)

| | | |
|---|---|---|
| I | (1) | Received with task assignment |
| II. | (4) | Available, handy, or easy to use |
| III. | (6) | Found helpful previously |
| IV. | (3) | Most authoritative |
| V. | (2) | Only source known |
| VI. | (5) | Recalled, or was told, that specific chunk was available from the source |

```
( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q15
   6 *      4   491   205    14    28   154    10   114    69   115    32     5     1    19    13 1274
     T*     0     9     4     0     1     3     0     2     1     2     1     0     0     0     0   24
     R*     0    39    16     1     2    12     1     9     5     9     3     0     0     1     1  100
     C*     1    49    30    11    12    20    14    38    14    23    10    16     2    28    13   24
      *
   5 *     13    22    31    66    30    67    11    32    74    46    72     4     7     8    27  508
     T*     0     0     1     1     1     1     0     1     1     1     1     0     0     0     1    9
     R*     3     4     6    13     6    13     2     6    15     9    14     1     1     2     5  100
     C*     2     2     4    50    13     9    15    11    15     9    22    13    15    12    27    9
      *
   4 *     18    48    83    37    57   290    23    31   255    77   168     6    28    28    44 1153
     T*     0     1     2     1     1     5     0     1     5     1     3     0     1     1     1   22
     R*     2     4     7     3     5    24     2     3    21     6    14     1     2     2     4  100
     C*     3     5    12    28    24    38    32    10    50    16    52    19    61    42    44   22
      *
   3 *      1    32    48     7    52    58    10     9    32    81    21     3     5     7     2  368
     T*     0     1     1     0     1     1     0     0     1     2     0     0     0     0     0    7
     R*     0     9    13     2    14    16     3     2     9    22     6     1     1     2     1  100
     C*     0     3     7     5    22     8    14     3     6    16     7    10    11    10     2    7
      *
   2 *      4   410   318     8    67   188    15   110    72   175    27    13     4     5    10 1426
     T*     0     8     6     0     1     4     0     2     1     3     1     0     0     0     0   27
     R*     0    29    22     1     5    13     1     8     5    12     2     1     0     0     1  100
     C*     1    41    46     6    28    25    21    37    14    35     8    42     5     7    10   27
      *
   1 *    536     8     9     1     2    10     3     1     4     1                 1           4  580
     T*    10     0     0     0     0     0     0     0     0     0                 0           0   11
     R*    92     1     2     0     0     2     1     0     1     0                 0           1  100
     C*    93     1     1     1     1     1     4     0     1     0                 2           4   11
```

```
      *
      ********************************************************************************************
 ( 1)       1         3         5         7         9        11        13        15
Q14             2         4         6         8        10        12        14

COLUMN    576       694       236        72       506       320        46       100
 TOTAL       1009      133       767       297       495        31        67

PERCENT    11        13         4         1         9         6         1         2
 TOTAL         19         2        14         6         9         1         1

GRAND TOTAL=  5349

CHI-SQUARE (OF TABLE)       6434.87231
DF=   70

VALUES NOT ENTERED  10
  CASE NO.     VARIABLE  2     VARIABLE  1
     81              0              4
    250              0              9
   1303              0              0
   1985              0              4
   2339              0              4
   3018              0              6
   3397              0              6
   4025              0              3
   4321              0              3
   4389              4              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2208
MEAN( 1)=        5.66169   SD( 1)=        3.73006
MEAN( 2)=        3.63799   SD( 2)=        1.74620
```

(Question 14)

| | | |
|---|---|---|
| I. | (01) | Received with task assignment |
| II. | (04) | Recalled it |
| III. | (09) | Searched own collection |
| IV. | (19) | Respondent's action |
| V | (03) | Assigned subordinate to get it |
| VI. | (05) | Asked a colleague |
| VII. | (02) | Asked my supervisor |
| VIII. | (08) | Requested search of department files |
| IX. | (06) | Asked an internal company consultant |
| X. | (10) | Searched company TIC |
| X. | (7) | Requested library search |
| XI. | (15) | Requested data from manufacturer, vendor, or supplier |
| XI. | (14) | Searched manufacturer, vendor, or supplier sources |
| XII. | (11) | Searched an outside library |
| XIII. | (18) | Asked an external consultant or expert |
| XIV. | (13) | Requested search of DOD information/data center |
| XIV. | (12) | Searched DOD information/data center |
| XV. | (17) | Asked customer |

## Table 3-138. Desired Class of Information vs. Location of First Source for Information

Q16 IS CROSS TABULATED WITH Q14 BY,

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5359

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 15 | 1 |
| 1 | 15 | 1 |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q16 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 60 | 70 | 46 | 7 | 34 | 71 | 6 | 12 | 50 | 25 | 23 | 1 | 5 | 6 | 11 | 427 |
| T | 1 | 2 | 1 | 0 | 1 | 2 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 10 |
| R | 14 | 15 | 11 | 2 | 8 | 17 | 1 | 3 | 12 | 6 | 5 | 0 | 1 | 1 | 3 | 100 |
| C | 12 | 10 | 8 | 6 | 18 | 12 | 10 | 5 | 12 | 6 | 10 | 4 | 13 | 12 | 13 | 10 |
| 13 | 13 | 52 | 24 | 4 | 5 | 38 | 2 | 5 | 11 | 14 | 8 | | 3 | 4 | 4 | 187 |
| T | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 4 |
| R | 7 | 28 | 13 | 2 | 3 | 20 | 1 | 3 | 6 | 7 | 4 | | 2 | 2 | 2 | 100 |
| C | 3 | 7 | 4 | 3 | 3 | 6 | 3 | 2 | 3 | 3 | 3 | | 8 | 8 | 5 | 4 |
| 12 | 27 | 65 | 86 | 9 | 25 | 64 | 4 | 41 | 28 | 108 | 38 | 2 | 12 | 10 | 5 | 524 |
| T | 1 | 2 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 12 |
| R | 5 | 12 | 16 | 2 | 5 | 12 | 1 | 8 | 5 | 21 | 7 | 0 | 2 | 2 | 1 | 100 |
| C | 5 | 9 | 16 | 8 | 13 | 10 | 7 | 18 | 7 | 26 | 16 | 12 | 32 | 20 | 6 | 12 |
| 11 | 9 | 22 | 4 | 5 | 9 | 13 | 4 | 5 | 17 | 6 | 9 | | 3 | | | 106 |
| T | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | | | 3 |
| R | 8 | 21 | 4 | 5 | 8 | 12 | 4 | 5 | 16 | 6 | 8 | | 3 | | | 100 |
| C | 2 | 3 | 1 | 4 | 5 | 2 | 7 | 2 | 4 | 1 | 4 | | 8 | | | 3 |
| 10 | 133 | 173 | 176 | 48 | 41 | 193 | 13 | 66 | 138 | 98 | 91 | 8 | 7 | 9 | 30 | 1324 |
| T | 3 | 4 | 4 | 1 | 1 | 5 | 0 | 2 | 3 | 2 | 2 | 0 | 0 | 0 | 1 | 29 |
| R | 11 | 14 | 14 | 4 | 3 | 16 | 1 | 5 | 11 | 8 | 7 | 1 | 1 | 1 | 2 | 100 |
| C | 26 | 24 | 32 | 41 | 22 | 31 | 22 | 29 | 34 | 24 | 39 | 47 | 18 | 18 | 36 | 29 |
| 9 | 149 | 52 | 58 | 4 | 13 | 42 | 7 | 30 | 55 | 30 | 23 | 1 | 1 | 7 | 18 | 490 |
| T | 4 | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 12 |
| R | 30 | 11 | 12 | 1 | 3 | 9 | 1 | 6 | 11 | 6 | 5 | 0 | 0 | 1 | 4 | 100 |
| C | 29 | 7 | 11 | 3 | 7 | 7 | 12 | 13 | 13 | 7 | 10 | 6 | 3 | 14 | 21 | 12 |
| 8 | 22 | 50 | 17 | 13 | 15 | 21 | 1 | 10 | 11 | 9 | 10 | 2 | 2 | 1 | 2 | 186 |
| T | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| R | 12 | 27 | 9 | 7 | 8 | 11 | 1 | 5 | 6 | 5 | 5 | 1 | 1 | 1 | 1 | 100 |
| C | 4 | 7 | 3 | 11 | 8 | 3 | 2 | 4 | 3 | 2 | 4 | 12 | 5 | 2 | 2 | 4 |
| 7 | 24 | 47 | 16 | 2 | 3 | 28 | 1 | 9 | 14 | 12 | 2 | | | | 1 | 159 |
| T | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | | | | 0 | 4 |
| R | 15 | 30 | 10 | 1 | 2 | 18 | 1 | 6 | 9 | 8 | 1 | | | | 1 | 100 |
| C | 5 | 6 | 3 | 2 | 2 | 5 | 2 | 4 | 3 | 3 | 1 | | | | 1 | 4 |
| 6 | 2 | 13 | 7 | 3 | | 9 | | 1 | 1 | 4 | | | | | 1 | 36 |
| T | 0 | 0 | 0 | 0 | | 0 | | 0 | 0 | 0 | | | | | 0 | 1 |
| R | 6 | 36 | 19 | 8 | | 11 | | 3 | 3 | 11 | | | | | 3 | 100 |
| C | 0 | 2 | 1 | 3 | | 1 | | 0 | 0 | 1 | | | | | 1 | 1 |
| 5 | 47 | 106 | 48 | 14 | 16 | 63 | 5 | 31 | 52 | 91 | 21 | | 1 | 6 | 7 | 448 |
| T | 1 | 3 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 | | 0 | 0 | 0 | 11 |
| R | 10 | 24 | 11 | 3 | 4 | 14 | 1 | 7 | 12 | 7 | 5 | | 0 | 1 | 2 | 100 |
| C | 9 | 15 | 9 | 12 | 9 | 10 | 9 | 14 | 13 | 8 | 9 | | 3 | 12 | 8 | 11 |
| 4 | 40 | 44 | 35 | 1 | 8 | 30 | | 2 | 9 | 18 | 4 | 1 | | 1 | 2 | 165 |
| T | 0 | 1 | 1 | 0 | 0 | 1 | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 4 |
| R | 8 | 27 | 21 | 1 | 5 | 18 | | 1 | 5 | 11 | 2 | 1 | | 1 | 1 | 100 |
| C | 2 | 6 | 6 | 1 | 4 | 5 | | 1 | 2 | 4 | 2 | 6 | | 2 | 2 | 4 |
| 3 | 9 | 7 | 7 | 3 | 8 | 7 | 1 | 4 | 2 | 4 | | | 2 | | 1 | 55 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | | 0 | 1 |
| R | 16 | 13 | 13 | 5 | 15 | 13 | 2 | 7 | 4 | 7 | | | 4 | | 2 | 100 |
| C | 2 | 1 | 1 | 3 | 4 | 1 | 2 | 2 | 0 | 1 | | | 5 | | 1 | 1 |
| 2 | 3 | 14 | 7 | 1 | 1 | 6 | | 2 | 3 | 9 | 1 | | | | | 47 |
| T | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | | | | | 1 |
| R | 6 | 30 | 15 | 2 | 2 | 13 | | 4 | 6 | 19 | 2 | | | | | 100 |
| C | 1 | 2 | 1 | 1 | 1 | 1 | | 1 | 1 | 2 | 0 | | | | | 1 |
| 1 | 9 | 11 | 16 | 2 | 9 | 33 | 14 | 9 | 17 | 40 | 6 | 2 | 2 | 7 | 2 | 179 |
| T | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 |
| R | 5 | 6 | 9 | 1 | 5 | 18 | 8 | 5 | 9 | 22 | 3 | 1 | 1 | 4 | 1 | 100 |
| C | 2 | 2 | 3 | 2 | 5 | 5 | 24 | 4 | 4 | 10 | 3 | 12 | 5 | 14 | 2 | 4 |
| ( 1) | 1 | | 3 | | 5 | | 7 | | 9 | | 11 | | 13 | | 15 | |
| Q14 | | 2 | | 4 | | 6 | | 8 | | 10 | | 12 | | 14 | | |
| COLUMN TOTAL | 517 | 726 | 547 | 116 | 187 | 613 | 58 | 227 | 408 | 408 | 236 | 17 | 38 | 51 | 84 | |
| PERCENT TOTAL | 12 | 17 | 13 | 3 | 4 | 14 | 1 | 5 | 10 | 10 | 6 | 0 | 1 | 1 | 2 | |

Table 3-138. (Continued)

```
GRAND TOTAL= 4233

CHI-SQUARE (OF TABLE)=    807.77379
DF= 182

VALUES NOT ENTERED1126

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0090
MEAN( 1)=       5.66169   SD( 1)=       3.73006
MEAN( 2)=       7.21739   SD( 2)=       4.77774
```

(Question 16)

| | | |
|---|---|---|
| I. | (15) | Requested information source |
| II. | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

(Question 14)

| | | |
|---|---|---|
| I. | (01) | Received with task assignment |
| II. | (04) | Recalled it |
| III. | (09) | Searched own collection |
| IV. | (19) | Respondent's action |
| V. | (03) | Assigned subordinate to get it |
| VI | (05) | Asked a colleague |
| VII. | (02) | Asked my supervisor |
| VIII. | (08) | Requested search of department files |
| IX. | (06) | Asked an internal company consultant |
| X. | (10) | Searched company TIC |
| X. | (7) | Requested library search |
| XI | (15) | Requested data from manufacturer, vendor, or supplier |
| XI. | (14) | Searched manufacturer, vendor, or supplier sources |
| XII. | (11) | Searched an outside library |
| XIII. | (16) | Asked an external consultant or expert |
| XIV. | (13) | Requested search of DOD information/data center |
| XIV. | (12) | Searched DOD information/data center |
| XV. | (17) | Asked customer |

# Table 3-139. Acquisition From First Source vs. Location of First Source for Information

```
    Q17   IS CROSS TABULATED WITH      Q14      OR,
VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1
NUMBER OF REPLICATIONS= 5359
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    2       5       1
    1      15       1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q17
   5 .   356   495   277    46   157   325    21   136   263   169   137    15    20    29    48 2514
     T.     7     9     5     1     3     6     0     3     5     3     3     0     0     1     1   47
     R.    14    20    11     3     6    13     1     5    10     7     5     1     1     1     2  100
     C.    62    49    40    49    67    42    29    46    52    34    45    48    43    43    48   47
     .
   4 .   210   485   384    45    74   361    34   142   212   257   177    15    21    32    43 2512
     T.     4     9     7     1     1     7     1     3     4     5     3     0     0     1     1   47
     R.     8    19    15     3     3    14     1     6     8    10     7     1     1     1     2  100
     C.    36    48    55    48    31    47    47    48    42    52    55    48    46    48    43   47
     .
   3 .     7    26    26     3     2    66    14    11    23    44     4     1     3     3     3  236
     T.     0     0     0     0     0     1     0     0     0     1     0     0     0     0     0    4
     R.     3    11    11     1     1    28     6     5    10    19     2     0     1     1     1  100
     C.     1     3     4     2     1     9    19     4     5     9     1     3     7     4     3    4
     .
   2 .                   6     2     2    10     3     6     4    16     1           2           4   98
     T.                  0     0     0     0     0     0     0     0     0           0           0    1
     R.                  6     3     3    17     5    10    10    28     2           3           7  100
     C.                  1     1     1     1     4     2     1     3     0           4           4    1
     .
   1 .     3     3     3           1     7           2     3     9     1                 3     2   37
     T.     0     0     0           0     0           0     0     0     0                 0     0    1
     R.     8     8     8           3    19           5     6    24     3                 8     5  100
     C.     1     0     0           0     1           1     1     2     0                 4     2    1
     .
( 1)       1           3           5           7           9          11          13          29
Q14                2           4           6           8          10          12          14

COLUMN    576         696         236          72         507         320          46         100
 TOTAL          1009          136          769          297          495           31           67

PERCENT    11          13           4           1           9           6           1           2
 TOTAL          19           3          14           6           9           1           1

GRAND TOTAL=  5357

CHI-SQUARE (OF TABLE)       355.63380
DF=   56

VALUES NOT ENTERED   2
  CASE NO.      VARIABLE  2     VARIABLE  1
    1303             2              0
    4389             4              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.1036
MEAN( 1)=        5.46169    SD( 1)=        3.73006
MEAN( 2)=        4.38235    SD( 2)=        0.68792
```

(Question 17)

| | | |
|---|---|---|
| I | (4) | Irrelevant or inappropriate information |
| II | (5) | Nothing |
| III | (3) | Reference to another source |
| IV | (2) | Part of the information |
| V. | (1) | All the information needed |

(Question 14)

| | | |
|---|---|---|
| I. | (01) | Received with task assignment |
| II | (04) | Recalled it |
| III | (09) | Searched own collection |
| IV. | (19) | Respondent's action |
| V | (03) | Assigned subordinate to get it |
| VI | (05) | Asked a collegue |
| VII | (02) | Asked my supervisor |
| VIII | (08) | Requested search of department files |
| IX | (06) | Asked an internal company consultant |
| X | (10) | Searched company TIC |
| X. | (7) | Requested library search |
| XI | (15) | Requested data from manufacturer, vendor, or supplier |
| XI | (14) | Searched manufacturer, vendor, or supplier sources |
| XII. | (11) | Searched an outside library |
| XIII | (12) | Asked an external consultant or expert |
| XIV. | (13) | Requested search of DOD information/data center |
| XIV | (12) | Searched DOD information/data center |
| XV | (17) | Asked customer |

# Table 3-140. Desired Volume of Transporting Medium vs. Location of First Source for Information

```
Q22    IS CROSS TABULATED WITH      Q14      OR.
VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1
NUMBER OF REPLICATIONS= 5359
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    2       5       1
    1      15       1

( 2)            (EXTREME RIGHT VALUE IS ROW TOTAL)
Q22
   4 .   191   253   300    54   102   288    29   156   221   318   167    17    26    36    46 2204
     T.     4     5     6     1     2     5     1     3     4     6     3     0     C     1     1   41
     R.     9    11    14     2     5    13     1     7    10    14     8     1     1     2     2  100
     C.    33    25    43    40    43    38    40    53    44    44    52    55    57    54    46   41
      .
   3 .    56   236   195    26    52   211    13    48    97   101    59     7     6    12    13 1154
     T.     1     4     4     1     1     4     0     1     2     2     1     0     C     0     0   22
     R.     5    20    17     2     5    18     1     6     8     9     5     1     1     1     1  100
     C.    10    23    28    21    22    27    18    23    19    20    18    23    13    18    13   22
      .
   2 .   324   174   189    53    80   264    30    73   187    76    54     7    14    19    41 1625
     T.     6     3     4     1     1     5     1     1     3     1     2     0     C     0     1   30
     R.    20    11    12     3     5    16     2     4    12     5     6     0     1     1     3  100
     C.    56    17    27    39    34    34    42    25    37    15    29    23    30    28    41   30
      .
   1 .     5   346    12     1     2     5                 2                                       373
     T.     0     6     0     0     0     0                 0                                         7
     R.     1    93     3     0     1     1                 1                                       100
     C.     1    34     2     1     1     1                 0                                         7
      .
 ( 1)      1           3           5           7           9          11          13          25
Q14              2           4           6           8          10          12          14

COLUMN    576         696         236          72         507         320          46         100
 TOTAL          1C09        136         768         297         495          31          67

PERCENT    11          13           4           1           9           6           1           2
 TOTAL          19           3          14           6           9           1           1

GRAND TOTAL=  5356

CHI-SQUARE (OF TABLE)       1825.99649
DF=   42

VALUES NOT ENTERED   3
  CASE NO.      VARIABLE  2     VARIABLE  1
    458              0               6
   1303              0               0
    389              4               0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2385
MEAN( 1)=        5.66169    SD( 1)=        3.73006
MEAN( 2)=        2.96790    SD( 2)=        0.99780
```

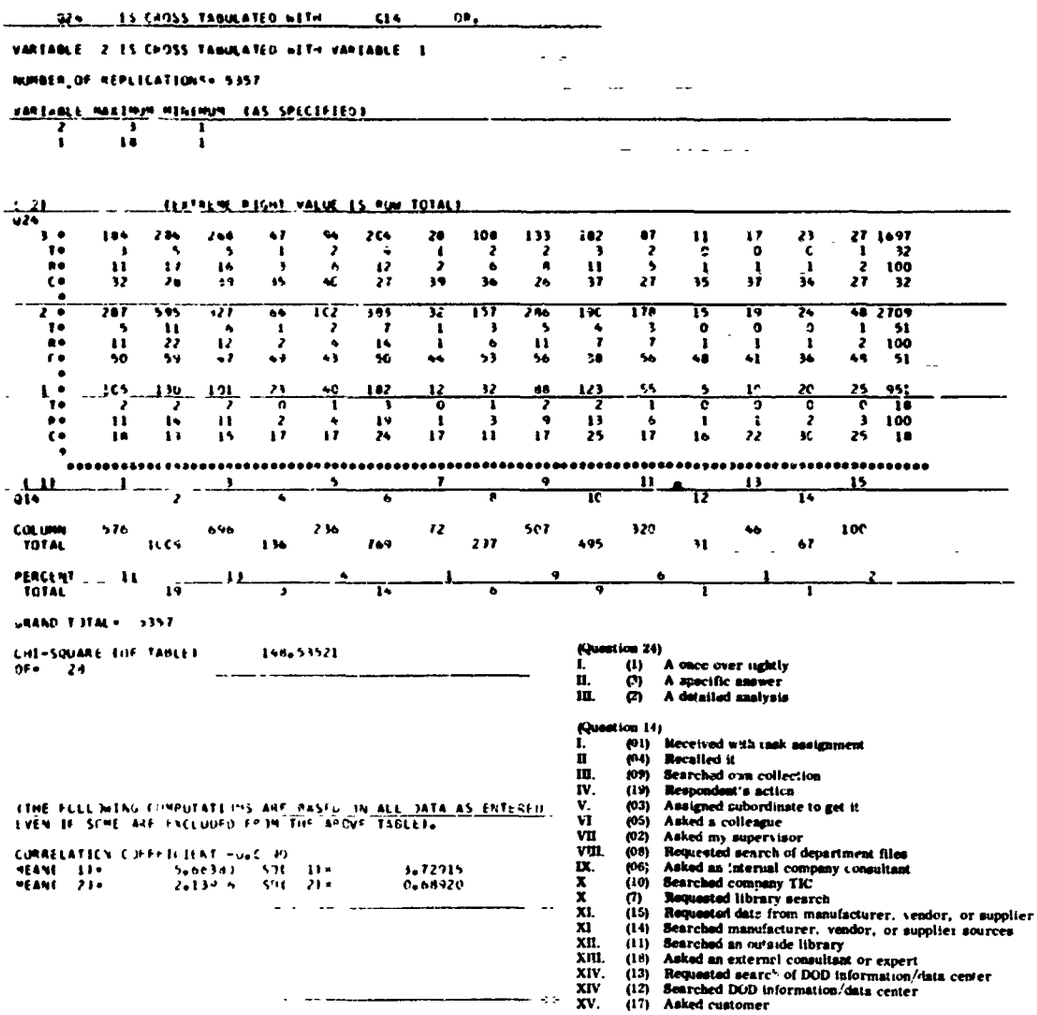
(Question 22)

| | | |
|---|---|---|
| I. | (4) | All from recall |
| II | (1) | One report or document |
| III. | (2) | A sampling of the reports and documents available |
| IV. | (3) | All the reports and documents that could be found pertinent to the question |

(Question 14)

| | | |
|---|---|---|
| I. | (01) | Received with task assignment |
| II. | (04) | Recalled it |
| III | (09) | Searched own collection |
| IV. | (19) | Respondent's action |
| V. | (03) | Assigned subordinate to get it |
| VI | (05) | Asked a colleague |
| VII. | (02) | Asked my supervisor |
| VIII | (08) | Requested search of department files |
| IX | (06) | Asked an internal company consultant |
| X | (10) | Searched company TIC |
| X | (7) | Requested library search |
| XI | (15) | Requested data from manufacturer, vendor, or supplier |
| XI | (14) | Searched manufacturer, vendor, or supplier sources |
| XII | (11) | Searched an outside library |
| XIII | (18) | Asked an external consultant or expert |
| XIV | (13) | Requested search of DOD information/data center |
| XIV | (12) | Searched DOL information data center |
| XV | (17) | Asked customer |

## Table 3-141. Actual Detail of Transporting Medium vs. Location of First Source for Information



Q24 IS CROSS TABULATED WITH Q14 OR,

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5357

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
2 3 1
1 15 1

( 2) (ENTRIES RIGHT VALUE IS ROW TOTAL)
Q24

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 • | 184 | 284 | 266 | 67 | 94 | 204 | 28 | 108 | 133 | 182 | 87 | 11 | 17 | 23 | 27 1697 |
| T• | 3 | 5 | 5 | 1 | 2 | 4 | 1 | 2 | 2 | 3 | 2 | 0 | 0 | 1 | 32 |
| R• | 11 | 17 | 16 | 3 | 6 | 12 | 2 | 6 | 8 | 11 | 5 | 1 | 1 | 2 | 100 |
| C• | 32 | 28 | 29 | 65 | 40 | 27 | 39 | 36 | 26 | 37 | 27 | 35 | 37 | 27 | 32 |
| 2 • | 287 | 595 | 427 | 66 | 102 | 389 | 32 | 157 | 296 | 190 | 178 | 15 | 19 | 24 | 48 2709 |
| T• | 5 | 11 | 8 | 1 | 2 | 7 | 1 | 3 | 5 | 4 | 3 | 0 | 0 | 0 | 1 51 |
| R• | 11 | 22 | 12 | 2 | 4 | 14 | 1 | 6 | 11 | 7 | 7 | 1 | 1 | 1 | 2 100 |
| C• | 50 | 59 | 47 | 63 | 43 | 50 | 44 | 53 | 56 | 38 | 56 | 48 | 41 | 36 | 49 51 |
| 1 • | 305 | 130 | 101 | 23 | 40 | 182 | 12 | 32 | 88 | 123 | 55 | 5 | 10 | 20 | 25 955 |
| T• | 2 | 2 | 2 | 0 | 1 | 3 | 0 | 1 | 2 | 2 | 1 | 0 | 0 | 0 | 0 18 |
| R• | 11 | 14 | 11 | 2 | 4 | 19 | 1 | 3 | 9 | 13 | 6 | 1 | 1 | 2 | 3 100 |
| C• | 18 | 13 | 15 | 17 | 17 | 24 | 17 | 11 | 17 | 25 | 17 | 16 | 22 | 30 | 25 18 |

( 11) 1 3 5 7 9 11 13 15
Q14 2 4 6 8 10 12 14

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COLUMN TOTAL | 576 | 1000 | 696 | 136 | 236 | 769 | 72 | 277 | 507 | 495 | 320 | 91 | 46 | 67 | 100 |
| PERCENT TOTAL | 11 | 19 | 13 | 3 | 4 | 14 | 1 | 6 | 9 | 9 | 6 | 1 | 1 | 1 | 2 |

GRAND TOTAL= 5357

CHI-SQUARE FOR TABLE 1468.53521
DF= 24

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0[illegible]
MEAN 1)= 5.66343 STD 1)= 3.72715
MEAN 2)= 2.13[illegible] STD 2)= 0.68920

(Question 24)
I. (1) A once over lightly
II. (3) A specific answer
III. (2) A detailed analysis

(Question 14)
I. (01) Received with task assignment
II (04) Recalled it
III. (09) Searched own collection
IV. (19) Respondent's action
V. (03) Assigned subordinate to get it
VI (05) Asked a colleague
VII (02) Asked my supervisor
VIII. (08) Requested search of department files
IX. (06) Asked an internal company consultant
X (10) Searched company TIC
X (7) Requested library search
XI. (15) Requested data from manufacturer, vendor, or supplier
XI (14) Searched manufacturer, vendor, or supplier sources
XII. (11) Searched an outside library
XIII. (18) Asked an external consultant or expert
XIV. (13) Requested search of DOD information/data center
XIV (12) Searched DOD information/data center
XV. (17) Asked customer

## Table 3-142. Desired Detail of Transporting Medium vs. Location of First Source for Information

025 IS CROSS TABULATED WITH Q14 ON.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5356

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
2 3 1
1 15 1

( 2) (EXTREME RIGHT VALUE IS ROW TOTALS)
025

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 213 | 306 | 277 | 50 | 105 | 258 | 92 | 116 | 165 | 236 | 114 | 11 | 19 | 33 | 37 | 1972 |
| % | 4 | 6 | 5 | 1 | 2 | 5 | 1 | 2 | 3 | 4 | 2 | 0 | 0 | 1 | 1 | 37 |
| R% | 11 | 16 | 14 | 3 | 5 | 13 | 2 | 6 | 8 | 12 | 6 | 1 | 1 | 2 | 2 | 100 |
| C% | 37 | 30 | 40 | 37 | 44 | 34 | 44 | 39 | 33 | 48 | 36 | 35 | 41 | 49 | 37 | 37 |
| 2 | 337 | 427 | 368 | 71 | 113 | 429 | 94 | 171 | 305 | 230 | 191 | 19 | 25 | 29 | 54 | 2992 |
| % | 6 | 12 | 7 | 1 | 2 | 8 | 1 | 3 | 6 | 4 | 4 | 0 | 0 | 1 | 1 | 56 |
| R% | 11 | 21 | 12 | 2 | 4 | 15 | 1 | 6 | 10 | 8 | 6 | 1 | 1 | 1 | 2 | 100 |
| C% | 55 | 62 | 53 | 52 | 48 | 57 | 47 | 58 | 60 | 46 | 60 | 61 | 54 | 43 | 54 | 56 |
| 1 | 46 | 75 | 53 | 15 | 18 | 73 | 6 | 10 | 37 | 29 | 15 | 1 | 2 | 5 | 9 | 392 |
| % | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 7 |
| R% | 12 | 19 | 13 | 4 | 5 | 19 | 2 | 3 | 9 | 7 | 4 | 0 | 1 | 1 | 2 | 100 |
| C% | 8 | 7 | 7 | 11 | 8 | 9 | 9 | 3 | 7 | 6 | 5 | 3 | 4 | 7 | 9 | 7 |

( 1) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Q14

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COLUMN TOTAL | 576 | 1308 | 696 | 136 | 236 | 769 | 72 | 297 | 507 | 695 | 320 | 31 | 46 | 67 | 100 | |
| PERCENT TOTAL | 11 | 19 | 13 | 3 | 4 | 14 | 1 | 6 | 9 | 9 | 6 | 1 | 1 | 1 | 2 | |

GRAND TOTAL= 5356

CHI-SQUARE (OF TABLE) 87.73517
DF= 28

(Question 25)
I. (1) A once over lightly
II. (3) A specified answer
III. (2) A detailed analysis

(Question 14)
I. (01) Received with task assignment
II. (04) Recalled it
III. (09) Searched own collection
IV. (19) Respondent s action
V. (03) Assigned subordinate to get it
VI. (05) Asked a colleague
VII. (02) Asked my supervisor
VIII. (08) Requested search of department files
IX (06) Asked an internal company consultant
X. (10) Searched company TIC
X. (7) Requested library search
XI (15) Requested data from manufacturer, vendor, or supplier
XI. (14) Searched manufacturer, vendor, or supplier sources
XII. (11) Searched an outside library
XIII. (18) Asked an external consultant or expert
XIV. (13) Requested search of DOD information/data center
XIV (12) Searched DOD information/data center
XV (17) Asked customer

VALUES NOT ENTERED 3

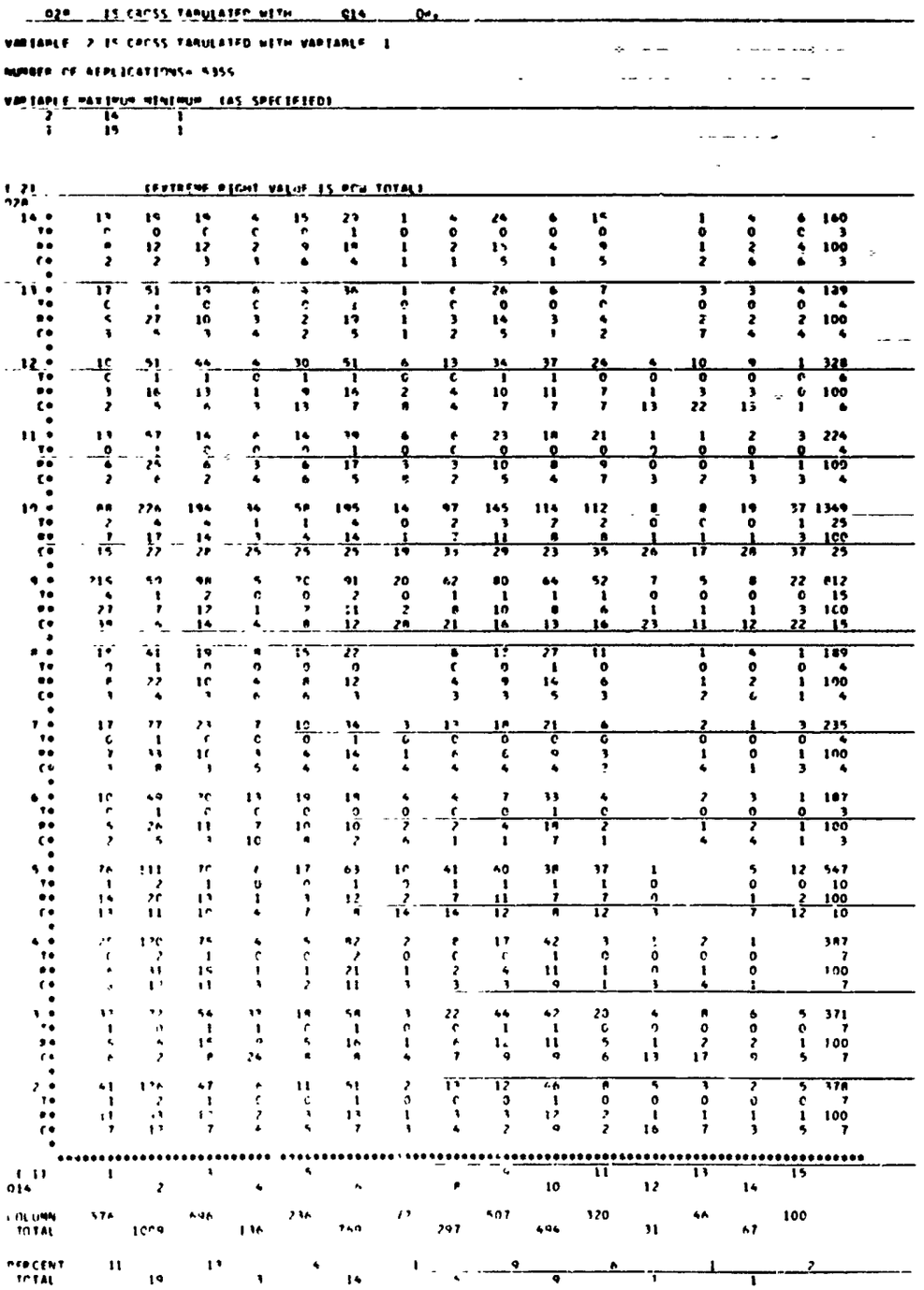
| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 1303 | 1 | 0 |
| 4380 | 2 | 0 |
| 5307 | 0 | 2 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0644

| | | | | | |
|---|---|---|---|---|---|
| MEAN | 11= | 5.66169 | SDI | 11= | 3.73006 |
| MEAN | 21= | 2.29427 | SDI | 21= | 0.59676 |

## Table 3-143. Class of Information vs. Location of First Source for Information



| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | 19 | 19 | 19 | 4 | 15 | 29 | 1 | 4 | 24 | 6 | 15 | | 1 | 4 | 6 | 160 |
| | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 3 |
| | 8 | 12 | 12 | 2 | 9 | 18 | 1 | 2 | 15 | 4 | 9 | | 1 | 2 | 4 | 100 |
| | 2 | 2 | 3 | 1 | 6 | 4 | 1 | 1 | 5 | 1 | 5 | | 2 | 6 | 6 | 3 |
| 11 | 17 | 51 | 19 | 6 | 6 | 36 | 1 | 6 | 26 | 6 | 7 | | 3 | 3 | 4 | 139 |
| | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 4 |
| | 5 | 27 | 10 | 3 | 2 | 19 | 1 | 3 | 14 | 3 | 4 | | 2 | 2 | 2 | 100 |
| | 3 | 4 | 3 | 4 | 2 | 5 | 1 | 2 | 5 | 1 | 2 | | 7 | 4 | 4 | 4 |
| 12 | 10 | 51 | 44 | 6 | 30 | 51 | 6 | 13 | 34 | 37 | 26 | 4 | 10 | 9 | 1 | 328 |
| | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| | 3 | 16 | 13 | 1 | 9 | 16 | 2 | 4 | 10 | 11 | 7 | 1 | 3 | 3 | 0 | 100 |
| | 2 | 5 | 6 | 3 | 13 | 7 | 8 | 4 | 7 | 7 | 7 | 13 | 22 | 13 | 1 | 6 |
| 11 | 19 | 47 | 14 | 4 | 16 | 39 | 6 | 6 | 23 | 18 | 21 | 1 | 1 | 2 | 3 | 224 |
| | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 4 |
| | 6 | 24 | 6 | 3 | 6 | 17 | 3 | 3 | 10 | 8 | 9 | 0 | 0 | 1 | 1 | 100 |
| | 2 | 6 | 2 | 4 | 6 | 5 | 8 | 2 | 5 | 4 | 7 | 3 | 2 | 3 | 3 | 4 |
| 10 | 88 | 226 | 196 | 36 | 58 | 195 | 14 | 97 | 145 | 114 | 112 | 8 | 8 | 19 | 37 | 1349 |
| | 2 | 6 | 4 | 1 | 1 | 6 | 0 | 2 | 3 | 2 | 2 | 0 | 0 | 0 | 1 | 25 |
| | 7 | 17 | 14 | 3 | 4 | 14 | 1 | 7 | 11 | 8 | 8 | 1 | 1 | 1 | 3 | 100 |
| | 15 | 22 | 28 | 25 | 25 | 25 | 19 | 35 | 29 | 23 | 35 | 26 | 17 | 28 | 37 | 25 |
| 9 | 215 | 59 | 98 | 5 | 70 | 91 | 20 | 62 | 80 | 64 | 52 | 7 | 5 | 8 | 22 | 812 |
| | 4 | 1 | 2 | 0 | 0 | 2 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 15 |
| | 27 | 7 | 12 | 1 | 7 | 11 | 2 | 8 | 10 | 8 | 6 | 1 | 1 | 1 | 3 | 100 |
| | 19 | 6 | 14 | 4 | 8 | 12 | 28 | 21 | 16 | 13 | 16 | 23 | 11 | 12 | 22 | 15 |
| 8 | 19 | 41 | 19 | 8 | 15 | 27 | | 8 | 15 | 27 | 11 | | 1 | 4 | 1 | 189 |
| | 0 | 1 | 0 | 0 | 0 | 0 | | 0 | 0 | 1 | 0 | | 0 | 0 | 0 | 4 |
| | 8 | 22 | 10 | 4 | 8 | 12 | | 4 | 9 | 14 | 6 | | 1 | 2 | 1 | 100 |
| | 3 | 4 | 3 | 8 | 6 | 3 | | 3 | 3 | 5 | 3 | | 2 | 6 | 1 | 4 |
| 7 | 17 | 77 | 23 | 7 | 10 | 36 | 3 | 13 | 18 | 21 | 6 | | 2 | 1 | 3 | 235 |
| | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 4 |
| | 7 | 33 | 10 | 3 | 4 | 14 | 1 | 8 | 6 | 9 | 3 | | 1 | 0 | 1 | 100 |
| | 3 | 8 | 3 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 2 | | 4 | 1 | 3 | 4 |
| 6 | 10 | 49 | 20 | 13 | 19 | 19 | 6 | 6 | 7 | 33 | 4 | | 2 | 3 | 1 | 187 |
| | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | | 0 | 0 | 0 | 3 |
| | 5 | 26 | 11 | 7 | 10 | 10 | 2 | 2 | 4 | 18 | 2 | | 1 | 2 | 1 | 100 |
| | 2 | 5 | 3 | 10 | 8 | 2 | 8 | 1 | 1 | 7 | 1 | | 4 | 6 | 1 | 3 |
| 5 | 78 | 111 | 70 | 6 | 17 | 63 | 10 | 41 | 40 | 38 | 37 | 1 | | 5 | 12 | 567 |
| | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | | 0 | 0 | 10 |
| | 14 | 20 | 13 | 1 | 3 | 12 | 2 | 7 | 11 | 7 | 7 | 0 | | 1 | 2 | 100 |
| | 13 | 11 | 10 | 4 | 7 | 8 | 14 | 14 | 12 | 8 | 12 | 3 | | 7 | 12 | 10 |
| 4 | 27 | 130 | 75 | 6 | 5 | 82 | 2 | 8 | 17 | 42 | 3 | 1 | 2 | 1 | | 387 |
| | 0 | 2 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | | 7 |
| | 4 | 33 | 19 | 1 | 1 | 21 | 1 | 2 | 4 | 11 | 1 | 0 | 1 | 0 | | 100 |
| | 3 | 17 | 11 | 3 | 2 | 11 | 3 | 3 | 3 | 9 | 1 | 3 | 4 | 1 | | 7 |
| 3 | 33 | 72 | 56 | 33 | 18 | 58 | 3 | 22 | 44 | 62 | 20 | 4 | 8 | 6 | 5 | 371 |
| | 1 | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 7 |
| | 5 | 6 | 14 | 9 | 5 | 16 | 1 | 6 | 12 | 11 | 5 | 1 | 2 | 2 | 1 | 100 |
| | 6 | 2 | 8 | 26 | 8 | 8 | 4 | 7 | 9 | 9 | 6 | 13 | 17 | 9 | 5 | 7 |
| 2 | 41 | 174 | 47 | 6 | 11 | 51 | 2 | 13 | 12 | 46 | 8 | 5 | 3 | 2 | 5 | 378 |
| | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 7 |
| | 11 | 43 | 12 | 2 | 3 | 13 | 1 | 3 | 3 | 12 | 2 | 1 | 1 | 1 | 1 | 100 |
| | 7 | 17 | 7 | 4 | 5 | 7 | 3 | 4 | 2 | 9 | 2 | 16 | 7 | 3 | 5 | 7 |
| 1 | 1 | 2 | 3 | 5 | 6 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | |
| COLUMN TOTAL | 574 | 1009 | 496 | 136 | 238 | 740 | 77 | 297 | 507 | 496 | 320 | 31 | 46 | 67 | 100 | |
| PERCENT TOTAL | 11 | 19 | 9 | 3 | 4 | 14 | 1 | 6 | 9 | 9 | 6 | 1 | 1 | 1 | 2 | |

Table 3-143. (Continued)

```
GRAND TOTAL=  535

CHI-SQUARE (FF TABLE)       1C28.A*(S)
DF=  168

VALUES NOT ENTERED   *
  CASE NO.      VARIABLE  2      VARIABLE  1
   1503                 9                0
   4395                 3                0
   4627                 0               10

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  C.C970
MEANL  1)=      5.66145    SDE  1)=      3.73058
MEASE  2)=      7.00035    SDE  2)=      3.31764
```

(Question 29)

| | | |
|---|---|---|
| I. | (1) | Concepts |
| II. | (2) | Raw data |
| IV | (5) | Math aids and formulae computer programs |
| V | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (12) | Evaluation |
| IX | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

(Question 14)

| | | |
|---|---|---|
| I. | (01) | Received with task assignment |
| II. | (04) | Recalled it |
| III. | (09) | Searched own collection |
| IV. | (13) | Respondent's action |
| V. | (03) | Assigned subordinate to get it |
| VI. | (05) | Asked a colleague |
| VII. | (02) | Asked my supervisor |
| VIII. | (08) | Requested search of department files |
| IX. | (06) | Asked an internal company consultant |
| X. | (10) | Searched company TIC |
| X. | (7) | Requested library search |
| XI. | (15) | Requested data from manufacturer, vendor, or supplier |
| XI. | (14) | Searched manufacturer, vendor, or supplier sources |
| XII. | (11) | Searched an outside library |
| XIII | (16) | Asked an external consultant or expert |
| XIV. | (13) | Requested search of DOD information/data center |
| XIV. | (12) | Searched DOD information/data center |
| XV | (17) | Asked customer |

## Table 3-144. Location of First Source for Information vs. Kind of Work Position

914 IS CROSS TABULATED WITH 899 BY.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5259

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
2 15 1
1 12 1

(EXTREME RIGHT VALUE IS ROW TOTAL)

| I 2) 0*4 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 • | | 16 | 14 | 6 | 27 | 12 | 6 | 11 | 2 | 1 | | 5 | 100 |
| To | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | | 0 | 2 |
| Ro | | 16 | 14 | 6 | 27 | 12 | 6 | 11 | 2 | 1 | | 5 | 100 |
| Co | | 2 | 3 | 1 | 3 | 2 | 1 | 3 | 1 | 1 | | 5 | 7 |
| 14 • | 1 | 19 | 9 | 4 | 8 | 12 | 6 | 1 | 1 | 1 | 1 | 4 | 67 |
| To | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Ro | 1 | 29 | 13 | 6 | 12 | 18 | 9 | 1 | 1 | 1 | 1 | 6 | 100 |
| Co | 0 | 2 | 2 | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 4 | 1 |
| 13 • | 3 | 13 | 9 | 3 | 5 | 2 | 6 | 1 | | 1 | 2 | 1 | 46 |
| To | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 |
| Ro | 7 | 28 | 20 | 7 | 11 | 4 | 13 | 2 | | 2 | 4 | 2 | 100 |
| Co | 1 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | | 1 | 1 | 1 | 1 |
| 12 • | 2 | 9 | 2 | | 3 | | 3 | 4 | 1 | | 2 | 5 | 31 |
| To | 0 | 0 | 0 | | 0 | | 0 | 0 | 0 | | 0 | 0 | 1 |
| Ro | 6 | 29 | 6 | | 10 | | 10 | 13 | 3 | | 6 | 16 | 100 |
| Co | 1 | 1 | 0 | | 0 | | 1 | 1 | 0 | | 1 | 5 | 1 |
| 11 • | 2 | 37 | 31 | 45 | 79 | 39 | 23 | 15 | 26 | 9 | 12 | 2 | 320 |
| To | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| Ro | 1 | 12 | 10 | 14 | 25 | 7 | 7 | 5 | 8 | 3 | 4 | 1 | 100 |
| Co | 1 | 4 | 6 | 8 | 8 | 8 | 5 | 3 | 11 | 6 | 5 | 2 | 6 |
| 10 • | 32 | 111 | 49 | 51 | 38 | 32 | 47 | 31 | 14 | 9 | 29 | 10 | 494 |
| To | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 9 |
| Ro | 6 | 22 | 10 | 10 | 16 | 6 | 9 | 6 | 3 | 2 | 6 | 2 | 100 |
| Co | 15 | 12 | 9 | 10 | 8 | 6 | 9 | 7 | 6 | 6 | 13 | 11 | 9 |
| 9 • | 7 | 55 | 33 | 39 | 124 | 50 | 60 | 42 | 31 | 29 | 28 | 9 | 507 |
| To | 0 | 1 | 1 | . | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 9 |
| Ro | 1 | 11 | 7 | 9 | 24 | 10 | 12 | 8 | 6 | 6 | 6 | 2 | 100 |
| Co | 3 | 6 | 6 | 7 | 12 | 10 | 12 | 10 | 13 | 10 | 13 | 10 | 9 |
| 8 • | 7 | 41 | 26 | 30 | 52 | 39 | 19 | 34 | 12 | 13 | 20 | 4 | 297 |
| To | 0 | 1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 6 |
| Ro | 2 | 14 | 9 | 10 | 18 | 13 | 6 | 11 | 4 | 4 | 7 | 1 | 100 |
| Co | 3 | 5 | 5 | 6 | 5 | 8 | 4 | 8 | 3 | 8 | 9 | 4 | 6 |
| 7 • | | 12 | 11 | 9 | 17 | 7 | 5 | 7 | 3 | 1 | | | 72 |
| To | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 1 |
| Ro | | 17 | 15 | 13 | 24 | 10 | 7 | 10 | 4 | 1 | | | 100 |
| Co | | 1 | | 2 | 2 | 1 | 1 | 2 | 1 | 1 | | | 1 |
| 6 • | 19 | 134 | 95 | 82 | 131 | 63 | 85 | 68 | 35 | 23 | 30 | 12 | 767 |
| To | 0 | 3 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 0 | 1 | 0 | 14 |
| Ro | 2 | 17 | 11 | 11 | 17 | 8 | 11 | 9 | 5 | 3 | 4 | 2 | 100 |
| Co | 9 | 15 | 16 | 15 | 13 | 12 | 17 | 16 | 15 | 14 | 13 | 13 | 14 |
| 5 • | 9 | 46 | 31 | 21 | 42 | 31 | 22 | 17 | 17 | 10 | 11 | 3 | 236 |
| To | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Ro | 4 | 17 | 6 | 9 | 18 | 13 | 9 | 7 | 7 | 4 | 5 | 1 | 100 |
| Co | 4 | 4 | 3 | 4 | 4 | 6 | 4 | 4 | 7 | 6 | 5 | 3 | 4 |
| 4 • | 12 | 31 | 14 | 9 | 26 | 10 | 12 | 8 | 4 | 4 | 4 | 2 | 136 |
| To | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| Ro | 9 | 23 | 10 | 7 | 19 | 7 | 9 | 6 | 3 | 3 | 3 | 1 | 109 |
| Co | 5 | 3 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 |
| 3 • | 39 | 146 | 73 | 74 | 134 | 60 | 60 | 49 | 16 | 11 | 26 | 3 | 696 |
| To | 1 | 3 | 1 | 1 | 3 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 13 |
| Ro | 6 | 21 | 10 | 11 | 19 | 9 | 9 | 7 | 2 | 2 | 4 | 1 | 100 |
| Co | 18 | 16 | 14 | 14 | 13 | 12 | 12 | 11 | 7 | 7 | 12 | 9 | 13 |
| 2 • | 71 | 1( | 100 | 96 | 154 | 104 | 87 | 85 | 48 | 28 | 36 | 12 | 1008 |
| To | 1 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 1 | 1 | 1 | 0 | 19 |
| Ro | 7 | 19 | 10 | 10 | 15 | 10 | 9 | 8 | 5 | 3 | 4 | 1 | 100 |
| Co | 32 | 21 | 19 | 18 | 15 | 20 | 17 | 20 | 20 | 18 | 16 | 13 | 19 |

Table 3-144. (Continued)

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 • | 15 | 50 | 47 | 65 | 129 | 95 | 64 | 50 | 30 | 19 | 22 | 16 | 596 |
| I• | 0 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 11 |
| R• | 3 | 10 | 6 | 11 | 22 | 10 | 11 | 10 | 5 | 3 | 4 | 3 | 101 |
| C• | 7 | 6 | 9 | 12 | 13 | 11 | 13 | 13 | 13 | 7 | 10 | 17 | 11 |

| ( 1) | 1 | 3 | 5 | 7 | 9 | 11 |
|---|---|---|---|---|---|---|
| 055 | 2 | 4 | 6 | 8 | 10 | 12 |
| COLUMN TOTAL | 219 | 516 | 1011 | 505 | 248 | 223 |
| | 909 | 532 | 516 | 431 | 199 | 93 |
| PERCENT TOTAL | 4 | 10 | 19 | 9 | 4 | 4 |
| | 17 | 10 | 10 | 8 | 3 | 2 |

GRAND TOTAL= 5354

CHI-SQUARE (OF TABLE) 431.77455
DF= 154

VALUES NOT ENTERED 5

| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 1273 | 6 | 0 |
| 1283 | 2 | 0 |
| 1293 | 4 | 0 |
| 1303 | 0 | 5 |
| 4389 | 0 | 11 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0236

| | | | | | |
|---|---|---|---|---|---|
| MEAN( 1)= | 5.25082 | SD( 1)= | 2.76111 | | |
| MEAN( 2)= | 5.06169 | SD( 2)= | 3.13006 | | |

(Question 14)

| | | |
|---|---|---|
| I. | (01) | Received with task assignment |
| II. | (04) | Recalled it |
| III. | (09) | Searched own collection |
| IV. | (10) | Respondent's action |
| V. | (03) | Assigned subordinate to get it |
| VI | (05) | Asked a colleague |
| VII. | (02) | Asked my supervisor |
| VIII. | (08) | Requested search of department files |
| IX. | (06) | Asked an internal company consultant |
| X. | (10) | Searched company TIC |
| XI. | (7) | Requested library search |
| XII. | (15) | Requested data from manufacturer, vendor, or supplier |
| XI. | (14) | Searched manufacturer, vendor, or supplier sources |
| XII. | (11) | Searched an outside library |
| XIII. | (16) | Asked an external consultant or expert |
| XIV | (13) | Requested search of DOD information data center |
| XIV. | (12) | Searched DOD information data center |
| XV. | (17) | Asked customer |

(Question 55)

| | | |
|---|---|---|
| I | (02) | Research - basic |
| II. | (01) | Research - applied |
| III. | (11) | System analysis |
| IV. | (03) | Development - advanced |
| V. | (04) | Development - engineering |
| VI. | (05) | Development - operational system |
| VII. | (06) | R&D support |
| VIII. | (07) | Test or evaluation |
| IX. | (09) | Production processes |
| X. | (09) | Production end-items |
| XI. | (10) | Reliability or quality control |
| XII. | (12) | Customer relations |

## Table 3-145. Location of First Source for Information vs. Field of Work Position

```
    Q14    IS CROSS TABULATED WITH      Q56      OR.
VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1
NUMBER OF REPLICATIONS= 5359
VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     2      15       1
     1       9       1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q14
  15 .      6     1     8    25    28     8    10    14          100
     T.     0     0     0     0     1     0     0     0            2
     R.     6     1     8    25    28     8    10    14          100
     C.     1     1     3     2     2     1     1     3            2
        .
  14 .      7     1     8     8    23     7     7     3     1     65
     T.     0     0     0     0     0     0     0     0     0      1
     R.    11     2    12    12    35    11    11     5     2    100
     C.     1     1     3     1     2     1     1     1     1      1
        .
  13 .      6     2           3     9    11     6     4     1     46
     T.     0     0           0     0     0     0     0     0      1
     R.    13     4           7    20    24    13    17     2    100
     C      1     2           0     1     2     1     2     1      1
        .
  12 .      5     4     2     8     1     5     4     2           31
     T.     0     0     0     0     0     0     0     0            1
     R.    16    13     6    26     3    16    13     6          100
     C.     1     4     1     1     0     1     1     0            1
        .
  11 .     32     2    14    79   105    30    38    17     2    319
     T.     1     0     0     1     2     1     1     0     0      6
     R.    10     1     4    25    33     9    12     5     1    100
     C.     6     2     5     7     7     5     6     4     2      6
        .
  10 .     44     9    22    95   121    93    64    30    16    454
     T.     1     0     0     2     2     2     1     1     0      9
     R.     9     2     4    19    24    19    13     6     3    100
     C.     8     9     7     8     8    17     9     7    15      9
        .
   9 .     71           26   154   106    44    65    29     8    507
     T.     1           0     3     2     1     1     1     0      9
     R.    14           5    30    21     9    13     7     2    100
     C.    13           9    13     7     8    10     8     8      9
        .
   8 .     28     3    12    91    81    25    44    12     1    297
     T.     1     0     0     2     2     0     1     0     0      6
     R.     9     1     4    31    27     8    15     4     0    100
     C.     5     3     4     8     6     5     6     3     1      6
        .
   7 .      6     2     2    20    23     8     9           2     72
     T.     0     0     0     0     0     0     0           0      1
     R.     8     3     3    28    32    11    13           3    100
     C.     1     7     1     2     2     1     1           2      1
        .
   6 .     68    14    51   182   210    52    96    74    22    769
     T.     1     0     1     3     4     1     2     1     0     14
     R.     9     2     7    24    27     7    12    10     3    100
     C.    12    14    17    15    15     9    14    18    22     14
        .
   5 .     41     5    11    47    68    28    26     9     1    236
     T.     1     0     0     1     1     1     0     0     0      4
     R.    17     2     5    20    29    12    11     4     0    100
     C.     7     5     4     4     5     5     4     2     1      4
        .
   4 .     16     5    17    16    37    19    17     9          136
     T.     0     0     0     0     1     0     0     0            3
     R.    12     4    13    12    27    14    13     7          100
     C.     3     5     6     1     3     3     3     2            3
        .
   3 .     60    18    59   148   166    66   107    58    16    695
     T.     1     0     1     3     3     1     2     1     0     13
     R.     9     3     8    21    24     9    15     8     2    100
     C.    11    18    19    12    11    12    16    14    14     13
        .
   2 .    115    28    39   204   280   104   134    81    20   1005
     T.     2     1     1     4     5     2     3     2     0     19
     R.    11     3     4    20    28    10    13     8     2    100
     C.    21    28    13    17    19    19    20    20    20     19
```

Table 3-145. (Continued)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 • | 52 | 6 | 30 | 126 | 107 | 55 | 50 | 54 | 12 | 572 |
| T• | 1 | 0 | 1 | 2 | 3 | 1 | 1 | 1 | 0 | 11 |
| R• | 5 | 1 | 5 | 22 | 33 | 10 | 9 | 9 | 2 | 100 |
| C• | 9 | 6 | 10 | 10 | 13 | 10 | 7 | 13 | 12 | 11 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ( 1) | 1 | | 3 | | 5 | | 7 | | 9 | |
| 056 | | 2 | | 4 | | 6 | | 8 | | |
| COLUMN TOTAL | 557 | 100 | 300 | 1206 | 1445 | 555 | 677 | 484 | 100 | |
| PERCENT TOTAL | 10 | 2 | 6 | 23 | 27 | 10 | 13 | 8 | 2 | |

GRAND TOTAL= 5344

CHI-SQUARE (OF TABLE) = 330.54556
DF= 112

VALUES NOT ENTERED 15

| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 370 | 3 | 0 |
| 439 | 2 | 0 |
| 444 | 1 | 0 |
| 449 | 1 | 0 |
| 465 | 14 | 0 |
| 472 | 2 | 0 |
| 479 | 14 | 0 |
| 710 | 2 | 0 |
| 727 | 1 | 0 |
| 736 | 2 | 0 |
| 745 | 1 | 0 |
| 1303 | 0 | 7 |
| 1957 | 11 | 0 |
| 1964 | 10 | 0 |
| 4389 | 0 | 5 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0067

| | | | |
|---|---|---|---|
| MEAN( 1)= | 4.83654 | SD( 1)= | 1.97515 |
| MEAN( 2)= | 5.66169 | SD( 2)= | 3.73006 |

(Question 14)
I. (61) Received with task assignment
II. (84) Recalled it
III. (89) Searched own collection
IV. (19) Respondent's action
V. (83) Assigned subordinate to get it
VI. (86) Asked a colleague
VII. (82) Asked my supervisor
VIII. (88) Requested search of department files
IX. (86) Asked an internal company consultant
X. (10) Searched company TIC
X. (7) Requested library search
XI. (15) Requested data from manufacturer, vendor, or supplier
XI. (14) Searched manufacturer, vendor, or supplier sources
XII. (11) Searched an outside library
XIII. (18) Asked an external consultant or expert
XIV. (13) Requested search of DOD information/data center
XIV. (12) Searched DOD information/data center
XV. (17) Asked customer

(Question 56)
I. Production, Management and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(26) Production and management
(28) Psychology and human engineering
II. Medical Sciences
(16) Medical sciences
III. Mechanical, Industrial, Civil and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation
IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided missiles
(19) Navigation
V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment
VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems
VIII. Research and Research Equipment
(30) Research and research equipment
IX. Mathematics
(15) Mathematics

## Table 3-146. Acquisition From First Source vs. Why First Source Used

```
     Q17    IS CROSS TABULATED WITH      Q15      OR.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5350

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     2       5       1
     1       6       1
```

| ( 2) Q17 | | (EXTREME WEIGHT VALUE IS ONE TOTAL | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 5 • | 355 | 526 | 148 | 560 | 278 | 622 | 2511 |
| T• | 7 | 10 | 3 | 11 | 5 | 12 | 47 |
| R• | 14 | 21 | 6 | 23 | 11 | 25 | 100 |
| C• | 61 | 37 | 40 | 49 | 55 | 49 | 47 |
| 4 • | 215 | 791 | 101 | 539 | 206 | 661 | 2513 |
| T• | 4 | 15 | 2 | 10 | 4 | 11 | 47 |
| R• | 9 | 32 | 4 | 21 | 8 | 26 | 100 |
| C• | 37 | 55 | 44 | 45 | 40 | 47 | 47 |
| 3 • | 6 | 74 | 40 | 52 | 14 | 48 | 234 |
| T• | 0 | 1 | 1 | 1 | 0 | 1 | 4 |
| R• | 3 | 32 | 17 | 22 | 6 | 18 | 100 |
| C• | 1 | 5 | 11 | 4 | 4 | 3 | 4 |
| 2 • | | 25 | 17 | 1_ | 4 | 4 | 57 |
| T• | | 0 | 0 | 3 | 0 | 0 | 1 |
| R• | | 44 | 21 | 21 | 7 | 7 | 100 |
| C• | | 2 | 3 | 1 | 1 | 0 | 1 |
| 1 • | 4 | 8 | 7 | 11 | 3 | 4 | 37 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 11 | 22 | 19 | 30 | 8 | 11 | 100 |
| C• | 1 | 1 | 2 | 1 | 1 | 0 | 1 |
| ( 1) Q15 | 1 | 2 | 3 | 4 | 5 | 6 | |

(Question 17)
I. (4) Irrelevant or inappropriate information
II. (5) Nothing
III. (3) Reference to another source
IV. (2) Part of the information
V. (1) All the information needed

(Question 15)
I. (1) Received with task assignment
II. (4) Available, handy, or easy to use
III. (6) Found helpful previously
IV. (3) Most authoritative
V. (2) Only source known
VI. (5) Recalled, or was told, that specific chunk was available from the source

| | | | | | |
|---|---|---|---|---|---|
| COLUMN TOTAL | 580 | 1420 | 305 | 1194 | 543 | 1274 |
| PERCENT TOTAL | 10 | 26 | 6 | 22 | 9 | 23 |

GRAND TOTAL= 5350

CHI-SQUARE (IN TABLE) = 211.42312
DF= 23

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT = .0401

| | | | | | |
|---|---|---|---|---|---|
| MEAN( 1)= | 4.6441 | SD( 1)= | 1.74128 | | |
| MEAN( 2)= | 4.3d355 | SD( 2)= | 0.64024 | | |

## Table 3-147. Desired Class of Information vs. Acquisition From First Source

Q16 IS CROSS TABULATED WITH Q17 ON.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1.

NUMBER OF REPLICATIONS= 4233

VARIABLE MAXIMUM MINIMUM AS SPECIFIED
2 17 1
1 5 1

| ( 2) Q16 | (EXTREME PI.41 VALUE IS ROW TOTAL) | | | | | |
|---|---|---|---|---|---|---|
| 14 • | 2 | 3 | 13 | 66 | 203 | 427 |
| T• | 0 | 0 | 0 | 5 | 5 | 10 |
| R• | 0 | 1 | 3 | 48 | 48 | 100 |
| C• | 0 | 0 | 0 | 10 | 11 | 10 |
| • | | | | | | |
| 13 • | 3 | | 7 | 64 | 93 | 187 |
| T• | 0 | | 0 | 2 | 2 | 4 |
| R• | 2 | | 4 | 45 | 50 | 100 |
| C• | 12 | | | 4 | 5 | 4 |
| • | | | | | | |
| 12 • | 4 | 5 | 52 | 316 | 147 | 524 |
| T• | 0 | 0 | 1 | 7 | 3 | 12 |
| R• | 1 | 1 | 10 | 60 | 28 | 100 |
| C• | 15 | 11 | 25 | 15 | 8 | 12 |
| • | | | | | | |
| 11 • | | 1 | 3 | 55 | 47 | 106 |
| T• | | 0 | 0 | 1 | 1 | 3 |
| R• | | 1 | 3 | 52 | 44 | 100 |
| C• | | 2 | 1 | 3 | 2 | 3 |
| • | | | | | | |
| 10 • | 8 | 16 | 42 | 589 | 569 | 1224 |
| T• | 0 | 0 | 1 | 14 | 13 | 29 |
| R• | 1 | 1 | 3 | 48 | 46 | 100 |
| C• | 31 | 34 | 20 | 29 | 30 | 29 |
| • | | | | | | |
| 9 • | 3 | 2 | 14 | 212 | 258 | 489 |
| T• | 0 | 0 | 0 | 5 | 6 | 12 |
| R• | 1 | 0 | 3 | 43 | 53 | 100 |
| C• | 12 | 4 | 7 | 16 | 14 | 12 |
| • | | | | | | |
| 8 • | | | 5 | 89 | 92 | 186 |
| T• | | | 0 | 2 | 2 | 4 |
| R• | | | 3 | 48 | 49 | 100 |
| C• | | | 2 | 4 | 5 | 4 |
| • | | | | | | |
| 7 • | 1 | 2 | 2 | 74 | 80 | 159 |
| T• | 0 | 0 | 0 | 2 | 2 | 4 |
| R• | 1 | 1 | 1 | 47 | 50 | 100 |
| C• | 4 | 4 | 1 | 4 | 4 | 4 |
| • | | | | | | |
| 6 • | | | | 20 | 16 | 36 |
| T• | | | | 0 | 0 | 1 |
| R• | | | | 56 | 44 | 100 |
| C• | | | | 1 | 1 | 1 |
| • | | | | | | |
| 5 • | | 5 | 15 | 209 | 219 | 449 |
| T• | | 0 | 0 | 5 | 5 | 11 |
| R• | | 1 | 4 | 47 | 49 | 100 |
| C• | | 11 | 8 | 10 | 12 | 11 |
| • | | | | | | |
| 4 • | 1 | 3 | 12 | 70 | 79 | 165 |
| T• | 0 | 0 | 0 | 2 | 2 | 4 |
| R• | 1 | 2 | 7 | 42 | 48 | 100 |
| C• | 4 | 6 | 6 | 3 | 4 | 4 |
| • | | | | | | |
| 3 • | | 1 | | 19 | 35 | 55 |
| T• | | 0 | | 0 | 1 | 1 |
| R• | | 2 | | 35 | 64 | 100 |
| C• | | 2 | | 1 | 2 | 1 |
| • | | | | | | |
| 2 • | 1 | 1 | 2 | 26 | 17 | 47 |
| T• | 0 | 0 | 0 | 1 | 0 | 1 |
| R• | 2 | 2 | 4 | 55 | 36 | 100 |
| C• | 4 | 2 | 1 | 1 | 1 | 1 |
| • | | | | | | |
| 1 • | 3 | 8 | 34 | 81 | 49 | 179 |
| T• | 0 | 0 | 1 | 2 | 1 | 4 |
| R• | 2 | 4 | 21 | 45 | 27 | 100 |
| C• | 12 | 17 | 18 | 4 | 3 | 4 |
| • | | | | | | |
| ( 1) Q17 | 1 | 2 | 3 | 4 | 5 | |
| COLUMN TOTAL | 26 | 47 | 206 | 2050 | 1904 | |
| PERCENT TOTAL | 0 | 1 | 4 | 48 | 44 | |

(Question 16)
I. (15) Requested information source
II. (1) Concepts
III. (8) Raw data
IV. (9) Meta aids and formulae; computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (6) Specifications
X. (5) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding, administrative action

(Question 17)
I. (4) Irrelevant or inappropriate information
II. (5) Nothing
III. (3) Reference to another source
IV. (2) Part of the information
V. (1) All the information needed

GRAND TOTAL= 4233

CHI-SQUARE (OF TABLE) 281.50871
DF= 52

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0279
MEAN( 1)= 4.36050 SD( 1)= 0.68433
MEAN( 2)= 9.13395 SD( 2)= 3.37304

## Table 3-148. Actual Volume of Transporting Medium vs. Desired Class of Information

-021 IS CROSS TABULATED WITH -[illegible] OP.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 9359

| VARIABLE | MAXIMUM | MINIMUM | (AS SPECIFIED) |
|---|---|---|---|
| 2 | 5 | 1 | |
| 1 | 14 | 1 | |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| -021 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 68 | 15 | 19 | 37 | 127 | 13 | 35 | 54 | 146 | 350 | 44 | 140 | 63 | 150 | 1277 |
| T | 2 | 0 | 0 | 1 | 5 | 0 | 1 | 1 | 3 | 8 | 1 | 4 | 1 | 4 | 30 |
| R | 5 | 1 | 1 | 3 | 10 | 1 | 3 | 4 | 11 | 28 | 3 | 12 | 5 | 12 | 100 |
| C | 38 | 32 | 35 | 23 | 29 | 36 | 22 | 29 | 30 | 29 | 42 | 28 | 34 | 35 | 30 |
| 3 | 90 | 25 | 17 | 67 | 165 | 14 | 62 | 67 | 137 | 491 | 36 | 290 | 60 | 143 | 1662 |
| T | 2 | 1 | 0 | 2 | 4 | 0 | 1 | 2 | 3 | 12 | 1 | 7 | 1 | 3 | 39 |
| R | 5 | 2 | 1 | 4 | 10 | 1 | 4 | 4 | 8 | 30 | 2 | 17 | 4 | 9 | 100 |
| C | 50 | 53 | 31 | 41 | 36 | 39 | 39 | 36 | 28 | 30 | 34 | 55 | 22 | 34 | 39 |
| 2 | 20 | 6 | 17 | 44 | 126 | 6 | 39 | 42 | 182 | 318 | 20 | 75 | 37 | 103 | 1035 |
| T | 0 | 0 | 0 | 1 | 3 | 0 | 1 | 1 | 4 | 8 | 0 | 2 | 1 | 2 | 25 |
| R | 2 | 1 | 2 | 4 | 12 | 1 | 4 | 4 | 18 | 31 | 2 | 7 | 4 | 10 | 100 |
| C | 11 | 13 | 31 | 27 | 28 | 17 | 25 | 23 | 37 | 26 | 19 | 14 | 29 | 24 | 29 |
| 1 | 1 | 1 | 2 | 16 | 32 | 3 | 22 | 29 | 25 | 51 | 6 | 10 | 27 | 29 | 249 |
| T | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 1 | |
| R | 0 | 0 | 1 | 4 | 13 | 1 | 9 | 10 | 21 | 2 | 4 | 11 | 12 | 100 | |
| C | 1 | 2 | 4 | 10 | 7 | 8 | 14 | 12 | 5 | 4 | 6 | 2 | 14 | 7 | 6 |

| ( 1) | 1 | 3 | 5 | 7 | 9 | 11 | 13 |
|---|---|---|---|---|---|---|---|
| -01 | 2 | 4 | 6 | 8 | 10 | 12 | 14 |
| COLUMN TOTAL | 179 | 55 | 448 | 158 | 490 | 106 | 107 |
| | 47 | 164 | 36 | 186 | 1718 | 523 | 425 |
| PERCENT TOTAL | 4 | 1 | 11 | 4 | 12 | 3 | 6 |
| | 1 | 4 | 1 | 4 | 29 | 12 | 10 |

GRAND TOTAL= 4222

CHI-SQUARE (OF TABLE) 259.31431
DF= 39

VALUES NOT ENTERED 137

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0699

| | | | | | |
|---|---|---|---|---|---|
| MEAN( 1)= | 7.21739 | SD( 1)= | 4.77774 |
| MEAN( 2)= | 2.89233 | SD( 2)= | 0.91612 |

(Question 21)
I. (4) All from recall
II. (1) One report of document
III. (2) A sampling of the reports and documents available
IV. (3) All reports and documents that could be found pertinent to the question

(Question 16)
I. (15) Requested information source
II. (1) Concepts
III. (9) Raw data
IV. (5) Math aids and formulae; computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (9) Specifications
X (6) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding, administrative activ

## Table 3-149. Desired Volume of Transporting Medium vs. Desired Class of Information

```
  C22    IS CROSS TABULATED WITH      Q16      QR.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 4233

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       4       1
     1      14       1


  I 2I            (EXTREME RIGHT VALUE IS ROW TOTAL)
Q22
   4 .   103    20    21    53   175    18    46    74   195   504    59   263    74   184 1789
     T.     2     0     0     1     4     0     1     2     5    12     1     6     2     4   42
     R.     6     1     1     3    10     1     3     4    11    28     3    15     4    10  160
     C.    58    43    38    32    39    50    29    40    40    41    47    51    41    44   42
      .
   3 .    43    18    14    45    98    10    47    36    65   266    43   145    42    85  927
     T.     1     0     0     1     2     0     1     1     2     6     1     3     1     2   22
     R.     5     2     2     5     9     1     5     4     7    29     2    16     5     9  100
     C.    24    38    25    27    20    28    30    19    13    22    22    28    22    20   22
      .
   2 .    32     7    18    52   154     5    42    54   205   403    26    99    43   126 1268
     T.     1     0     0     1     4     0     1     1     5    10     1     2     1     3   30
     R.     3     1     1     4    12     0     3     4    16    32     2     8     3    10  100
     C.    19    15    33    32    34    14    26    30    42    33    25    19    23    30   30
      .
   1 .     1     2     2    15    32     3    24    20    24    51     7    12    26    30  249
     T.     0     0     0     0     1     0     1     0     1     1     0     0     1     1    6
     R.     0     1     1     6    13     1    10     8    10    20     3     5    10    12  100
     C.     1     4     4     9     7     8    15    11     5     4     7     2    14     7    6
      .
  I 1I        1           3           5           7           9          11          13
Q16                 2           4           6           8          10          12          14

COLUMN     175          55         449         159         499         106         187
 TOTAL              47          145          36         186        1224         524         427

PERCENT      4           1          10           3          11           2           4
 TOTAL              1           3           0           4          28          12          10


GRAND TOTAL=  4233

CHI-SQUARE (OF TABLE)        230.55614
DF=   39

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0143
MEAN  1I=        5.13355    SDI  1I=        3.37304
MEAN  2I=        3.00543    SDI  2I=        0.97851
```

(Question 22)

| | | |
|---|---|---|
| I. | (4) | All from recall |
| II. | (1) | One report or document |
| III. | (2) | A sampling of the reports and documents available |
| IV. | (3) | All the reports and documents that could be found pertinent to the question |

(Question 16)

| | | |
|---|---|---|
| I. | (15) | Requested information source |
| II. | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

## Table 3-150. Usefulness of Title Listings or Abstracts vs. Desired Class of Information

23 IS CROSS TABULATED WITH 16 OF.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
2 3 1
1 16 1

| I 23 / 22 | (EXTREME RIGHT VALUE IS ROW TOTAL) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 • | 72 | 23 | 9 | 42 | 89 | 13 | 31 | 43 | 92 | 266 | 71 | 279 | 38 | 52 | 1022 |
| T• | 2 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 2 | 6 | 1 | 5 | 1 | 1 | 24 |
| R• | 7 | 2 | 1 | 4 | 9 | 1 | 3 | 4 | 9 | 26 | 2 | 22 | 4 | 5 | 100 |
| C• | 40 | 49 | 16 | 29 | 20 | 36 | 19 | 23 | 19 | 32 | 22 | 44 | 20 | 12 | 24 |
| • | | | | | | | | | | | | | | | |
| 2 • | 43 | 15 | 7 | 49 | 68 | 12 | 36 | 29 | 76 | 278 | 15 | 120 | 32 | 80 | 840 |
| T• | 1 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 2 | 5 | 0 | 3 | 1 | 2 | 20 |
| R• | 5 | 2 | 1 | 5 | 8 | 1 | 4 | 3 | 9 | 32 | 2 | 16 | 4 | 10 | 100 |
| C• | 24 | 32 | 13 | 26 | 15 | 33 | 23 | 12 | 16 | 22 | 14 | 23 | 17 | 19 | 20 |
| • | | | | | | | | | | | | | | | |
| 1 • | 64 | 9 | 39 | 80 | 291 | 11 | 92 | 120 | 322 | 689 | 68 | 175 | 117 | 295 | 2372 |
| T• | 2 | 0 | 1 | 2 | 7 | 0 | 2 | 3 | 8 | 16 | 2 | 4 | 3 | 7 | 56 |
| R• | 3 | 0 | 2 | 3 | 12 | 0 | 4 | 5 | 14 | 29 | 3 | 7 | 5 | 12 | 100 |
| C• | 56 | 19 | 71 | 59 | 65 | 31 | 50 | 65 | 66 | 54 | 64 | 33 | 63 | 69 | 56 |
| • | | | | | | | | | | | | | | | |

| I 23 / 16 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COLUMN TOTAL | 179 | 47 | 55 | 165 | 448 | 36 | 159 | 186 | 490 | 1275 | 194 | 524 | 187 | 427 |
| PERCENT TOTAL | 4 | 1 | 1 | 4 | 11 | 1 | 4 | 4 | 12 | 29 | 3 | 12 | 4 | 10 |

GRAND TOTAL = 4234

CHI-SQUARE (OF TABLE) = 508.62265
DF= 24

VALUES NOT ENTERED=1125

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT = .0144

| | | | | |
|---|---|---|---|---|
| MEAN( 1)= | 7.21739 | SD( 1)= | 4.77774 |
| MEAN( 2)= | 1.66057 | SD( 2)= | 0.83028 |

(Question 23)
I. (3) Would not have been useful
II. (2) Would have found them useful
III. (1) Used them for this check

(Question 16)
I. (15) Requested information source
II. (1) Concepts
III. (9) Raw data
IV. (5) Math aids and formulae; computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (9) Specifications
X. (6) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding, administrative action

## Table 3-151. Actual Detail of Transporting Medium vs. Desired Class of Information

```
    G24    IS CROSS TABULATED WITH      Q16      00.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 3359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       3       1
     1      14       1

( 2)              (EXTREME RIGHT VALUE IS 00= TOTAL)
Q24
   3 =     48     22     22     64    137     20     51     71    153    379     39    207     45    117 1379
    T=      1      1      1      2      3      0      1      2      4      9      1      5      1      3   33
    R=      3      2      2      5     10      1      4      5     11     27      3     15      4      8  100
    C=     27     47     40     39     31     56     32     38     31     31     37     40     26     27   33
     .
   2 =     81     18     27     82    244     13     77     79    253    634     52    186    102    231 2081
    T=      2      0      1      2      6      0      2      2      6     15      1      4      2      5   49
    R=      4      1      1      4     12      1      4      4     12     30      2      9      5     11  100
    C=     45     30     49     50     54     36     48     42     92     52     49     34     55     56   49
     .
   1 =     50      7      6     19     67      3     31     36     84    212     15    129     34     79  774
    T=      1      0      0      0      2      0      1      1      2      5      0      3      1      2   .0
    R=      6      1      1      2      9      0      4      5     11     27      2     17      5     10  100
    C=     28     15     11     12     15      8     19     19     17     17     14     25     16     19   18
     .
 ( 1)      1            3            5            7            9           11           13
Q16              2            4            6            8           10           12           14

COLUMN   179           55          448          159          498          186          187
 TOTAL          47          165           36          186         1225          524          427

PERCENT    4            1           11            4           12            3            4
 TOTAL             1            4            1            4           29           12           10

GRAND TOTAL= 4234

CHI-SQUARE (OF TABLE)       96.46027
DF=  26

VALUES NOT ENTERED1125

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0032
MEAN( 1)=        7.21739   SD( 1)=        4.77774
MEAN( 2)=        2.13902   SD( 2)=        0.68925
```

(Question 24)
I. (1) A once over lightly
II. (2) A specific answer
III. (3) A detailed analysis

(Question 16)
I. (15) Requested information source
II. (1) Concepts
III. (8) Raw data
IV. (5) Math aids and formulae, computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (14) Evaluation
IX. (9) Specifications
X. (6) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding, administrative actio

## Table 3-152. Desired Detail of Transporting Medium vs. Desired Class of Information

```
 Q25    IS CROSS TABULATED WITH     Q16      OR.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 4233

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    2       3       1
    1      14       1


( 2)            (EXTREME RIGHT VALUE IS ROW TOTAL)
Q25
   3 =     68      5      21      65     106      19      54      79     104     448      42     256      59     137  1465
   T=      2      1       0       2       4       0       1       2       4      18       1       6       1       3    38
   R=      4      2       1       4      10       1       3       5      11      27       3      16       4       9   100
   C=     38     53      50      39      37      53      34      42      38      36      60      49      32      32    36
    =

   2 =     96     20      31      92     256      15      92      92     273     788      59     217      12     252  2315
   T=      2      0       1       2       6       0       2       2       6      17       1       5       3       6    45
   R=      4      1       1       4      11       1       4       4      12      33       3       9       5      11   100
   C=     56     43      50      56      57      42      58      49      56      58      56      41      60      59    55
    =

   1 =     15      2       1       8      27       2      13      15      32      76       5      24      16      38   303
   T=      0      0       0       0       1       0       0       0       1       2       0       1       0       1     7
   R=      5      1       1       3       9       1       4       5      11      25       2      17       5      13   100
   C=      8      4       5       5       6       6       8       8       7       6       5      10       9       9     7
    =

 ( 1)       1       2       3       4       5       6       7       8       9      10      11      12      13      14
Q16

COLUMN    179      55     443     159     489     186    1224     524     427
 TOTAL     47     165      36     186     128     528     427

PERCENT     4       1      10       3      11       2       4
 TOTAL      1       3       0       4      28      12      10

GRAND TOTAL= 4233

CHI-SQUARE (OF TABLE)        09.1.
DF=   26

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =-0.0219
MEAN  1)=       0.13395   SD(  1)=       3.37306
MEAN  2)=       2.90995   SD(  2)=       0.59760
```

(Question 25)
I. (1) A once over lightly
II. (2) A specified answer
III. (3) A detailed analysis

(Question 16)
I. (15) Requested information source
II. (1) Concepts
III. (9) Raw data
IV. (5) Math aids and formulae; computer programs
V. (3) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (9) Specifications
X. (8) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding, administrative action

## Table 3-153. Actual Layout of Transporting Medium vs. Desired Class of Information

026 IS CROSS TABULATED WITH C15 00.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 4177

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
2 17 1
1 16 1

( 21 (EXTREME RIGHT VALUE IS NON TOTALS

| 026 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 • | 1 | | 1 | | | | | | | 0 | | | 4 | 2 | 14 |
| T• | 0 | | 0 | | | | | | | 0 | | | 0 | 0 | 0 |
| R• | 7 | | 7 | | | | | | | 43 | | | 29 | 14 | 100 |
| C• | 1 | | 2 | | | | | | | 1 | | | 2 | 0 | 0 |
| 16 • | | | | | | | | | | 2 | | | | | 3 |
| T• | | | | | | | | | | 0 | | | | | 0 |
| R• | | | | | | | | | | 100 | | | | | 100 |
| C• | | | | | | | | | | 0 | | | | | 0 |
| 15 • | | | | | 1 | | | | | 1 | | | | | 2 |
| T• | | | | | 0 | | | | | 0 | | | | | 0 |
| R• | | | | | 50 | | | | | 50 | | | | | 100 |
| C• | | | | | 0 | | | | | 0 | | | | | 0 |
| 14 • | 11 | 1 | 3 | 12 | 42 | 2 | 15 | 17 | 35 | 184 | 13 | 56 | 24 | 46 | 361 |
| T• | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 1 | 0 |
| R• | 5 | 0 | 1 | 3 | 12 | 1 | 4 | 5 | 10 | 29 | 4 | 10 | 7 | 13 | 100 |
| C• | 6 | 4 | 6 | 7 | 9 | 5 | 10 | 9 | 7 | 9 | 15 | 7 | 13 | 11 | 9 |
| 13 • | 1 | 1 | 2 | 10 | 15 | 5 | 16 | 6 | 16 | 48 | 7 | 23 | 4 | 16 | 166 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| R• | 1 | 1 | 1 | 6 | 9 | 3 | 6 | 4 | 10 | 29 | 4 | 14 | 2 | 10 | 100 |
| C• | 1 | 2 | 4 | 6 | 3 | 14 | | 1 | 3 | 4 | 7 | 4 | 2 | 4 | 4 |
| 12 • | 25 | 3 | 7 | 9 | 35 | 2 | 24 | 25 | 51 | 186 | 8 | 60 | 13 | 46 | 491 |
| T• | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 0 | 1 | 0 |
| R• | 4 | 1 | 2 | 2 | 9 | 0 | 5 | 6 | 13 | 26 | 2 | 15 | 3 | 11 | 100 |
| C• | 8 | 5 | 13 | 6 | 9 | 0 | 14 | 14 | 16 | 9 | 8 | 12 | 7 | 11 | 10 |
| 11 • | 64 | 22 | 13 | 52 | 199 | 7 | 29 | 33 | 142 | 334 | 18 | 141 | 30 | 67 | 1111 |
| T• | 2 | 1 | 0 | 1 | 2 | 0 | 1 | 1 | 3 | 8 | 0 | 5 | 1 | 2 | 27 |
| R• | 6 | 2 | 1 | 5 | 18 | 1 | 3 | 3 | 13 | 30 | 2 | 17 | 3 | 6 | 100 |
| C• | 36 | 47 | 24 | 32 | 24 | 19 | 19 | 18 | 29 | 28 | 17 | 37 | 16 | 16 | 27 |
| 10 • | 3 | 1 | 1 | | 1 | 1 | | 2 | 1 | 12 | 3 | 6 | 2 | 7 | 40 |
| T• | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 8 | 3 | 3 | | 3 | 3 | | 5 | 3 | 30 | 3 | 15 | 5 | 18 | 100 |
| C• | 2 | 2 | 2 | | 0 | 3 | | 1 | 0 | 1 | 3 | 1 | 1 | 2 | 1 |
| 9 • | 7 | | 3 | 1 | 14 | | 6 | 2 | 13 | 46 | 3 | 5 | 3 | 12 | 115 |
| T• | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| R• | 6 | | 3 | 1 | 12 | | 5 | 2 | 11 | 40 | 3 | 5 | 3 | 10 | 100 |
| C• | 4 | | 6 | 1 | 3 | | 4 | 1 | 3 | 4 | 3 | 1 | 2 | 3 | 3 |
| 8 • | | | | 1 | 3 | | 1 | 3 | 7 | 12 | 6 | 8 | | 9 | 50 |
| T• | | | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 |
| R• | | | | 2 | 6 | | 2 | 6 | 14 | 24 | 12 | 16 | | 18 | 100 |
| C• | | | | 1 | 1 | | 1 | 2 | 1 | 1 | 6 | 2 | | 2 | 1 |
| 7 • | 31 | 10 | 4 | 32 | 35 | 6 | 23 | 17 | 100 | 102 | 16 | 90 | 22 | 58 | 546 |
| T• | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 2 | 0 | 2 | 1 | 1 | 13 |
| R• | 6 | 2 | 1 | 6 | 6 | 1 | 4 | 3 | 18 | 19 | 3 | 16 | 4 | 11 | 100 |
| C• | 17 | 21 | 7 | 20 | 8 | 17 | 15 | 9 | 20 | 9 | 16 | 17 | 12 | 14 | 13 |
| 6 • | 24 | 1 | 11 | 16 | 21 | 4 | 10 | 18 | 24 | 125 | 5 | 18 | 11 | 53 | 331 |
| T• | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 1 | 0 |
| R• | 4 | 0 | 3 | 5 | 6 | 1 | 5 | 5 | 7 | 38 | 2 | 5 | 3 | 16 | 100 |
| C• | 5 | 2 | 10 | 10 | 5 | 11 | 6 | 10 | 5 | 10 | 5 | 5 | 6 | 13 | 5 |
| 5 • | 10 | 3 | 7 | 3 | 45 | | 5 | 13 | 28 | 124 | 4 | 19 | 13 | 28 | 345 |
| T• | 0 | 0 | 0 | 0 | 2 | | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 1 | 0 |
| R• | 5 | 1 | 2 | 1 | 24 | | 1 | 4 | 8 | 36 | 1 | 5 | 4 | 6 | 100 |
| C• | 6 | 6 | 13 | 2 | 19 | | 3 | 7 | 6 | 10 | 4 | 4 | 7 | 7 | 6 |
| 4 • | | | | | 1 | | | | | 1 | | 3 | 1 | | 6 |
| T• | | | | | 0 | | | | | 0 | | 0 | 0 | | 0 |
| R• | | | | | 17 | | | | | 17 | | 50 | 17 | | 100 |
| C• | | | | | 0 | | | | | 0 | | 1 | 1 | | 0 |

Table 3-153. (Continued)

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 3 | 1 | | 2 | 16 | 2 | 4 | 9 | 25 | 37 | 3 | 14 | 12 | 20 | 148 |
| T• | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | C | 4 |
| R• | 2 | 1 | | 1 | 11 | 1 | 3 | 6 | 17 | 25 | 2 | 9 | 8 | 14 | 100 |
| C• | 2 | 2 | | 1 | 4 | 6 | 3 | 5 | 5 | 3 | 3 | 3 | 6 | 5 | 4 |
| • | | | | | | | | | | | | | | | |
| 2 • | 10 | | | | 7 | | 2 | 2 | 11 | 33 | 4 | 10 | 5 | 15 | 99 |
| T• | 0 | | | | 0 | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| R• | 10 | | | | 7 | | 2 | 2 | 11 | 33 | 4 | 10 | 5 | 15 | 100 |
| C | 6 | | | | 2 | | 1 | 1 | 2 | 3 | 4 | 2 | 3 | 4 | 2 |
| • | | | | | | | | | | | | | | | |
| 1 • | 3 | 4 | 2 | 23 | 62 | 7 | 29 | 33 | 35 | 106 | 13 | 35 | 42 | 44 | 438 |
| T• | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 3 | 0 | 1 | 1 | 1 | 10 |
| R• | 1 | 1 | 0 | 5 | 14 | 2 | 7 | 8 | 8 | 24 | 3 | 8 | 10 | 10 | 100 |
| C• | 2 | 9 | 4 | 14 | 14 | 19 | 19 | 18 | 7 | 9 | 13 | 7 | 23 | 10 | 10 |
| • | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ( 1) | 1 | | 3 | | 5 | | 7 | | 9 | | 11 | | 13 | |
| Q16 | | 2 | | 4 | | 6 | | 8 | | 10 | | 12 | | 14 |
| COLUMN | 179 | | 54 | | 447 | | 155 | | 488 | | 103 | | 186 | |
| TOTAL | | 47 | | 161 | | 36 | | 180 | | 1200 | | 518 | | 423 |
| PERCENT | 4 | | 1 | | 10 | | 3 | | 11 | | 2 | | 4 | |
| TOTAL | | 1 | | 3 | | 0 | | 4 | | 28 | | 12 | | 10 |

GRAND TOTAL= 4177

CHI-SQUARE (OF TABLE) 632.10031
DF= 208

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0038
MEAN( 1)= 5.13000 SD( 1)= 3.38177
MEAN( 2)= 8.38449 SD( 2)= 4.04762

(Question 26)

| | | |
|---|---|---|
| I | (14) | Recall |
| II. | (15) | Telephone conversation |
| III | (11) | Group discussion |
| IV | (4) | Photographs |
| V | (3) | Graphics (diagrams, drawings, etc.) |
| VI. | (2) | Tables or lists |
| VII | (1) | Narrative text |
| VIII | (18) | Narrative text and tables or lists |
| IX. | (9) | Graphics and lists |
| X. | (8) | Photographs and text |
| XI | (7) | Graphics and text |
| XII. | (16) | Graphics, text and oral |
| XIII | (17) | Graphics, text, oral, and recall |
| XIV | (12) | Informal briefing, with chalk or pencil drawings |
| XV | (5) | Microfilm - microfiche |
| XVI | (6) | Slides or motion pictures |
| XVII | (10) | Formal briefing or lecture |

(Question 16)

| | | |
|---|---|---|
| I. | (15) | Requested information source |
| II. | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding administrative action |

Table 3-154. Desired Layout of Transporting Medium vs. Desired Class of Information

027 IS CROSS TABULATED WITH Q16 OR,
VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1
NUMBER OF REPLICATIONS= 4213

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 17 | 1 |
| 1 | 14 | 1 |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| 027 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 * | 3 | | 1 | | | | | 1 | 1 | 5 | 1 | 3 | 5 | 4 | 28 |
| T* | 0 | | 0 | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R* | 11 | | 4 | | | | | 4 | 4 | 32 | 4 | 11 | 18 | 14 | 100 |
| C* | 2 | | 2 | | | | | 1 | 0 | 1 | 1 | 1 | 3 | 1 | 1 |
| * | | | | | | | | | | | | | | | |
| 16 * | 1 | | | | | | | 2 | | 5 | | | | | 8 |
| T* | 0 | | | | | | | 0 | | 0 | | | | | 0 |
| R* | 13 | | | | | | | 25 | | 63 | | | | | 100 |
| C* | 1 | | | | | | | 1 | | 0 | | | | | 0 |
| * | | | | | | | | | | | | | | | |
| 15 * | 1 | | | | 1 | | | 2 | | 2 | 1 | | | | 7 |
| T* | 0 | | | | 0 | | | 0 | | 0 | 0 | | | | 0 |
| R* | 14 | | | | 14 | | | 29 | | 29 | 14 | | | | 100 |
| C* | 1 | | | | 0 | | | 1 | | 0 | 1 | | | | 0 |
| * | | | | | | | | | | | | | | | |
| 14 * | 5 | 1 | 1 | 12 | 29 | 2 | 12 | 17 | 20 | 68 | 11 | 34 | 22 | 29 | 263 |
| T* | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 1 | 1 | 6 |
| R* | 2 | 0 | 0 | 5 | 11 | 1 | 5 | 6 | 8 | 26 | 4 | 13 | 8 | 11 | 100 |
| C* | 3 | 2 | 2 | 7 | 6 | 6 | 8 | 9 | 4 | 6 | 10 | 7 | 12 | 7 | 6 |
| * | | | | | | | | | | | | | | | |
| 13 * | | 1 | 2 | 5 | 10 | 4 | 8 | 7 | 8 | 35 | 5 | 12 | 1 | 8 | 106 |
| T* | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| R* | | 1 | 2 | 5 | 9 | 4 | 8 | 7 | 8 | 33 | 5 | 11 | 1 | 8 | 100 |
| C* | | 2 | 4 | 3 | 2 | 11 | 5 | 4 | 2 | 3 | 5 | 2 | 1 | 2 | 3 |
| * | | | | | | | | | | | | | | | |
| 12 * | 12 | 2 | 5 | 11 | 37 | 2 | 18 | 19 | 38 | 77 | 6 | 57 | 12 | 41 | 337 |
| T* | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 0 | 1 | 8 |
| R* | 4 | 1 | 1 | 3 | 11 | 1 | 5 | 6 | 11 | 23 | 2 | 17 | 4 | 12 | 100 |
| C* | 7 | 4 | 9 | 7 | 9 | 6 | 11 | 10 | 8 | 6 | 6 | 11 | 6 | 10 | 8 |
| * | | | | | | | | | | | | | | | |
| 11 * | 68 | 23 | 15 | 96 | 145 | 9 | 40 | 38 | 162 | 404 | 23 | 215 | 42 | 87 | 1306 |
| T* | 2 | 1 | 0 | 1 | 3 | 0 | 1 | 1 | 4 | 10 | 1 | 5 | 1 | 2 | 31 |
| R* | 5 | 2 | 1 | 4 | 10 | 1 | 3 | 3 | 12 | 31 | 2 | 16 | 3 | 7 | 100 |
| C* | 38 | 49 | 27 | 54 | 28 | 22 | 25 | 21 | 33 | 33 | 22 | 41 | 22 | 21 | 31 |
| * | | | | | | | | | | | | | | | |
| 10 * | 5 | 1 | 1 | | 4 | 1 | | 2 | 2 | 17 | 3 | 7 | 3 | 8 | 54 |
| T* | 0 | 0 | 0 | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R* | 9 | 2 | 2 | | 7 | 2 | | 4 | 4 | 31 | 6 | 13 | 6 | 15 | 100 |
| C* | 3 | 2 | 2 | | 1 | 3 | | 1 | 0 | 1 | 3 | 1 | 2 | 2 | 1 |
| * | | | | | | | | | | | | | | | |
| 9 * | 5 | | 3 | 3 | 15 | | 3 | 5 | 15 | 47 | 4 | 7 | 3 | 14 | 126 |
| T* | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| R* | 4 | | 2 | 2 | 12 | | 2 | 4 | 12 | 38 | 3 | 6 | 2 | 11 | 100 |
| C* | 3 | | 5 | 2 | 3 | | 2 | 3 | 3 | 4 | 4 | 1 | 2 | 3 | 3 |
| * | | | | | | | | | | | | | | | |
| 8 * | | | | 1 | 3 | | 1 | 3 | 9 | 12 | 5 | 8 | | 9 | 51 |
| T* | | | | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 1 |
| R* | | | | 2 | 6 | | 2 | 6 | 18 | 24 | 10 | 16 | | 18 | 100 |
| C* | | | | 1 | 1 | | 1 | 2 | 2 | 1 | 5 | 2 | | 2 | 1 |
| * | | | | | | | | | | | | | | | |
| 7 * | 28 | 9 | 6 | 31 | 35 | 7 | 23 | 16 | 113 | 110 | 17 | 88 | 24 | 66 | 573 |
| T* | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 3 | 0 | 2 | 1 | 2 | 14 |
| R* | 5 | 2 | 1 | 5 | 6 | 1 | 4 | 3 | 20 | 19 | 3 | 15 | 4 | 12 | 100 |
| C* | 16 | 19 | 11 | 19 | 8 | 19 | 15 | 9 | 23 | 9 | 16 | 17 | 13 | 16 | 14 |
| * | | | | | | | | | | | | | | | |
| 6 * | 15 | 1 | 12 | 17 | 23 | 1 | 12 | 18 | 28 | 141 | 8 | 22 | 8 | 64 | 370 |
| T* | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 1 | 0 | 2 | 9 |
| R* | 4 | 0 | 3 | 5 | 6 | 0 | 3 | 5 | 8 | 38 | 2 | 6 | 2 | 17 | 100 |
| C* | 8 | 2 | 22 | 10 | 5 | 3 | 8 | 10 | 6 | 12 | 8 | 4 | 4 | 15 | 9 |
| * | | | | | | | | | | | | | | | |
| 5 * | 20 | 3 | 7 | 4 | 87 | 1 | 6 | 12 | 38 | 145 | 4 | 22 | 15 | 28 | 392 |
| T* | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 3 | 0 | 1 | 0 | 1 | 9 |
| R* | 5 | 1 | 2 | 1 | 22 | 0 | 2 | 3 | 10 | 37 | 1 | 6 | 4 | 7 | 100 |
| C* | 11 | 6 | 13 | 7 | 19 | 3 | 4 | 7 | 8 | 12 | 4 | 4 | 8 | 7 | 9 |
| * | | | | | | | | | | | | | | | |
| 4 * | | | | | 1 | | 1 | 1 | | 2 | | 3 | 1 | | 9 |
| T* | | | | | 0 | | 0 | 0 | | 0 | | 0. | 0 | | 0 |
| R* | | | | | 11 | | 11 | 11 | | 22 | | 33 | 11 | | 100 |
| C* | | | | | 0 | | 1 | 1 | | 0 | | 1 | 1 | | 0 |

Table 3-154. (Continued)

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 • | 4 | 1 | | 2 | 14 | 3 | 3 | 6 | 17 | 24 | 2 | 10 | 9 | 14 | 109 |
| T• | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| R• | 4 | 1 | | 2 | 13 | 3 | 3 | 6 | 16 | 22 | 2 | 9 | 8 | 13 | 100 |
| C• | 2 | 2 | | 1 | 3 | 8 | 2 | 3 | 3 | 2 | 2 | 2 | 5 | 3 | 3 |
| 2 • | 9 | | | | 5 | | 1 | 3 | 6 | 17 | 2 | 3 | 4 | 11 | 61 |
| T• | 0 | | | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 15 | | | | 8 | | 2 | 5 | 10 | 28 | 3 | 5 | 7 | 18 | 100 |
| C• | 5 | | | | 1 | | 1 | 2 | 1 | 1 | 2 | 1 | 2 | 3 | 1 |
| 1 • | 3 | 5 | 2 | 23 | 58 | 7 | 29 | 31 | 32 | 101 | 13 | 32 | 36 | 41 | 415 |
| T• | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 2 | 0 | 1 | 1 | 1 | 10 |
| R• | 1 | 1 | 0 | 6 | 14 | 2 | 7 | 7 | 8 | 24 | 3 | 8 | 9 | 10 | 100 |
| C• | 2 | 11 | 4 | 14 | 13 | 19 | 18 | 17 | 7 | 8 | 12 | 6 | 20 | 10 | 10 |

| ( 1) | 1 | | 3 | | 5 | | 7 | | 9 | | 11 | | 13 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q16 | | 2 | | 4 | | 6 | | 8 | | 10 | | 12 | | 14 |
| COLUMN TOTAL | 175 | 47 | 55 | 165 | 447 | 36 | 157 | 183 | 489 | 1216 | 105 | 523 | 187 | 424 |
| PERCENT TOTAL | 4 | 1 | 1 | 3 | 10 | 0 | 3 | 4 | 11 | 28 | 2 | 12 | 4 | 10 |

GRAND TOTAL= 4217

CHI-SQUARE (OF TABLE) = 35.39094
DF= 208

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT = .0153
MEAN( 1)= 3.13140 SD( 1)= 3.37626
MEAN( 2)= 8.18490 SD( 2)= 3.86984

(Question 27)

| | | |
|---|---|---|
| I | (14) | Recall |
| II. | (12) | Telephone conversation |
| III | (11) | Group discussion |
| IV. | (4) | Photographs |
| V. | (3) | Graphics (maps, graphs, etc.) |
| VI | (5) | Tables or lists |
| VII. | (1) | Narrative text |
| VIII | (15) | Narrative text and tables or lists |
| IX. | (9) | Graphics and lists |
| X. | (8) | Photographs and text |
| XI. | (7) | Graphics and text |
| XII | (16) | Graphics, text and oral |
| XIII | (17) | Graphics, text, oral, and recall |
| XIV. | (12) | Information briefing, with chalk or pencil drawings |
| XV. | (5) | Microfilm - microfiche |
| XVI. | (6) | Slides or motion pictures |
| XVII | (10) | Formal briefing or lecture |

(Question 16)

| | | |
|---|---|---|
| I. | (15) | Requested information source |
| II. | (1) | Concepts |
| III | (5) | Raw data |
| IV. | (9) | Math aids and formulae, computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

Table 3-155. Class of Information vs. Desired Class of Information

Q28 IS CROSS TABULATED WITH Q16 OF.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
2 14 1
1 14 1

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)
Q28

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 * | 4 | | | | 3 | | 2 | 2 | 3 | 9 | 3 | 4 | 4 | 76 | 110 |
| T* | 0 | | | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 |
| R* | 4 | | | | 3 | | 2 | 2 | 3 | 8 | 3 | 4 | 4 | 64 | 100 |
| C* | 2 | | | | 1 | | 1 | 1 | 1 | 1 | 3 | 1 | 2 | 18 | 3 |
| 13 * | 6 | | 2 | 2 | 18 | 1 | 12 | 2 | 14 | 27 | 4 | 14 | 10 | 25 | 146 |
| T* | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 3 |
| R* | 4 | | 1 | 1 | 12 | 1 | 8 | 1 | 10 | 18 | 3 | 10 | 13 | 17 | 130 |
| C* | 3 | | 4 | 1 | 4 | 3 | 8 | 1 | 3 | 2 | 4 | 3 | 10 | 6 | 3 |
| 12 * | 13 | 3 | 2 | 1 | 13 | 3 | | 10 | 5 | 41 | 9 | 98 | 12 | 44 | 256 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 1 | 0 | 2 | 0 | 1 | 6 |
| R* | 5 | 1 | 1 | 0 | 5 | 1 | | 4 | 2 | 16 | 4 | 39 | 5 | 17 | 100 |
| C* | 7 | 6 | 4 | 1 | 3 | 8 | | 5 | 1 | 3 | 8 | 19 | 6 | 10 | 6 |
| 11 * | 5 | | 1 | 1 | 21 | | 6 | 6 | 10 | 25 | 46 | 21 | 3 | 28 | 173 |
| T* | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 4 |
| R* | 3 | | 1 | 1 | 12 | | 3 | 3 | 6 | 14 | 27 | 12 | 2 | 16 | 100 |
| C* | 3 | | 2 | 1 | 5 | | 4 | 3 | 2 | 2 | 43 | 4 | 2 | 7 | 4 |
| 10 * | 45 | 10 | 19 | 13 | 83 | 5 | 20 | 57 | 102 | 505 | 13 | 123 | 35 | 40 | 1070 |
| T* | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 2 | 12 | 0 | 3 | 1 | 1 | 25 |
| R* | 4 | 1 | 2 | 1 | 8 | 0 | 2 | 5 | 10 | 47 | 1 | 11 | 3 | 4 | 100 |
| C* | 25 | 21 | 35 | 8 | 19 | 14 | 13 | 31 | 21 | 41 | 12 | 23 | 19 | 9 | 25 |
| 9 * | 23 | | 1 | 8 | 72 | 1 | 71 | 16 | 230 | 198 | 7 | 31 | 14 | 64 | 686 |
| T* | 1 | | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 5 | 0 | 1 | 0 | 2 | 16 |
| R* | 3 | | 0 | 1 | 10 | 0 | 3 | 2 | 34 | 29 | 1 | 5 | 2 | 9 | 130 |
| C* | 13 | | 2 | 5 | 16 | 3 | 13 | 9 | 47 | 16 | 7 | 6 | 7 | 15 | 16 |
| 8 * | 6 | | 2 | 6 | 12 | | 2 | 13 | 8 | 40 | | 22 | 8 | 22 | 141 |
| T* | 0 | | 0 | 0 | 0 | | 0 | 0 | 0 | 1 | | 1 | 0 | 1 | 3 |
| R* | 4 | | 1 | 4 | 9 | | 1 | 9 | 6 | 28 | | 16 | 6 | 16 | 100 |
| C* | 3 | | 4 | 4 | 3 | | 1 | 7 | 2 | 3 | | 4 | 4 | 5 | 3 |
| 7 * | 3 | | 2 | 1 | 11 | 2 | 58 | 11 | 22 | 32 | 2 | 12 | 6 | 10 | 172 |
| T* | 0 | | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 4 |
| R* | 2 | | 1 | 1 | 5 | 1 | 34 | 6 | 13 | 19 | 1 | 7 | 3 | 6 | 100 |
| C* | 2 | | 4 | 1 | 2 | 6 | 36 | 6 | 4 | 3 | 2 | 2 | 3 | 2 | 4 |
| 6 * | 11 | 1 | 2 | 5 | 15 | 12 | 10 | 8 | 7 | 24 | 5 | 34 | 6 | 10 | 154 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 4 |
| R* | 7 | 1 | 1 | 3 | 10 | 8 | 6 | 5 | 5 | 16 | 3 | 25 | 4 | 5 | 100 |
| C* | 6 | 2 | 4 | 3 | 3 | 33 | 6 | 4 | 1 | 2 | 5 | 7 | 3 | 2 | 4 |
| 5 * | 19 | 1 | 2 | 8 | 132 | 3 | 4 | 14 | 45 | 105 | 9 | 42 | 23 | 32 | 439 |
| T* | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 2 | 0 | 1 | 1 | 1 | 10 |
| R* | 4 | 0 | 0 | 2 | 30 | 1 | 1 | 3 | 10 | 24 | 2 | 10 | 5 | 7 | 100 |
| C* | 11 | 2 | 4 | 5 | 29 | 8 | 3 | 8 | 9 | 9 | 8 | 8 | 12 | 7 | 10 |
| 4 * | 13 | 4 | 3 | 99 | 19 | 4 | 5 | 18 | 6 | 35 | | 31 | 31 | 13 | 284 |
| T* | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | | 1 | 1 | 0 | 7 |
| R* | 5 | 1 | 1 | 35 | 7 | 1 | 2 | 6 | 2 | 12 | | 11 | 11 | 5 | 100 |
| C* | 7 | 9 | 5 | 60 | 4 | 1 | 3 | 10 | 1 | 3 | | 6 | 17 | 3 | 7 |
| 3 * | 16 | 1 | 17 | 5 | 19 | 1 | 8 | 14 | 15 | 123 | 7 | 31 | 9 | 32 | 298 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 1 | 7 |
| R* | 5 | 0 | 6 | 2 | 6 | 0 | 3 | 5 | 5 | 41 | 2 | 10 | 3 | 11 | 100 |
| C* | 9 | 2 | 31 | 3 | 4 | 3 | 5 | 8 | 3 | 10 | 7 | 6 | 5 | 7 | 7 |
| 2 * | 15 | 27 | 2 | 16 | 30 | 4 | 11 | 15 | 23 | 61 | 1 | 57 | 17 | 31 | 310 |
| T* | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 7 |
| R* | 5 | 9 | 1 | 5 | 10 | 1 | 4 | 5 | 7 | 20 | 0 | 18 | 5 | 10 | 100 |
| C* | 8 | 57 | 4 | 10 | 7 | 11 | 7 | 8 | 5 | 5 | 1 | 11 | 9 | 7 | 7 |

| ( 1) | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q16 | | | | | | | | | | | | | |
| COLUMN TOTAL | 179 | 47 | 55 | 169 | 448 | 36 | 159 | 186 | 490 | 1225 | 106 | 524 | 187 | 427 |
| PERCENT TOTAL | 4 | 1 | 1 | 4 | 11 | 1 | 4 | 4 | 12 | 29 | 3 | 12 | 4 | 10 |

Table 3-155. (Continued)

```
GRAND TOTAL=  4234

CHI-SQUARE (OF TABLE)       3617.45496
DF=  156

VALUES NOT ENTERED1125

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0909
MEAN( 1)=        7.21739    SD( 1)=        4.77774
MEAN( 2)=        7.90035    SD( 2)=        3.31766
```

(Question 28)

| | | |
|---|---|---|
| II. | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI. | (7) | Production proc ses and procedures |
| XII. | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

(Question 16)

| | | |
|---|---|---|
| I. | (15) | Requested information source |
| II. | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

Table 3-156. Field of Information vs. Desired Class of Information

```
     Q29    IS CROSS TABULATED WITH      Q16      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       9       1
     1      14       4

( 2)                (EXTREME RIGHT VALUE IS ROW TOTAL)
Q29
   9 *     7     4     3    45     5     6     3    12     3     9          12    13     2   124
     T*    0     0     0     1     0     0     0     0     0     0           0     0     0     3
     R*    6     3     2    36     4     5     2    10     2     7          10    10     2   100
     C*    4     9     5    27     1    17     2     6     1     1           2     7     0     3
     *
   8 *     9     3     7    46    22     8    17    15    24    81     3    38    31    33   332
     T*    0     0     0     1     1     0     0     0     2     2     0     1     1     1     8
     R*    3     1     2    14     7     2     5     3     7    24     1    11     9    10   100
     C*    5     6    13    28     5    22    11     5     5     7     3     7    17     8     8
     *
   7 *    23    18    13    35    52     4    26    25    44   220     8   101    22    14   615
     T*    1     0     0     1     1     0     1     1     1     5     0     2     1     0    15
     R*    4     3     2     6    10     1     4     4     7    36     1    16     4     2   100
     C*   13    38    24    21    14    11    16    13     9    18     8    19    12     3    15
     *
   6 *    36     3     6     4    35     6    16    28    44   223    29   100    10    33   573
     T*    1     0     0     0     1     0     6     1     1     5     1     2     0     1    14
     R*    6     1     1     1     6     1     3     5     8    39     5    17     2     6   100
     C*   20     6    11     2     8    17    10    15     9    18    27    19     5     8    14
     *
   5 *    38     8    12    15   143     4    50    48   153   306    16   105    42    82  1024
     T*    1     0     0     0     3     0     1     1     4     7     0     2     1     2    24
     R*    4     1     1     1    14     0     5     5    15    30     2    10     4     8   100
     C*   21    17    22     9    32    11    31    26    31    25    15    20    23    19    24
     *
   4 *    30     5     6    15   103     1    28    24   112   235     4    69    27    65   724
     T*    1     0     0     0     2     0     1     1     3     6     0     2     1     2    17
     R*    4     1     1     2    14     0     4     3    15    32     1    10     4     9   100
     C*   17    11    11     9    23     3    18    13    23    19     4    13    15    15    17
     *

   3 *    16     1     4     1    40     3     5    16    54    56     5    20    13    57   291
     T*    0     0     0     0     1     0     0     0     1     1     0     0     0     1     7
     R*    5     0     1     0    14     1     2     5    19    19     2     7     4    20   100
     C*    9     2     7     1     9     8     3     9    11     5     5     4     7    13     7
     *
   2 *     7                 1     7     2     1     6     7    18          13     9     5    76
     T*    0                 0     0     0     0     0     0     0          0     0     0     2
     R*    9                 1     9     3     1     8     9    24          17    12     7   100
     C*    4                 1     2     6     1     3     1     1          2     5     1     2
     *
   1 *    11     5     4     3    31     2    13    17    49    62    41    63    19   136   456
     T*    0     0     0     0     1     0     0     0     1     1     1     1     0     3    11
     R*    2     1     1     1     7     0     3     4    11    14     9    14     4    30   100
     C*    6    11     7     2     7     6     8     9    10     5    39    12    10    32    11
     *
( 1)     1           3           5           7           9          11          13
Q16            2           4           6           8          10          12          14

COLUMN   177          55         448          159         490         106         186
 TOTAL         47          165         36          186         1210        521         427

PERCENT    4           1          11          4           12          3           4
 TOTAL         1           4           1           4           29          12          10

GRAND TOTAL=  4213

CHI-SQUARE (OF TABLE)       1797.95439
DF=  104

VALUES NOT ENTERED 1166

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0862
MEAN( 1)=        7.21739    SD( 1)=        4.77774
MEAN( 2)=        4.95111    SD( 2)=        2.12062
```

Table 3-156. (Continued)

(Question 20)

I. Production, Management and Social Sciences
- (22) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (02) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (25) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (28) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

(Question 16)

I. (15) Requested information source
II. (1) Concepts
III. (9) Raw data
IV. (5) Math aids and formulae; computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII (13) Evaluation
IX. (2) Specifications
X. (6) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding; administrative action

## Table 3-157. Discovery of Information Available, but Unknown, during Task vs. Desired Class of Information

```
    Q32    IS CROSS TABULATED WITH      Q16      QR.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 4233

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       2       1
     1      14       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q32
   2 *     34     12     12     30     95     10     29     30     99    254     23    124     34     84   877
   T*      1      0      0      1      2      2      1      1      2      6      1      3      1      2    21
   R*      4      1      1      3     11      1      3      3     11     29      3     14      4     10   104
   C*     19     26     22     18     21     29     18     16     22     21     22     24     18     20    21
     *
   1 *    145     35     43    125    354     26    130    156    390    970     83    410    153    343  3383
   T*      3      1      1      3      8      1      3      4      9     23      2      9      4      8    79
   R*      4      1      1      4     11      1      4      5     12     29      2     12      5     10   104
   C*     81     74     78     82     79     72     82     84     80     79     78     76     82     80    79
     *
     ********************************************************************************************************
 ( 1)      1              3              5              7              9             11             13
Q16              2              4              6              8             10             12             14

COLUMN    179             55            449            159            ...            106            187
 TOTAL             47            165             36            186           1224            524            427

PERCENT     4              1             10              3             11              7              4
 TOTAL             1              3              0              4             28             12             17

GRAND TOTAL=  4233

CHI-SQUARE (OF TABLE)         9.70015
DF=   13

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0061

MEAN( 1)=        9.33054   SD( 1)=        3.37304
MEAN( 2)=        1.20553   SD( 2)=        0.40413
```

(Question 32)
I. (2) No
II. (1) Yes

(Question 16)
I. (15) Requested information source
II. (1) Concepts
III. (8) Raw data
IV. (5) Math aids and formulae, computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (9) Specifications
X. (6) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding administrative action

## Table 3-158. Interviewer's Assessment of Difficulty in Use of Information vs. Desired Class of Information

```
   Q61   IS CROSS TABULATED WITH    Q16     ON.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 4233

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    2       5       1
    1      14       1


( 2)          (ENTABLE RIGHT VALUE IS ROW TOTAL)
Q61
   4 .    18     6     4    20    26     4     7    17    22    97     2    49     5    24   301
   T.     0     0     0     0     1     0     0     0     1     2     0     1     0     1     7
   R.     6     2     1     7     9     1     2     6     7    32     2    14     2     8   100
   C.    10    13     7    12     6    11     4     9     4     8     7     8     3     6     7
    .
   3 .   110    37    36   111   297    23   110   113   317   837    57   350    32   236  2764
   T.     3     1     1     3     6     1     3     3     7    20     1     9     3     6    65
   R.     4     1     1     4     9     1     4     4    11    30     2    14     5     9   100
   C.    65    79    65    57    58    64    65    61    65    68    54    73    71    55    65
    .
   2 .    19     5     7    20    61     6    12    20    60   129    22    45    12    81   497
   T.     0     0     0     0     1     0     0     0     1     3     1     1     0     2    12
   R.     4     1     1     4    12     1     2     4    12    26     4     9     2    16   100
   C.    11     6    13    12    14    17     8    11    12    11    21     9     6    19    12
    .
   1 .    26     1     6    14   103     3    30    36    90   161    20    56    37    86   671
   T.     1     0     0     0     2     0     1     1     2     4     0     1     1     2    16
   R.     4     0     1     2    15     0     4     5    13    24     3     8     6    13   100
   C.    15     2    15     8    23     8    19    19    18    13    14    11    20    20    16
    .
    ( 1)     1           3           5           7           9          11          13
Q16                 2           4           6           8          10          12          14

COLUMN   179           >         449         159         489         108          87
 TOTAL            47          165          56         186        1224         524         427

PERCENT    4           1          10           3          11           2           4
 TOTAL             1           3           0           4          28          17          10


GRAND TOTAL=  4233

CHI-SQUARE (OF TABLE)        144.81980
DF=  39

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.01104
MEAN( 1)=      3.33345     SD( 1)=      3.37304
MEAN( 2)=      7.03600     SD( 2)=      0.85110
```

(Question 16)

| | | |
|---|---|---|
| I. | (15) | Requested information source |
| II. | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

(Question 61)

| | | |
|---|---|---|
| I. | (1) | Obvious or prescribed |
| II. | (2) | Entirely or largely independent of professional judgment |
| III. | (3) | Entirely or largely dependent upon professional judgment |
| IV. | (4) | Difficult, because methods and procedures were lacking |

# Table 3-159. Interviewer's Assessment of Difficulty in Acquisition of Information vs. Desired Class of Information

```
     062    IS CROSS TABULATED WITH      016      ON.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1  ...

NUMBER OF REPLICATIONS= 4233

VARIABLE  MAXIMUM MINIMUM (AS SPECIFIED)
     2       14       1
     1       14       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
062
     3 *     32      15       7      46      65       6      27      39      56     218      12      99      16      43     684
       T*     1       0       0       1       2       0       1       1       1       5       0       2       0       1      16
       R*     5       2       1       7      10       1       4       6       8      32       2      14       2       7     100
       C*    18      28      13      28      14      17      17      21      11      18      11      19       9      11      16
       *
     2 *   101      28      24      70     223      17      81      83     277     631      54     275      21      20     2196
       T*     2       1       1       2       5       0       2       2       7      15       1       6       1       5      52
       R*     5       1       1       3      10       1       4       4      13      29       2      13       0       9     100
       C*    56      66      44      42      51      47      51      45      57      52      51      52      65      48      52
       *
     1 *    46       6      24      49     156      13      51      64     156     375      40     150      50     173    1353
       T*     1       0       1       1       4       0       1       2       4       9       1       4       1       4      32
       R*     3       0       2       4      12       1       4       5      12      28       3      11       4      13     100
       C*    26      13      44      30      35      36      32      34      32      31      34      29      27      41      32
       *
  ( 1)       1               3               5               7               9              11              13
  016                2               4               6               8              10              12              14

  COLUMN   179              55             449             159             489             106              87
  TOTAL              47             165              36             186            1224             524             427

  PERCENT    4               1              10               3              11               2               4
  TOTAL              1               3               0               4              28              12              10

  GRAND TOTAL=  4233

  CHI-SQUARE (OF TABLE)        90.94224
  DF=  26

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.0414
MEAN( 1)=        4.13395    SD( 1)=        3.37304
MEAN( 2)=        1.84110    SD( 2)=        0.67554
```

(Question 62)
I. (1) Quite clear or obvious
II. (2) Fairly clear or obvious
III. (3) Neither clear nor obvious

(Question 16)
I (15) Requested information source
II. (1) Concepts
III. (8) Raw data
IV (5) Math aids and formulae, computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (9) Specifications
X. (6) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (17) Utilization
XIV. (2) Cost and funding, administrative action

## Table 3-160. Desired Volume of Transporting Medium vs. Acquisition From First Source

```
    Q22    IS CROSS TABULATED WITH      Q17      ON.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5357

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       4       1
     1       5       1


( 2)              (1 INTERNAL RIGHT VALUE IS ROW TOTAL)
Q22
   4 *      21      32     114    1229     809   2205
    T*       0       1       2      23      15     41
    R*       1       1       5      56      37    100
    C*      57      55      49      49      32     41
     *
   3 *       2      11      22     743     328   1156
    T*       0       0       1      14       6     22
    R*       0       1       6      64      26    100
    C*       5      19      31      50      13     22
     *
   2 *      14      15      48     466    1062   1675
    T*       0       0       1       9      20     30
    R*       1       1       3      50      65    100
    C*      38      26      20      19      42     30
     *
   1 *                      1      55     317    373
    T*                       0       1       6      7
    R*                       0      15      85    100
    C*                       0       2      13      7
     *
      ********************************************
 ( 1)       1               3               5
Q17                 2               4

COLUMN     37             235            2514
 TOTAL                 56            2513

PERCENT     0              4              46
 TOTAL                 1              46
```

(Question 22)

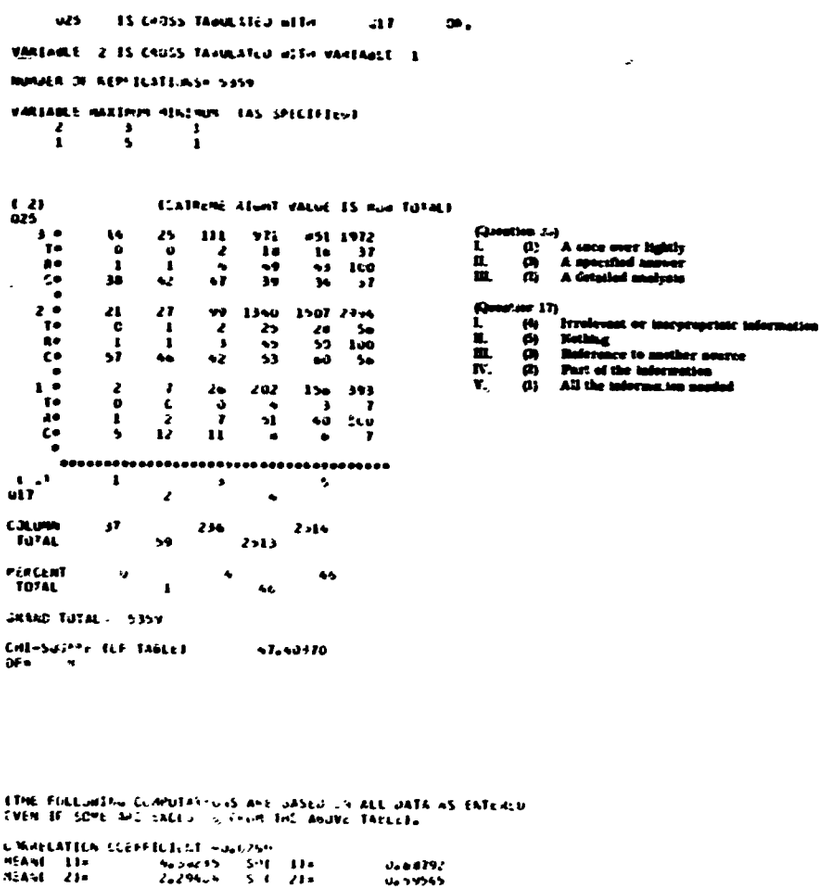
I. (4) All from recall
II. ( ) One report or document
III. (3) A sampling of the reports and documents available
IV. (2) All the reports and documents that could be found pertinent to the question

(Question 17)

I. (4) Irrelevant or inappropriate information
II. (5) Nothing
III. (3) Reference to another source
IV. (2) Part of the information
V. (1) All the information needed

```
GRAND TOTAL=  5357

CHI-SQUARE (OF TABLE)        713.30407
DF=  12

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.2571
MEAN( 1)=        4.363135   SD( 1)=        0.869702
MEAN( 2)=        2.490401   SD( 2)=        0.999634
```

# Table 3-161. Desired Detail of Transporting Medium vs. Acquisition From First Source



```
     025    IS CROSS TABULATED WITH      217      39.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       3       1
     1       5       1


( 2)              (CATEGORY ABOVE VALUE IS ROW TOTAL)
025
   3 .      66     25    111    971    851 1972
     T.       0      0      2     18     16   37
     R.       1      1      4     49     45  100
     C.      38     42     47     39     36   37
      .
   2 .      21     27     99   1360   1507 2994
     T.       0      1      2     25     28   56
     R.       1      1      3     45     50  100
     C.      57     46     42     53     80   56
      .
   1 .       2      7     26    202    356  393
     T.       0      0      0      4      3    7
     R.       1      2      7     51     40  100
     C.       5     12     11      8      6    7
      .
      ..........................................
 1 ...        1            3              5
017               2              4

COLUMN      37          236          2514
 TOTAL                 59          2513

PERCENT      0            4            44
 TOTAL                  1            46

GRAND TOTAL=  5359

CHI-SQUARE (LF TABLE)          47.60870
DF=    4
```

(Question 2.)
I. (1) A once over lightly
II. (3) A specified answer
III. (5) A detailed analysis

(Question 17)
I. (4) Irrelevant or interpretive information
II. (6) Nothing
III. (3) Reference to another source
IV. (2) Part of the information
V. (1) All the information needed

```
(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EMPTY FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.0750
MEAN  1I=        4.00695    S.D.  1I=        0.88892
MEAN  2I=        2.29404    S.D.  2I=        0.99565
```

# Table 3-162. Actual Composition of Transporting Medium vs. Actual Volume of Transporting Medium

Q18 IS CROSS TABULATED WITH Q21 OR,
VARIABLE 1 IS CROSS TABULATED WITH VARIABLE 2
NUMBER OF REPLICATIONS= 10,989

Q18

| | 1 | 2 | 3 | 4 | Row Total |
|---|---|---|---|---|---|
| 27 | 4 | 32 | 265 | 122 | 423 |
| T | 0 | 0 | 3 | 1 | 4 |
| R | 1 | 8 | 63 | 28 | 100 |
| C | 1 | 2 | 5 | 3 | 4 |
| 26 | 2 | 24 | 325 | 148 | 499 |
| T | 0 | 0 | 3 | 2 | 5 |
| R | 0 | 5 | 65 | 30 | 100 |
| C | 0 | 1 | 7 | 4 | 5 |
| 25 | 1 | 6 | 92 | 29 | 128 |
| T | 0 | 0 | 1 | 0 | 1 |
| R | 1 | 5 | 72 | 22 | 100 |
| C | 0 | 0 | 2 | 1 | 1 |
| 24 | 3 | 278 | 698 | 447 | 1426 |
| T | 0 | 3 | 6 | 4 | 13 |
| R | 0 | 20 | 49 | 31 | 100 |
| C | 1 | 13 | 14 | 13 | 13 |
| 23 | 0 | 44 | 52 | 38 | 134 |
| T | 0 | 0 | 1 | 0 | 1 |
| R | 0 | 33 | 39 | 28 | 100 |
| C | 0 | 2 | 11 | 1 | 1 |
| 22 | 4 | 56 | 122 | 139 | 321 |
| T | 0 | 1 | 1 | 1 | 3 |
| R | 1 | 18 | 38 | 43 | 100 |
| C | 1 | 3 | 2 | 4 | 3 |
| 21 | 7 | 45 | 121 | 81 | 254 |
| T | 0 | 0 | 1 | 1 | 2 |
| R | 3 | 18 | 48 | 31 | 100 |
| C | 1 | 2 | 3 | 2 | 2 |
| 20 | 0 | 30 | 22 | 34 | 86 |
| T | 0 | 0 | 0 | 1 | 1 |
| R | 0 | 35 | 26 | 39 | 100 |
| C | 0 | 1 | 1 | 1 | 1 |
| 19 | 0 | 23 | 35 | 60 | 118 |
| T | 0 | 0 | 0 | 1 | 1 |
| R | 0 | 20 | 30 | 50 | 100 |
| C | 0 | 1 | 1 | 2 | 1 |
| 18 | 0 | 12 | 132 | 65 | 209 |
| T | 0 | 0 | 1 | 1 | 2 |
| R | 0 | 6 | 63 | 31 | 100 |
| C | 0 | 1 | 3 | 2 | 2 |
| 17 | 0 | 15 | 125 | 71 | 211 |
| T | 0 | 0 | 1 | 1 | 2 |
| R | 0 | 7 | 59 | 34 | 100 |
| C | 0 | 1 | 1 | 2 | 2 |
| 16 | 0 | 5 | 24 | 12 | 41 |
| T | 0 | 0 | 0 | 0 | 0 |
| R | 0 | 12 | 59 | 29 | 100 |
| C | 0 | 0 | 1 | 0 | 0 |
| 15 | 1 | 162 | 128 | 168 | 461 |
| T | 0 | 1 | 1 | 2 | 4 |
| R | 1 | 35 | 28 | 36 | 100 |
| C | 1 | 8 | 3 | 5 | 4 |
| 14 | 0 | 1 | 8 | 4 | 13 |
| T | 0 | 0 | 0 | 0 | 0 |
| R | 0 | 8 | 62 | 30 | 100 |
| C | 0 | 0 | 0 | 0 | 0 |
| 13 | 0 | 4 | 11 | 13 | 28 |
| T | 0 | 0 | 0 | 0 | 0 |
| R | 0 | 14 | 39 | 47 | 100 |
| C | 0 | 0 | 0 | 0 | 0 |
| 12 | 0 | 66 | 51 | 43 | 160 |
| T | 0 | 1 | 1 | 0 | 2 |
| R | 0 | 41 | 32 | 27 | 100 |
| C | 0 | 3 | 1 | 1 | 2 |
| 11 | 0 | 8 | 24 | 22 | 54 |
| T | 0 | 0 | 0 | 0 | 0 |
| R | 0 | 15 | 44 | 41 | 100 |
| C | 0 | 0 | 1 | 1 | 0 |
| 10 | 0 | 4 | 15 | 9 | 28 |
| T | 0 | 0 | 0 | 0 | 0 |
| R | 0 | 14 | 54 | 32 | 100 |
| C | 0 | 0 | 0 | 0 | 0 |
| 9 | 2 | 145 | 183 | 241 | 571 |
| T | 0 | 1 | 2 | 2 | 5 |
| R | 0 | 25 | 32 | 43 | 100 |
| C | 0 | 7 | 4 | 7 | 5 |
| 8 | 3 | 184 | 267 | 222 | 676 |
| T | 0 | 2 | 2 | 2 | 6 |
| R | 0 | 27 | 40 | 33 | 100 |
| C | 1 | 9 | 5 | 6 | 6 |
| 7 | 57 | 45 | 159 | 119 | 380 |
| T | 1 | 0 | 1 | 1 | 3 |
| R | 15 | 12 | 42 | 31 | 100 |
| C | 12 | 2 | 3 | 3 | 3 |
| 6 | 7 | 68 | 111 | 110 | 296 |
| T | 0 | 1 | 1 | 1 | 3 |
| R | 2 | 23 | 38 | 37 | 100 |
| C | 1 | 3 | 2 | 3 | 3 |
| 5 | 2 | 17 | 40 | 31 | 90 |
| T | 0 | 0 | 1 | 0 | 1 |
| R | 2 | 19 | 45 | 34 | 100 |
| C | 0 | 1 | 1 | 1 | 1 |
| 4 | 1 | 55 | 229 | 139 | 424 |
| T | 0 | 1 | 2 | 1 | 4 |
| R | 0 | 13 | 54 | 33 | 100 |
| C | 0 | 3 | 5 | 4 | 4 |
| 3 | 32 | 534 | 1020 | 680 | 2266 |
| T | 0 | 5 | 9 | 6 | 20 |
| R | 1 | 24 | 45 | 30 | 100 |
| C | 7 | 26 | 21 | 19 | 20 |
| 2 | 0 | 32 | 91 | 84 | 207 |
| T | 0 | 0 | 1 | 1 | 2 |
| R | 0 | 16 | 44 | 40 | 100 |
| C | 0 | 2 | 2 | 2 | 2 |
| 1 | 363 | 191 | 543 | 388 | 1485 |
| T | 3 | 2 | 5 | 4 | 14 |
| R | 24 | 13 | 37 | 26 | 100 |
| C | 74 | 9 | 11 | 11 | 14 |
| Question 21 (Codes) | 1 | 2 | 3 | 4 | |
| COLUMN TOTAL | 491 | 2086 | 4893 | 3519 | |
| PERCENT TOTAL | 4% | 19% | 45% | 32% | = 100% |

GRAND TOTAL = 10,989

CHI-SQUARE (OF TABLE) = 74,315.13 MEAN (1) = [illegible] SD (1) = .3724
DF = 78
CORRELATION COEFFICIENT = [illegible] MEAN (2) = [illegible] SD (2) = [illegible]

(Question 21)

| | | |
|---|---|---|
| I. | (4) | All from recall |
| II. | (1) | One report or document |
| III. | (2) | A sampling of the reports and documents available |
| IV. | (3) | All reports and documents that could be found pertinent to the question |
| V. | | Did not receive chunk |

(Question 18)

| | | |
|---|---|---|
| I. | (22) | Previous knowledge |
| II. | (9) | Meetings and symposia |
| III. | (8) | Oral contacts - all other |
| IV. | (7) | Oral contacts with manufacturers |
| V. | (15) | Live demonstrations |
| VI. | (25) | Physical measurement or experiment |
| VII | (24) | Personal notes, logs and files |
| VIII. | (11) | Correspondence, memos and TWX |
| IX. | (4) | Drawings and schematics |
| X. | (20) | Photographs, maps and files |
| XI. | (5) | Parts lists |
| XII. | (23) | Computer printout |
| XIII. | (26) | Microfilm or microfiche |
| XIV. | (27) | Slides or motion pictures |
| XV | (6) | System specification document |
| XVI | (14) | Newsletters and other mass media |
| XVII. | (1) | Brochures |
| XVIII. | (2) | Catalogs |
| XIX. | (3) | Standards and codes |
| XX. | (10) | Directives |
| XXI. | (12) | Handbooks |
| XXII. | (13) | Manuals |
| XXIII. | (17) | Proposals |
| XXIV. | (18) | Reports |
| XXV. | (16) | Preprints and reprints |
| XXVI | (21) | Journals |
| XXVII | (19) | Textbooks |

# Table 3-163. Actual Composition of Transporting Medium vs. Actual Detail of Transporting Medium

Q18 IS CROSS TABULATED WITH Q24 OR,
VARIABLE 1 IS CROSS TABULATED WITH VARIABLE 2
NUMBERS OF REPLICATIONS = 10999

Q18

| | 1 | 2 | 3 | Row Total |
|---|---|---|---|---|
| 27 | 89 | 142 | 192 | 423 |
| T | 1 | 1 | 2 | 4 |
| R | 21 | 34 | 45 | 100 |
| C | 4 | 3 | 5 | 4 |
| 26 | 134 | 153 | 212 | 499 |
| T | 1 | 1 | 2 | 4 |
| R | 27 | 31 | 42 | 100 |
| C | 7 | 3 | 6 | 4 |
| 25 | 38 | 41 | 49 | 128 |
| T | 0 | 0 | 1 | 1 |
| R | 30 | 32 | 38 | 100 |
| C | 2 | 1 | 1 | 1 |
| 24 | 282 | 540 | 606 | 1428 |
| T | 3 | 5 | 5 | 13 |
| R | 20 | 38 | 42 | 100 |
| C | 14 | 10 | 17 | 13 |
| 23 | 34 | 62 | 38 | 134 |
| T | 0 | 1 | 0 | 1 |
| R | 26 | 46 | 28 | 100 |
| C | 2 | 1 | 1 | 1 |
| 22 | 32 | 183 | 106 | 321 |
| T | 0 | 2 | 1 | 3 |
| R | 10 | 57 | 33 | 100 |
| C | 2 | 3 | 3 | 3 |
| 21 | 46 | 135 | 73 | 254 |
| T | 0 | 1 | 1 | 2 |
| R | 18 | 53 | 29 | 100 |
| C | 2 | 3 | 2 | 2 |
| 20 | 6 | 54 | 26 | 86 |
| T | 1 | 0 | 0 | 1 |
| R | 7 | 63 | 30 | 100 |
| C | 0 | 1 | 1 | 1 |
| 19 | 21 | 64 | 33 | 118 |
| T | 0 | 1 | 0 | 1 |
| R | 18 | 54 | 28 | 100 |
| C | 1 | 1 | 1 | 1 |
| 18 | 42 | 111 | 56 | 209 |
| T | 0 | 1 | 1 | 2 |
| R | 20 | 53 | 27 | 100 |
| C | 2 | 2 | 2 | 2 |
| 17 | 46 | 105 | 60 | 211 |
| T | 0 | 1 | 1 | 2 |
| R | 22 | 50 | 28 | 100 |
| C | 2 | 2 | 2 | 2 |
| 16 | 17 | 10 | 14 | 41 |
| T | 0 | 0 | 0 | 0 |
| R | 42 | 24 | 34 | 100 |
| C | 1 | 0 | 0 | 0 |
| 15 | 65 | 216 | 180 | 461 |
| T | 1 | 2 | 1 | 4 |
| R | 14 | 47 | 39 | 100 |
| C | 3 | 4 | 5 | 4 |
| 14 | 3 | 4 | 6 | 13 |
| T | 0 | 0 | 0 | 0 |
| R | 23 | 31 | 46 | 100 |
| C | 0 | 0 | 0 | 0 |
| 13 | 4 | 16 | 8 | 28 |
| T | 0 | 0 | 0 | 0 |
| R | 14 | 57 | 29 | 100 |
| C | 0 | 0 | 0 | 0 |
| 12 | 15 | 73 | 72 | 160 |
| T | 0 | 1 | 0 | 1 |
| R | 9 | 46 | 45 | 100 |
| C | 1 | 1 | 0 | 1 |
| 11 | 9 | 32 | 13 | 54 |
| T | 0 | 0 | 0 | 0 |
| R | 17 | 59 | 24 | 100 |
| C | 0 | 1 | 0 | 0 |
| 10 | 4 | 16 | 8 | 28 |
| T | 0 | 0 | 0 | 0 |
| R | 14 | 57 | 29 | 100 |
| C | 0 | 0 | 0 | 0 |
| 9 | 76 | 318 | 177 | 571 |
| T | 1 | 3 | 1 | 5 |
| R | 13 | 56 | 31 | 100 |
| C | 4 | 6 | 5 | 5 |
| 8 | 146 | 363 | 167 | 676 |
| T | 1 | 3 | 2 | 6 |
| R | 22 | 54 | 24 | 100 |
| C | 7 | 7 | 5 | 6 |
| 7 | 55 | 168 | 157 | 380 |
| T | 1 | 1 | 1 | 3 |
| R | 14 | 44 | 42 | 100 |
| C | 3 | 3 | 4 | 3 |
| 6 | 47 | 163 | 88 | 298 |
| T | 0 | 2 | 1 | 3 |
| R | 16 | 55 | 29 | 100 |
| C | 2 | 3 | 2 | 3 |
| 5 | 15 | 46 | 29 | 90 |
| T | 0 | 1 | 0 | 1 |
| R | 17 | 51 | 32 | 100 |
| C | 1 | 1 | 1 | 1 |
| 4 | 77 | 220 | 128 | 425 |
| T | 1 | 2 | 1 | 4 |
| R | 18 | 52 | 30 | 100 |
| C | 4 | 4 | 4 | 4 |
| 3 | 480 | 1178 | 611 | 2269 |
| T | 4 | 11 | 6 | 21 |
| R | 21 | 52 | 27 | 100 |
| C | 23 | 22 | 17 | 21 |
| 2 | 49 | 87 | 73 | 209 |
| T | 0 | 1 | 1 | 2 |
| R | 24 | 42 | 35 | 100 |
| C | 2 | 2 | 2 | 2 |
| 1 | 227 | 825 | 433 | 1485 |
| T | 2 | 8 | 4 | 14 |
| R | 15 | 56 | 29 | 100 |
| C | 11 | 16 | 12 | 14 |
| Q24 | 1 | 2 | 3 | |
| (Codes) | | | | |
| COLUMN TOTAL | 2059 | 5325 | 3615 | |
| PERCENT TOTAL | 19% | 48% | 33% | |

GRAND TOTAL = 10,999

CHI-SQUARE (OF TABLE) 409.25
DF = 52

CORRELATION COEFFICIENT = .0622

MEAN (1) = 11.403 SD (1) = 9.3721

MEAN (2) = 2.141 SD (2) = .7043

(Question 18)

| | | |
|---|---|---|
| I. | (22) | Previous knowledge |
| II. | (9) | Meetings and symposia |
| III. | (8) | Oral contacts - all other |
| IV. | (7) | Oral contacts with manufacturers |
| V. | (15) | Live demonstrations |
| VI. | (25) | Physical measurement or experiment |
| VII. | (24) | Personal notes, logs and files |
| VIII. | (11) | Correspondence, memos and TWX |
| IX. | (4) | Drawings and schematics |
| X. | (20) | Photographs, maps and files |
| XI | (5) | Parts lists |
| XII. | (23) | Computer printout |
| XIII. | (26) | Microfilm or microfiche |
| XIV. | (27) | Slides or motion pictures |
| XV. | (6) | System specification document |
| XVI. | (14) | Newsletters and other mass media |
| XVII. | (1) | Brochures |
| XVIII. | (2) | Catalogs |
| XIX. | (3) | Standards and codes |
| XX. | (10) | Directives |
| XXI. | (12) | Handbooks |
| XXII. | (13) | Manuals |
| XXIII. | (17) | Proposals |
| XXIV. | (18) | Reports |
| XXV. | (16) | Preprints and reprints |
| XXVI. | (21) | Journals |
| XXVII. | (19) | Textbooks |

(Question 24)

| | | |
|---|---|---|
| I. | (1) | A once over lightly |
| II. | (3) | A specific answer |
| III. | (2) | A detailed analysis |

## Table 3-164. Desired Volume of Transporting Medium vs. Actual Volume of Transporting Medium

```
     -Q22   IS CROSS TABULATED WITH      -Q21     OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS- 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
       2       4       1
       1       5       1

( 2)                (EXTREME RIGHT VALUE IS ROW TOTAL)
-Q22
    4 *       6      51     646    1492 2195
      T*      0       1      12      28   41
      R*      0       2      29      68  100
      C*      2       4      32      95   41
       *
    3 *       2      35    1102      14 1153
      T*      0       1      21       0   22
      R*      0       3      96       1  100
      C*      1       3      54       1   22
       *
    2 *       5    1277     272      68 1622
      T*      0      24       5       1   30
      R*      0      79      17       4  100
      C*      1      94      13       4   30
       *
    1 *     358       1      13       1  373
      T*      7       0       0       0    7
      R*     96       0       3       0  100
      C*     96       0       1       0    7
       *
  ( 1)        1               3
-Q21                2               4

COLUMN      371            1033
 TOTAL                1364            1575

PERCENT       7              38
 TOTAL                  26              29
```

(Question 22)

| | | |
|---|---|---|
| I. | (4) | All from recall |
| II. | (1) | One report or document |
| III. | (2) | A sampling of the reports and documents available |
| IV. | (3) | All the reports and documents that could be found pertinent to the question |

(Question 21)

| | | |
|---|---|---|
| I. | (4) | All from recall |
| II | (1) | One report of document |
| III. | (2) | A sampling of the reports and documents available |
| IV. | (3) | All reports and documents that could be found pertinent to the question |

```
GRAND TOTAL=  5343

CHI-SQUARE (OF TABLE)      10392.47803
DF=    9

VALUES NOT ENTERED  16
  CASE NO.      VARIABLE  2      VARIABLE  1
     408                4                0
     458                0                2
    1303                0                0
    1614                4                0
    1765                4                0
    1945                4                0
    1962                2                0
    1966                2                0
    1985                4                0
    2947                4                0
    2986                4                0
    3630                2                0
    3859                3                0
    4755                5                0
    4766                4                0
    4792                4                0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.8774
MEAN( 1)=        2.89233   SD( 1)=        0.91612
MEAN( 2)=        2.96790   SD( 2)=        0.99780
```

Table 3-165. Actual Detail of Transporting Medium vs. Actual Volume of Transporting Medium

```
     -Q24   IS CROSS TABULATED WITH      -Q21     OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2        3        1
     1        4        1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
-Q24
   3 *      79    417    650    551 1697
    T*       1      8     12     10   32
    R*       5     25     38     37  100
    C*      21     31     32     35   32
     *
   2 *     262    791    786    867 2706
    T*       5     15     15     16   51
    R*      10     29     29     32  100
    C*      71     58     39     55   51
     *
   1 *      30    157    597    157  941
    T*       1      3     11      3   18
    R*       3     17     63     17  100
    C*       8     12     29     10   18
     *
 ( 1)        1              3
-Q21                2              4

COLUMN     371           2033
 TOTAL                1365          1575

PERCENT      7             38
 TOTAL                  26             29

GRAND TOTAL=  5344

CHI-SQUARE (OF TABLE)          395.71941
DF=     6
```

(Question 24)
I. (1) A once over lightly
II. (3) A specific answer
III. (2) A detailed analysis

(Question 21)
I. (4) All from recall
II (1) One report of document
III. (2) A sampling of the reports and documents available
IV. (3) All reports and documents that could be found pertinent to the question

```
VALUES NOT ENTERED  15
  CASE NO.      VARIABLE  2      VARIABLE  1
    408              1               0
   1303              1               0
   1614              1               0
   1765              1               0
   1945              1               0
   1962              2               0
   1966              1               0
   1985              2               0
   2947              1               0
   2986              1               0
   3630              2               0
   3859              2               0
   4755              1               0
   4766              1               0
   4792              1               0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0441
MEAN( 1)=       2.89233    SD( 1)=        0.91612
MEAN( 2)=       2.13902    SD( 2)=        0.68925
```

# Table 3-166. Actual Layout of Transporting Medium vs. Actual Volume of Transporting Medium

Q2e IS CROSS TABULATED WITH Q21 3R.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5290

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 17 | 1 |
| 1 | 4 | 1 |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q26 | | | | | |
|---|---|---|---|---|---|
| 17 * | | 8 | 8 | 1 | 17 |
| T* | | 0 | 0 | 0 | 0 |
| R* | | 47 | 47 | 6 | 100 |
| C* | | 1 | 0 | 0 | 0 |
| * | | | | | |
| 16 * | 1 | 1 | | 2 | 4 |
| T* | 0 | 0 | | 0 | 0 |
| R* | 25 | 25 | | 50 | 100 |
| C* | 0 | 0 | | 0 | 0 |
| * | | | | | |
| 15 * | | | | 3 | 3 |
| T* | | | | 0 | 0 |
| R* | | | | 100 | 100 |
| C* | | | | 0 | 0 |
| * | | | | | |
| 14 * | 2 | 144 | 193 | 124 | 463 |
| T* | 0 | 3 | 4 | 2 | 9 |
| R* | 0 | 31 | 42 | 27 | 100 |
| C* | 1 | 11 | 10 | 8 | 9 |
| * | | | | | |
| 13 * | 8 | 16 | 131 | 40 | 195 |
| T* | 0 | 0 | 2 | 1 | 4 |
| R* | 4 | 8 | 67 | 21 | 100 |
| C* | 2 | 1 | 7 | 3 | 4 |
| * | | | | | |
| 12 * | 1 | 80 | 257 | 127 | 465 |
| T* | 0 | 2 | 5 | 2 | 9 |
| R* | 0 | 17 | 55 | 27 | 100 |
| C* | 0 | 8 | 13 | 8 | 9 |

(Question 26)

| | | |
|---|---|---|
| I | (14) | Recall |
| II. | (13) | Telephone conversation |
| III | (11) | Group discussion |
| IV | (4) | Photographs |
| V | (3) | Graphics (diagrams, drawings, etc.) |
| VI. | (2) | Tables or lists |
| VII. | (1) | Narrative text |
| VIII. | (18) | Narrative text and tables or lists |
| IX. | (9) | Graphics and lists |
| X | (8) | Photographs and text |
| XI | (7) | Graphics and text |
| XII. | (16) | Graphics, text and oral |
| XIII | (17) | Graphics, text, oral, and recall |
| XIV. | (12) | Informal briefing, with chalk or pencil drawings |
| XV. | (5) | Microfilm - microfiche |
| XVI. | (6) | Slides or motion pictures |
| XVII. | (10) | Formal briefing or lecture |

(Question 21)

| | | |
|---|---|---|
| I | (4) | All from recall |
| II | (1) | One report of document |
| III. | (2) | A sampling of the reports and documents available |
| IV | (3) | All reports and documents that could be found pertinent to the question |

| | | | | | |
|---|---|---|---|---|---|
| * | | | | | |
| 11 * | 13 | 287 | 567 | 533 | 1400 |
| T* | 0 | 5 | 11 | 10 | 26 |
| R* | 1 | 21 | 41 | 38 | 100 |
| C* | 4 | 21 | 40 | 32 | 25 |
| * | | | | | |
| 10 * | | 10 | 24 | 12 | 51 |
| T* | | 0 | 1 | 0 | 1 |
| R* | | 20 | 47 | 24 | 100 |
| C* | | 1 | 1 | 1 | 1 |
| * | | | | | |
| 9 * | 1 | 45 | 91 | 47 | 188 |
| T* | 0 | 1 | 1 | 1 | 3 |
| R* | 1 | 24 | 48 | 25 | 100 |
| C* | 0 | 3 | 2 | 3 | 3 |
| * | | | | | |
| 8 * | | 20 | 19 | 18 | 57 |
| T* | | 0 | 0 | 0 | 1 |
| R* | | 34 | 33 | 33 | 100 |
| C* | | 1 | 1 | 1 | 1 |
| * | | | | | |
| 7 * | 4 | 256 | 345 | 144 | 699 |
| T* | 0 | 4 | 8 | 4 | 13 |
| R* | 1 | 37 | 49 | 20 | 100 |
| C* | 1 | 19 | 12 | 12 | 13 |
| * | | | | | |
| 6 * | 5 | 166 | 129 | 132 | 432 |
| T* | 0 | 3 | 2 | 2 | 8 |
| R* | 1 | 38 | 30 | 31 | 100 |
| C* | 1 | 12 | 8 | 8 | 8 |
| * | | | | | |
| 5 * | 1 | 145 | 106 | 136 | 41 |
| T* | 0 | 3 | 2 | 3 | 1 |
| R* | 0 | 35 | 26 | 36 | 100 |
| C* | 0 | 11 | 6 | 10 | 4 |
| * | | | | | |
| 4 * | | 1 | 4 | 3 | 1 |
| T* | | 0 | 0 | 0 | 0 |
| R* | | 13 | 50 | 38 | 100 |
| C* | | 0 | 0 | 0 | 0 |

| | | | | | |
|---|---|---|---|---|---|
| * | | | | | |
| 3 * | | 56 | 84 | 47 | 187 |
| T* | | 1 | 2 | 1 | 4 |
| R* | | 30 | 45 | 25 | 100 |
| C* | | 4 | 4 | | 4 |
| * | | | | | |
| 2 * | | 48 | 47 | 31 | 123 |
| T* | | 1 | 1 | 1 | 2 |
| R* | | 39 | 38 | 47 | 100 |
| C* | | 4 | 2 | 2 | 2 |
| * | | | | | |
| 1 * | 124 | 76 | 113 | 111 | 434 |
| T* | | 1 | 4 | 2 | 12 |
| R* | 29 | 17 | 26 | 26 | 100 |
| C* | 90 | 4 | 6 | 7 | 14 |
| * | | | | | |

**********

| ( 1) | 1 | 3 | |
|---|---|---|---|
| Q21 | 4 | | 4 |
| COLUMN TOTAL | 370 | 2010 | 1557 |
| PERCENT TOTAL | 6 | 37 | 29 |

GRAND TOTAL= 5490

CHI-SQUARE (OF TABLE) 2627.569982
DF= 48

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME WERE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.2746

| | | | | |
|---|---|---|---|---|
| MEAN( 1)= | 2.998368 | SD( 1)= | 0.90540 | |
| MEAN( 2)= | 8.624836 | SD( 2)= | 4.12096 | |

# Table 3-167. Desired Layout of Transporting Medium vs. Actual Volume of Transporting Medium

```
    -Q27   IS CROSS TABULATED WITH      Q-21     OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     2      17       0
     1       4       0

( 21            (EXTREME RIGHT VALUE IS ROW TOTAL)
-Q27
  17 *                  11    14     6    31
   T*                    0     0     0     1
   R*                   35    45    19   100
   C*                    1     1     0     1
     *
  16 *            1     1     5     3    10
   T*             0     0     0     0     0
   R*            10    10    50    30   100
   C*             0     0     0     0     0
     *
  15 *      2     1           4     3    10
   T*       0     0           0     0     0
   R*      20    10          40    30   100
   C*      13     0           0     0     0
     *
  14 *            1   115   117   108   341
   T*             0     2     2     2     6
   R*             0    34    34    32   100
   C*             0     6     6     7     6
     *
  13 *            5    15    83    27   130
   T*             0     0     2     1     2
   R*             4    12    64    21   100
   C*             1     1     4     2     2
     *
  12 *      1     1    75   209   107   393
   T*       0     0     1     4     2     7
   R*       0     0    19    53    27   100
   C*       7     0     5    10     7     7
     *
  11 *      3    18   320   738   554  1633
   T*       0     0     6    14    10    30
   R*       0     1    20    45    34   100
   C*      20     5    23    36    35    30
     *
  10 *            1    11    42    15    69
   T*             0     0     1     0     1
   R*             1    16    61    22   100
   C*             0     1     2     1     1
     *
   9 *                  39    57    52   148
   T*                    1     1     1     3
   R*                   26    39    35   100
   C*                    3     3     3     3
     *
   8 *      1           21    20    17    59
   T*       0           0     0     0     1
   R*       2           36    34    29   100
   C*       7           2     1     1     1
     *
   7 *      5     5    266   260   198   734
   T*       0     0     5     5     4    14
   R*       1     1    36    35    27   100
   C*      33     1    19    13    13    14
     *
   6 *            5   170   156   146   477
   T*             0     3     3     3     9
   R*             1    35    33    31   100
   C*             1    12     8     9     9
     *
   5 *      1     2   159   138   166   465
   T*       0     0     3     3     3     9
   R*       0     0    34    30    36   100
   C*       7     1    12     7    11     9
     *
   4 *                  1     4     6    11
   T*                   0     0     0     0
   R*                   9    36    55   100
   C*                   0     0     0     0
     *
   3 *            1    43    56    39   139
   T*             0     1     1     1     3
   R*             1    31    40    28   100
   C*             0     3     3     2     3
     *
   2 *      1           39    19    21    80
   T*       0           1     0     0     1
   R*       1           49    24    26   100
   C*       7           3     1     1     1
     *
   1 *          330    70   104    99   603
   T*             6     1     2     2    11
   R*            55    12    17    16   100
   C*            89     5     5     6    11
     *
   0 *      1           9     7     4    25
   T*       0           0     0     0     0
   R*       4          36    28    32   100
   C*       7           1     0     1     0
     *
     **********************************
( 11          0           2           4
Q-21                1           3

COLUMN      15        1365        1575
 TOTAL             371        2033

PERCENT      0          25          29
 TOTAL               7          38

GRAND TOTAL=  5359

CHI-SQUARE (OF TABLE)       2839.509B3
DF=   68

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2784
MEAN( 11=        2.89233    SD( 11=        0.91612
MEAN( 21=        6.21571    SD( 21=        1.97924
```

(Question 27)

| | | |
|---|---|---|
| I. | (14) | Recall |
| II. | (13) | Telephone conversation |
| III. | (11) | Group discussion |
| IV. | (4) | Photographs |
| V. | (3) | Graphics (maps, graphs, etc.) |
| VI. | (2) | Tables or lists |
| VII. | (1) | Narrative text |
| VIII. | (15) | Narrative text and tables or lists |
| IX. | (9) | Graphics and lists |
| X. | (8) | Photographs and text |
| XI. | (7) | Graphics and text |
| XII. | (16) | Graphics, text and oral |
| XIII. | (17) | Graphics, text, oral, and recall |
| XIV. | (12) | Informal briefing, with chalk or pencil drawings |
| XV. | (5) | Microfilm - microfiche |
| XVI. | (6) | Slides or motion pictures |
| XVII. | (10) | Formal briefing or lecture |

(Question 21)

| | | |
|---|---|---|
| I. | (4) | All from recall |
| II | (1) | One report of document |
| III. | (2) | A sampling of the reports and documents available |
| IV. | (3) | All reports and documents that could be found pertinent to the question |

## Table 3-168. Class of Information vs. Actual Volume of Transporting Medium

```
     Q28    IS CROSS TABULATED WITH      Q21      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE  MAXIMUM MINIMUM  (AS SPECIFIED)
     2       14       1
     1        4       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q28
  14 *      3      44      60      52     159
     T*     0       1       1       1       3
     R*     2      28      38      33     100
     C*     1       3       3       3       3
     *
  13 *     32      44      71      41     188
     T*     1       1       1       1       4
     R*    17      23      38      22     100
     C*     9       3       3       3       4
     *
  12 *     15      67     147      98     327
     T*     0       1       3       2       6
     R*     5      20      45      30     100
     C*     4       5       7       6       6
     *
  11 *     21      45      90      78     224
     T*     0       1       1       1       4
     R*     9      20      36      35     100
     C*     6       3       4       5       4
     *
  10 *     79     301     579     385    1344
     T*     1       6      11       7      25
     R*     6      22      43      29     100
     C*    21      22      28      24      25
     *
   9 *     20     321     207     263     811
     T*     0       6       4       5      15
     R*     2      40      26      32     100
     C*     5      24      10      17      15
     *
   8 *     24      39      94      41     198
     T*     0       1       2       1       4
     R*    13      21      45      22     100
     C*     6       3       4       3       4
     *
   7 *     37      62      73      63     235
     T*     1       1       1       1       4
     R*    16      26      31      27     100
     C*    10       5       4       4       4
     *
   6 *     18      37      78      54     187
     T*     0       1       1       1       3
     R*    10      20      42      29     100
     C*     5       3       4       3       3
     *
   5 *     41     125     181     200     547
     T*     1       2       3       4      10
     R*     7      23      33      37     100
     C*    11       9       9      13      10
     *
   4 *     47     102     150      86     385
     T*     1       2       3       2       7
     R*    12      26      39      22     100
     C*    13       7       7       5       7
     *
   3 *      2     112     132     124     370
     T*     0       2       2       2       7
     R*     1      30      36      34     100
     C*     1       8       6       8       7
     *
   2 *     32      66     191      89     378
     T*     1       1       4       2       7
     R*     8      17      51      24     100
     C*     9       5       9       6       7
     *
      **********************************
 ( 1)      1               3
Q21                       4

COLUMN   171            2033
 TOTAL              1365            1574


PERCENT    7              39
 TOTAL                 26              29
```

(Question 28)

| | | |
|---|---|---|
| II. | (1) | Concepts |
| III. | (8) | Raw data |
| IV. | (5) | Math aids and formulae, computer programs |
| V. | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI. | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding, administrative action |

(Question 21)

| | | |
|---|---|---|
| I | (4) | All from recall |
| II. | (1) | One report of document |
| III. | (2) | A sampling of the reports and documents available |
| IV. | (3) | All reports and documents that could be found pertinent to the question |

```
GRAND TOTAL=  5343

CHI-SQUARE (OF TABLE)          340.97798
D      36

VALUES NOT ENTERED  16
  CASE NO.      VARIABLE  2     VARIABLE  1
     408              9              0
    1303              9              0
    1614              8              0
    1765             10              0
    1945              3              0
    1962             14              0
    1966             10              0
    1985              3              0
    2947             13              0
    2986              4              0
    3630             10              0
    3859             12              0
    4427              0              4
    4755             10              0
    4766              4              0
    4792             10              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0057
MEAN( 1)=        2.89233    SD( 1)=        0.91612
MEAN( 2)=        7.90035    SD( 2)=        3.31766
```

# Table 3-169. Field of Information vs. Actual Volume of Transporting Medium

```
     Q29    IS CROSS TABULATED WITH      Q21      ON,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       9       1
     1       4       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q29
    9 *      21      43      64      41     169
     T*       0       1       1       1       3
     R*      12      25      38      24     100
     C*       6       3       3       3       3
      *
    8 *      49     129     152     118     448
     T*       1       2       3       2       6
     R*      11      29      34      26     100
     C*      13       9       8       8       8
      *
    7 *      25     190     307     221     743
     T*       0       1       6       4      14
     R*       3      26      41      30     100
     C*       7      14      15      14      14
      *
    6 *      49     176     288     195     708
     T*       1       3       5       4      13
     R*       7      25      41      28     100
     C*      13      13      14      12      13
      *
    5 *      88     330     483     387    1288
     T*       2       6       9       7      24
     R*       7      26      38      30     100
     C*      24      24      24      25      24
      *
    4 *      64     238     317     280     899
     T*       1       4       6       5      17
     R*       7      26      35      31     100
     C*      17      17      16      18      17
      *
    3 *      17     101     133     103     354
     T*       0       2       3       2       7
     R*       5      29      38      29     100
     C*       5       7       7       7       7
      *
    2 *       7      19      43      26      95
     T*       0       0       1       0       2
     R*       7      20      45      27     100
     C*       2       1       2       2       2
      *
    1 *      49     135     233     198     615
     T*       1       3       4       4      12
     R*       8      22      38      32     100
     C*      13      10      12      13      12
      *
       **********************************
( 1)          1               3
Q21               2               4

COLUMN     369          2020
 TOTAL            1361            1569

PERCENT      7              38
 TOTAL               26              29

GRAND TOTAL= 5319

CHI-SQUARE (OF TABLE)          57.76737
DF=  24

VALUES NOT ENTERED  40
  CASE NO.      VARIABLE  2      VARIABLE  1
    408                 6                 0
    470                 0                 3
    567                 0                 3
    667                 0                 3
    672                 0                 2
    716                 0                 3
    995                 0                 3
   1295                 0                 2
   1303                 5                 0
   1614                 6                 0
   1765                 7                 0
   1880                 0                 3
   1895                 0                 3
   1945                 6                 0
   1962                 5                 0
   1986                 7                 0
   1985                 3                 0
```

(Question 21)

| | | |
|---|---|---|
| I | (4) | All from recall |
| II | (1) | One report of document |
| III | (2) | A sampling of the reports and documents available |
| IV | (3) | All reports and documents that could be found pertinent to the question |

(Question 29)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

| | | |
|---|---|---|
| 2582 | 0 | 4 |
| 2587 | 0 | 1 |
| 2592 | 0 | 2 |
| 2787 | 0 | 3 |
| 2833 | 0 | 3 |
| 2836 | 0 | 3 |
| 2871 | 0 | 3 |
| 2947 | 4 | 0 |
| 2986 | 7 | 0 |
| 2996 | 0 | 4 |
| 3207 | 0 | 4 |
| 3209 | 0 | 4 |
| 3214 | 0 | 3 |
| 3406 | 0 | 4 |
| 3532 | 0 | 3 |
| 3630 | 5 | 0 |
| 3859 | 6 | 0 |
| 4380 | 0 | 2 |
| 4600 | 0 | 1 |
| 4755 | 1 | 0 |
| 4766 | 7 | 0 |
| 4792 | 1 | 0 |
| 5281 | 0 | 4 |

```
(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0317
MEAN( 1)=        2.69233    SD( 1)=        0.91612
MEAN( 2)=        4.95111    SD( 2)=        2.12067
```

## Table 3-170. Essentiality of Information to Task vs. Actual Volume of Transporting Medium

```
    Q30   IS CROSS TABULATED WITH      Q21      BY,
VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1
NUMBER OF REPLICATIONS= 5344
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2        4        1
     1        4        1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q30
   4 .     289     1068     1504     1323     4184
    T.       5       20       28       25       78
    R.       7       26       36       32      100
    C.      78       78       74       84       78
     .
   3 .      56      225      418      207      906
    T.       1        4        8        4       17
    R.       6       25       46       23      100
    C.      15       16       21       13       17
     .
   2 .      24       61      104       41      230
    T.       0        1        2        1        4
    R.      10       27       45       18      100
    C.       6        4        5        3        4
     .
   1 .       4       11        7        4       24
    T.       0        0        0        0        0
    R.       6       46       29       17      100
    C.       1        1        0        0        0
     .
      ..........+.........+.........+.........+.....
 ( 1)         1          2          3          4
Q21

COLUMN     371       1465       2033       1575
 TOTAL

PERCENT      6         25         38         29
 TOTAL


GRAND TOTAL=  5344

CHI-SQUARE (OF TABLE)        65.01152
DF=    9

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0579
MEAN(  1)=        2.91045    SD(  1)=        0.90448
MEAN(  2)=        3.73091    SD(  2)=        0.55656
```

(Question 21)

| | | |
|---|---|---|
| I | (4) | All from recall |
| II | (1) | One report of document |
| III | (2) | A sampling of the reports and documents available |
| IV. | (3) | All reports and documents that could be found pertinent to the question |

(Question 30)

| | | |
|---|---|---|
| I | (4) | Neither essential nor helpful to successful task completion |
| II | (3) | Not essential, but somewhat helpful to successful task completion |
| III. | (2) | Not essential, but extremely helpful to successful task completion |
| IV. | (1) | Absolutely essential to successful task completion |

## Table 3-171. Extensiveness of Information Use in Task vs. Actual Volume of Transporting Medium

```
Q31    IS CROSS TABULATED WITH      Q21      BR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5344

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       6       1
     1       4       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q31
   6 *    159    592    742    703 2196
    T*      3     11     14     13   41
    R*      7     27     34     32  100
    C*     43     43     36     45   41
     *
   5 *    136    417    697    585 1835
    T*      3      8     13     11   34
    R*      7     23     38     32  100
    C*     37     31     34     37   34
     *
   4 *     31    197    257    138  623
    T*      1      4      5      3   12
    R*      5     32     41     22  100
    C*      8     14     13      9   12
     *
   3 *     44    132    306    134  616
    T*      1      2      6      3   12
    R*      7     21     50     22  100
    C*     12     10     15      9   12
     *
   2 *            17     18     12   47
    T*            0      0      0    1
    R*           36     38     26  100
    C*            1      1      1    1
     *
   1 *      1     10     13      3   27
    T*      0      0      0      0    1
    R*      4     37     48     11  100
    C*      0      1      1      0    1


( 1)        1           3
Q21                     2           4

COLUMN     371        2033
 TOTAL            1365        1575

PERCENT      6          38
 TOTAL              25          29

GRAND TOTAL=  5344

CHI-SQUARE (OF TABLE)        102.34516
DF=   15

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0282
MEAN( 1)=         2.90049    SD( 1)=         0.90448
MEAN( 2)=         5.01722    SD( 2)=         1.07166
```

(Question 31)

| | | |
|---|---|---|
| I. | (6) | Not at all |
| II. | (5) | As a lead to other information |
| III. | (4) | As background information |
| IV. | (3) | In only small parts of the task |
| V. | (2) | In major portions of the task |
| VI. | (1) | Throughout the entire duration of the task |

(Question 21)

| | | |
|---|---|---|
| I. | (4) | All from recall |
| II | (1) | One report of document |
| III. | (2) | A sampling of the reports and documents available |
| IV | (3) | All reports and documents that could be found pertinent to the question |

## Table 3-172. Usefulness of Title Listings or Abstracts vs. Desired Volume of Transporting Medium

```
      23    IS CROSS TABULATED WITH       22      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       3       1
     1       4       1


( 23              (EXTREME RIGHT VALUE IS ROW TOTAL)
 23
    3 *       4     189     383     669  1246
    T*        0       4       7      12    23
    R*        0      15      31      54   100
    C*        1      12      33      90    23
      *
    2 *      28     265     316     438  1047
    T*        1       5       6       8    20
    R*        3      25      30      42   100
    C*        8      16      27      20    20
      *
    1 *     340    1171     455    1398  3064
    T*        6      22       8      26    57
    R*       11      38      15      36   100
    C*       91      72      33      50    57
      *
       ********************************
 ( 1)         1               3
 22                   2               4

COLUMN      373          1154
 TOTAL                1625          2209

PERCENT       7            22
 TOTAL                  30            41

GRAND TOTAL=  5357

CHI-SQUARE (OF TABLE)        563.51508
DF=     6


VALUES NOT ENTERED    2
  CASE NO.       VARIABLE  2       VARIABLE  1
    458                  2                  0
   1303                  1                  0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.2630
MEAN( 1)=        2.96790   SD( 1)=        0.99780
MEAN( 2)=        1.69057   SD( 2)=        0.83028
```

(Question 23)
I. (3) Would not have been useful
II. (2) Would have found them useful
III. (1) Used them for this check

(Question 22)
I. ( ) All from recall
II. (.) One report or document
III. (2) A sampling of the reports and documents available
IV. (3) All the reports and documents that could be found pertinent to the question

## Table 3-173. Desired Detail of Transporting Medium vs. Volume of Transporting Medium

```
     Q25   IS CROSS TABULATED WITH     Q22     ON.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5557

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     2       3       1
     1       4       1


( 2)                (EXTREME RIGHT VALUE IS NOW TOTAL)
Q25
    3 .     79     559     906     668 1672
      T.     1      10       9      16   37
      R.     4      28      24      44  100
      C.    21      59      40      39   37
       .
    2 .    268     951     536    1226 2993
      T.     5      18      10      23   57
      R.     9      32      18      41  100
      C.    72      59      47      56   56
       .
    1 .     26     105     150     111  392
      T.     0       2       3       2    7
      R.     7      27      38      28  100
      C.     7       6      13       5    7
       .
      ..........................................
( 1)        1               3
Q22                 2               4

COLUMN    373            1184
 TOTAL              1625            4705

PERCENT     8              21
 TOTAL              31              41

GRAND TOTAL=  5557

CHI-SQUARE (OF TABLE)        1481.57561
DF=    6
```

(Question 25)
I. (1) A voice over lightly
II. (2) A specified answer
III. (3) A detailed analysis

(Question 22)
I. (4) All from recall
II. (1) One report or document
III. (2) A sampling of the reports and documents available
IV. (3) All the reports and documents that could be found pertinent to the question

```
(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0774
MEAN( 1)=        2.90908   SD( 1)=        0.99894
MEAN( 2)=        2.27494   SD( 2)=        0.85929
```

# Table 3-174. Desired Layout of Transporting Medium vs. Desired Volume of Transporting Medium

Q27 IS CROSS TABULATED WITH Q22 BY.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5333

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 17 | 1 |
| 1 | 4 | 1 |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q27 | | | | | |
|---|---|---|---|---|---|
| 17 * | | 11 | 9 | 11 | 31 |
| T* | | 0 | 0 | 0 | 1 |
| R* | | 35 | 29 | 35 | 100 |
| C* | | 1 | 1 | 1 | 1 |
| 16 * | 1 | 2 | 2 | 5 | 10 |
| T* | 0 | 0 | 0 | 0 | 0 |
| R* | 10 | 20 | 20 | 50 | 100 |
| C* | 0 | 0 | 0 | 0 | 0 |
| 15 * | | | 3 | 7 | 10 |
| T* | | | 0 | 0 | 0 |
| R* | | | 30 | 70 | 100 |
| C* | | | 0 | 0 | 0 |
| 14 * | 1 | 120 | 78 | 142 | 341 |
| T* | 0 | 2 | 1 | 3 | 6 |
| R* | 0 | 35 | 23 | 42 | 100 |
| C* | 0 | 7 | 7 | 6 | 6 |
| 13 * | 5 | 16 | 67 | 42 | 130 |
| T* | 0 | 0 | 1 | 1 | 2 |
| R* | 4 | 12 | 52 | 32 | 100 |
| C* | 1 | 1 | 6 | 2 | 2 |
| 12 * | 4 | 106 | 128 | 155 | 393 |
| T* | 0 | 2 | 2 | 3 | 7 |
| R* | 1 | 27 | 33 | 39 | 100 |
| C* | 1 | 7 | 11 | 7 | 7 |
| 11 * | 17 | 391 | 406 | 819 | 1633 |
| T* | 0 | 7 | 8 | 15 | 31 |
| R* | 1 | 24 | 25 | 50 | 100 |
| C* | 5 | 24 | 35 | 37 | 31 |
| 10 * | | 22 | 16 | 30 | 68 |
| T* | | 0 | 0 | 1 | 1 |
| R* | | 32 | 24 | 44 | 100 |
| C* | | 1 | 1 | 1 | 1 |
| 9 * | | 47 | 37 | 64 | 148 |
| T* | | 1 | 1 | 1 | 3 |
| R* | | 32 | 25 | 43 | 100 |
| C* | | 3 | 3 | 3 | 3 |
| 8 * | | 24 | 12 | 23 | 59 |
| T* | | 0 | 0 | 0 | 1 |
| R* | | 41 | 20 | 39 | 100 |
| C* | | 1 | 1 | 1 | 1 |
| 7 * | 1 | 209 | 134 | 298 | 734 |
| T* | 0 | 6 | 3 | 6 | 14 |
| R* | 0 | 41 | 18 | 41 | 100 |
| C* | 1 | 19 | 12 | 14 | 14 |
| 6 * | 4 | 202 | 80 | 191 | 477 |
| T* | 0 | 4 | 2 | 4 | 9 |
| R* | 1 | 42 | 17 | 40 | 100 |
| C* | 1 | 13 | 7 | 9 | 9 |
| 5 * | 3 | 203 | 59 | 201 | 466 |
| T* | 0 | 4 | 1 | 4 | 9 |
| R* | 1 | 44 | 13 | 43 | 100 |
| C* | 1 | 13 | 5 | 9 | 9 |
| 4 * | | 2 | 3 | 6 | 11 |
| T* | | 0 | 0 | 0 | 0 |
| R* | | 18 | 27 | 55 | 100 |
| C* | | 0 | 0 | 0 | 0 |
| 3 * | 1 | 50 | 33 | 75 | 139 |
| T* | 0 | 1 | 1 | 1 | 3 |
| R* | 0 | 35 | 23 | 39 | 100 |
| C* | 0 | 3 | 2 | 2 | 3 |
| 2 * | 40 | 15 | 10 | 18 | 83 |
| T* | 0 | 0 | 0 | 0 | 1 |
| R* | 48 | 18 | 12 | 21 | 100 |
| C* | 10 | 0 | 0 | 0 | 1 |
| 1 * | 294 | 115 | 77 | 138 | 624 |
| T* | 5 | 2 | 1 | 2 | 11 |
| R* | 47 | 18 | 12 | 22 | 100 |
| C* | 78 | 8 | 6 | 6 | 11 |

| ( 1) Q22 | 1 | 2 | 3 | 4 | |
|---|---|---|---|---|---|
| COLUMN TOTAL | 373 | 1625 | 1154 | 2205 | |
| PERCENT TOTAL | 6 | 30 | 21 | 41 | |

GRAND TOTAL = 5357

(Question 27)

| | | |
|---|---|---|
| I | (14) | Recall |
| II. | (13) | Telephone conversation |
| III. | (11) | Group discussion |
| IV. | (4) | Photographs |
| V | (3) | Graphics (maps, graphs, etc.) |
| VI. | (2) | Tables or lists |
| VII. | (1) | Narrative text |
| VIII. | (18) | Narrative text and tables or lists |
| IX. | (9) | Graphics and lists |
| X | (8) | Photographs and text |
| XI. | (7) | Graphics and text |
| XII. | (16) | Graphics, text and oral |
| XIII. | (17) | Graphics, text, oral, and recall |
| XIV. | (12) | Informal briefing, with chalk or pencil drawings |
| XV. | (5) | Microfilm - microfiche |
| XVI | (6) | Slides or motion pictures |
| XVII. | (10) | Formal briefing or lecture |

(Question 22)

| | | |
|---|---|---|
| I | (4) | All from recall |
| II. | (1) | One report or document |
| III. | (2) | A sampling of the reports and documents available |
| IV. | (3) | All the reports and documents that could be found pertinent to the question |

# Table 3-175. Class of Information vs. Desired Volume of Transporting Medium

028 IS CROSS TABULATED WITH 022 OF.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 159

VARIABLE 1 WILL HAVE MINIMUM (AS SPECIFIED)

| | |
|---|---|
| 2 | 1 |
| 1 | 1 |

(Question 28)

II. (1) Concepts
III. (8) Raw data
IV. (5) Math aids and formulas, computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (9) Specifications
X. (6) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding; administrative action

(Question 22)

I. (4) All from recall
II. (1) One report or document
III. (2) A sampling of the reports and documents available
IV. (3) All the reports and documents that could be found pertinent to the question

| ( 2) | | | EXTREME RIGHT VALUE IS ROW TOTAL) | | |
|---|---|---|---|---|---|
| 028 | | | | | |
| 14 * | 3 | 52 | 35 | 70 | 160 |
| T* | 0 | 1 | 1 | 1 | 3 |
| R* | 2 | 32 | 22 | 44 | 100 |
| C* | 1 | 3 | 3 | 3 | 3 |
| * | | | | | |
| 13 * | 32 | 48 | 52 | 57 | 189 |
| T* | 1 | 1 | 1 | 1 | 4 |
| R* | 17 | 25 | 28 | 30 | 100 |
| C* | 9 | 3 | 5 | 3 | 4 |
| * | | | | | |
| 12 * | 15 | 79 | 80 | 154 | 328 |
| T* | 0 | 1 | 1 | 3 | 6 |
| R* | 5 | 24 | 24 | 47 | 100 |
| C* | 4 | 5 | 7 | 7 | 6 |
| * | | | | | |
| 11 * | 23 | 56 | 47 | 98 | 224 |
| T* | 0 | 1 | 1 | 2 | 4 |
| R* | 10 | 25 | 21 | 44 | 100 |
| C* | 6 | 3 | 4 | 4 | 4 |
| * | | | | | |
| 10 * | 76 | 378 | 337 | 558 | 1349 |
| T* | 1 | 7 | 6 | 10 | 25 |
| R* | 6 | 28 | 25 | 41 | 100 |
| C* | 20 | 23 | 29 | 25 | 25 |
| * | | | | | |
| 9 * | 19 | 365 | 115 | 313 | 812 |
| T* | 0 | 7 | 2 | 6 | 15 |
| R* | 2 | 45 | 14 | 39 | 100 |
| C* | 5 | 22 | 10 | 14 | 12 |
| * | | | | | |
| 8 * | 24 | 50 | 46 | 69 | 189 |
| T* | 0 | 1 | 1 | 1 | 4 |
| R* | 13 | 26 | 24 | 37 | 100 |
| C* | 6 | 3 | 4 | 3 | 4 |
| * | | | | | |
| 7 * | 38 | 69 | 51 | 77 | 235 |
| T* | 1 | 1 | 1 | 1 | 4 |
| R* | 16 | 29 | 22 | 33 | 100 |
| C* | 10 | 4 | 4 | 3 | 4 |
| * | | | | | |
| 6 * | 18 | 46 | 38 | 85 | 187 |
| T* | 0 | 1 | 1 | 2 | 3 |
| R* | 10 | 25 | 20 | 45 | 100 |
| C* | 5 | 3 | 3 | 4 | 3 |
| * | | | | | |
| 5 * | 42 | 144 | 95 | 276 | 547 |
| T* | 1 | 3 | 2 | 5 | 10 |
| R* | 8 | 26 | 16 | 50 | 100 |
| C* | 11 | 9 | 7 | 10 | 10 |
| * | | | | | |
| 4 * | 46 | 120 | 95 | 126 | 387 |
| T* | 1 | 2 | 2 | 2 | 7 |
| R* | 12 | 31 | 25 | 33 | 100 |
| C* | 12 | 7 | 8 | 6 | 7 |
| * | | | | | |
| 3 * | 2 | 133 | 61 | 176 | 372 |
| T* | 0 | 2 | 1 | 3 | 7 |
| R* | 1 | 36 | 16 | 47 | 100 |
| C* | 1 | 8 | 5 | 8 | 7 |
| * | | | | | |
| 2 * | 35 | 85 | 112 | 145 | 377 |
| T* | 1 | 2 | 2 | 3 | 7 |
| R* | 9 | 23 | 30 | 38 | 100 |
| C* | 9 | 5 | 10 | 7 | 7 |
| * | | | | | |
| ( 1) | 1 | | 3 | | |
| 022 | | 2 | | 4 | |
| COLUMN TOTAL | 379 | 1625 | 1154 | 2204 | |
| PERCENT TOTAL | 7 | 30 | 22 | 41 | |

GRAND TOTAL= 5356

CHI-SQUARE (OF TABLE) 329.28387
DF= 36

VALUES NOT ENTERED 3

| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 458 | 2 | 0 |
| 1303 | 9 | 0 |
| 4427 | 0 | 4 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0027

| | | | |
|---|---|---|---|
| MEAN( 1)= | 2.96790 | SD( 1)= | 0.99780 |
| MEAN( 2)= | 7.90035 | SD( 2)= | 3.31766 |

Table 3-176. Discovery of Information Available, but Unknown, during Task vs. Desired Volume of Transporting Medium

```
     Q32    IS CROSS TABULATED WITH      Q22      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5357

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       2       1
     1       4       1


( 2)              (EXTREME RIGHT VALUE IS RAW TOTAL)
Q32
   2 *     43   255   258   536 1092
     T*     1     5     5    10   20
     R*     4    23    24    49  100
     C*    12    16    27    24   20
      *
   1 *    330  1370   896  1669 4265
     T*     6     1    17     7   80
     R*     8     1    21     8  100
     C*    88     4    78    16   80
      *
       ********************************
 ( 1)        1           3
Q22              2           4

COLUMN     379        1154
 TOTAL           1625        2205

PERCENT      6          21
 TOTAL          30          41

GRAND TOTAL=  5357

CHI-SQUARE (OF TABLE)        63.75744
DF=    1

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1064



MEAN( 1)=        2.96901   SD( 1)=        0.99634
MEAN( 2)=        1.20385   SD( 2)=        0.40289
```

(Question 32)
I. (2) No
II. (1) Yes

(Question 22)
I. (4) All from recall
II. (1) One report or document
III. (2) A sampling of the reports and documents available
IV. (3) All the reports and documents that could be found pertinent to the question

Table 3-177. Interviewer's Assessment of Difficulty in Use of Information vs. Desired Volume of Transporting Medium

```
     Q61    IS CROSS TABULATED WITH      Q22      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5357

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       5       1
     1       4       1


( 2)             (EXTREME RIGHT VALUE IS ROW TOTAL)
Q61
   4 *      21     101      93     169     384
    T*       0       2       2       3       7
    R*       5      26      24      44     100
    C*       6       6       8       8       7
     *
   3 *     250    1027     765    1519    3561
    T*       5      19      14      28      66
    R*       7      29      21      43     100
    C*      67      63      66      69      66
     *
   2 *      27     196     150     237     610
    T*       1       4       3       4      11
    R*       4      32      25      39     100
    C*       7      12      13      11      11
     *
   1 *      75     301     146     280     802
    T*       1       6       3       5      15
    R*       9      38      18      35     100
    C*      20      19      13      13      15
     *
     **********************************
 ( 1)        1               3
Q22                  2               4

COLUMN     373            1154
 TOTAL              1625            2205

PERCENT      7              21
 TOTAL              30              41


GRAND TOTAL=  5357

CHI-SQUARE (1F TABLE)          91.63004
DF=    9

(THE FOLLOWING COMPUTATIONS ARE HAS 0 ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0744
MEAN( 1)=          2.69901    SD( 1)=          0.99834
MEAN( 2)=          2.65859    SD( 2)=          0.81720
```

(Question 61)

| | | |
|---|---|---|
| I. | (1) | Obvious or prescribed |
| II. | (2) | Entirely or largely independent of professional judgment |
| III. | (3) | Entirely or largely dependent upon professional judgment |
| IV. | (4) | Difficult, because methods and procedures were lacking |

(Question 22)

| | | |
|---|---|---|
| I. | (4) | All from recall |
| II. | (1) | One report or document |
| III. | (2) | A sampling of the reports and documents available |
| IV. | (3) | All the reports and documents that could be found pertinent to the question |

## Table 3-178. Interviewer's Assessment of Difficulty in Acquisition of Information vs. Desired Volume of Transporting Medium

```
     Q62    IS CROSS TABULATED WITH      Q22      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5357

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       4       1
     1       4       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q62
    3 *      47     262     226     338     873
     T*       1       5       4       6      16
     R*       5      30      26      39     100
     C*      13      16      20      15      16
      *
    2 *     184     784     615    1225    2808
     T*       3      15      11      23      52
     R*       7      28      22      44     100
     C*      49      48      55      56      52
      *
    1 *     142     579     313     642    1676
     T*       3      11       6      12      31
     R*       8      35      19      38     100
     C*      38      36      27      29      31
      *
      **********************************
  ( 1)        1               3
Q22                 2               4

COLUMN      373            1154
 TOTAL                1625            2205

PERCENT       6              21
 TOTAL                 30              41

GRAND TOTAL=  5357

CHI-SQUARE (OF TABLE)          47.49421
DF=     6


(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0496          0
MEAN( 1)=          2.69691     SD( 1)=          0.99634
MEAN( 2)=          1.85010     SD( 2)=          0.87338
```

(Question 62)
I. (1) Quite clear or obvious
II. (2) Fairly clear or obvious
III. (3) Neither clear nor obvious

(Question 22)
I. (4) All from recall
II. (1) One report or document
III. (2) A sampling of the reports and documents available
IV. (3) All the reports and documents that could be found pertinent to the question

Table 3-179. Desired Detail of Transporting Medium vs. Usefulness of Title Listings or Abstracts

```
     25    IS CROSS TABULATED WITH       23      OR.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       3       1
     1       3       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
 25
   3 *    963   375   634 1972
    T*     18     7    12   37
    R*     49    19    32  100
    C*     31    36    51   37
     *
   2 *   1835   578   530 2993
    T*     35    11    10   56
    R*     62    19    18  100
    C*     62    55    43   56
     *
   1 *    216    95    82  393
    T*      4     2     2    7
    R*     55    24    21  100
    C*      7     9     7    7
     *
      **************************
 ( 1)       1           3
 23             2

COLUMN   3064        1246
 TOTAL         1048

PERCENT    57          24
 TOTAL          20

GRAND TOTAL=  5358

CHI-SQUARE (OF TABLE)       154.29883
DF=    4
```

(Question 26)
I (1) A once over lightly
II. (3) A specified answer
III. (2) A detailed analysis

(Question 23)
I (3) Would not have been useful
II. (2) Would have found them useful
III. (1) Used them for this chunk

```
VALUES NOT ENTERED   1
  CASE NO.     VARIABLE  2     VARIABLE  1
   5307             2               1

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1290
MEAN( 1)=        1.66057   SD( 1)=        0.83028
MEAN( 2)=        2.29427   SD( 2)=        0.59626
```

## Table 3-180. Usefulness of Title Listings or Abstracts vs. Kind of Work Position

023 IS CROSS TABULATED WITH 055 OR,

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5359

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 3 | 1 |
| 1 | 12 | 1 |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| 023 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 * | 97 | 315 | 110 | 131 | 197 | 88 | 115 | 56 | 28 | 10 | 65 | 26 | 1256 |
| T* | 2 | 6 | 2 | 2 | 4 | 2 | 2 | 1 | 1 | 0 | 1 | 0 | 23 |
| R* | 8 | 25 | 9 | 11 | 16 | 7 | 9 | 4 | 2 | 1 | 5 | 2 | 100 |
| C* | 44 | 35 | 21 | 25 | 19 | 17 | 23 | 13 | 12 | 11 | 29 | 28 | 23 |
| * | | | | | | | | | | | | | |
| 2 * | 76 | 176 | 118 | 117 | 240 | 83 | 92 | 75 | 50 | 29 | 27 | 14 | 1047 |
| T* | 0 | 3 | 2 | 2 | 4 | 2 | 2 | 1 | 1 | 1 | 1 | 0 | 20 |
| R* | 2 | 17 | 11 | 11 | 23 | 8 | 9 | 7 | 5 | 3 | 3 | 1 | 100 |
| C* | 12 | 19 | 23 | 22 | 24 | 16 | 18 | 17 | 21 | 18 | 12 | 15 | 20 |
| * | | | | | | | | | | | | | |
| 1 * | 56 | 418 | 288 | 294 | 575 | 345 | 299 | 300 | 162 | 112 | 132 | 53 | 3063 |
| T* | 2 | 8 | 5 | 5 | 11 | 6 | 6 | 6 | 3 | 2 | 2 | 1 | 57 |
| R* | 3 | 14 | 9 | 9 | 19 | 11 | 10 | 10 | 5 | 4 | 4 | 2 | 100 |
| C* | 44 | 46 | 56 | 53 | 57 | 67 | 59 | 70 | 67 | 70 | 59 | 57 | 57 |
| * | | | | | | | | | | | | | |

( 1) 1 3 5 7 9 11

| 055 | 2 | 4 | 6 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|
| COLUMN TOTAL | 219 | 516 | 1012 | 505 | 240 | 224 |
| | 999 | 532 | 516 | 431 | 159 | 93 |
| PERCENT TOTAL | 4 | 10 | 19 | 9 | 4 | 4 |
| | 17 | 10 | 19 | 8 | 3 | 2 |

GRAND TOTAL= 5356

CHI-SQUARE (OF TABLE) 246.35348
DF= 22

VALUES NOT ENTERED 3

| CASE NO. | VARIABLE 2 | VARIABLE 1 |
|---|---|---|
| 1273 | 2 | 0 |
| 1283 | 1 | 0 |
| 1293 | 1 | 0 |

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT =0.1349

| | | | | | |
|---|---|---|---|---|---|
| MEAN 1= | 5.25882 | SDI 1= | 2.74111 |
| MEAN 2= | 1.66057 | SDI 2= | 0.41028 |

(Question 23)
I (3) Would not have been useful
II. (2) Would have found them useful
III. (1) Used them for this chunk

(Question 55)
I. (02) Research - basic
II. (01) Research - applied
III. (11) System analysis
IV. (03) Development - advanced
V. (04) Development - engineering
VI. (05) Development - operational system
VII. (06) R&D support
VIII. (07) Test or evaluation
IX. (08) Production processes
X. (09) Production end-items
XI. (10) Reliability or quality control
XII. (12) Customer relations

# Table 3-181. Usefulness of Title Listings or Abstracts vs. Field of Work Position

```
    Q23    IS CROSS TABULATED WITH      Q56      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       3       1
     1       9       1
```

```
( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q23
   3 .    115    47    56   254   302   175   189    70    34 1242
    T.      2     1     1     5     6     3     4     1     1   23
    R.      9     4     5    20    24    14    15     6     3  100
    C.     21    47    19    21    21    32    28    17    34   23
     .
   2 .    100    11    69   243   314   102   121    71    17 1048
    T.      2     0     1     5     6     2     2     1     0   20
    R.     10     1     7    23    30    10    12     7     2  100
    C.     18    11    23    20    22    18    18    18    17   20
     .
   1 .    342    42   175   709   830   278   368   263    49 3056
    T.      6     1     3    13    16     5     7     5     1   57
    R.     11     1     6    23    27     9    12     9     2  100
    C.     61    42    58    59    57    50    54    65    49   57
     .
      ..........(..........................................................
( 1)        1           3           5           7           9
Q56               2           4           6           8

COLUMN    557         300        1446         678         100
 TOTAL          100        1206         555         404

PERCENT    10           6          27          13           2
 TOTAL             2          23          10           8

GRAND TOTAL=  5346

CHI-SQUARE (OF TABLE)        98.63969
DF=   16
```

```
VALUES NOT ENTERED  13
  CASE NO.     VARIABLE  2     VARIABLE  1
    370             1              0
    439             1              0
    444             1              0
    449             1              0
    465             3              0
    472             1              0
    479             3              0
    710             1              0
    727             1              0
    736             1              0
    745             1              0
   1957             3              0
   1964             3              0

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0243
MEAN( 1)=       4.83654   SD( 1)=       1.97515
MEAN( 2)=       1.66057   SD( 2)=       0.83028
```

(Question 23)
- I. (3) Would not have been useful
- II. (2) Would have found them useful
- III. (1) Used them for this chunk

(Question 56)

- I. Production, Management and Social Sciences
  - (32) Miscellaneous arts and sciences
  - (23) Personnel and training
  - (26) Production and management
  - (28) Psychology and human engineering
- II. Medical Sciences
  - (16) Medical sciences
- III. Mechanical, Industrial, Civil and Marine Engineering
  - (11) Ground transportation equipment
  - (13) Installations and constructions
  - (18) Military sciences and operations
  - (24) Photography and other reproduction processes
  - (29) Quartermaster equipment and supplies
  - (31) Ships and marine equipment
  - (53) Transportation
- IV. Aeronautics and Space Technology
  - (01) Aircraft and flight equipment
  - (12) Guided missiles
  - (15) Navigation
- V. Electronics and Electrical Engineering
  - (05) Communications
  - (06) Detection
  - (07) Electrical equipment
  - (08) Electronics, electronic equipment
- VI. Chemical Science and Materials
  - (03) Chemical warfare equipment and materials
  - (04) Chemistry
  - (10) Fuels and combustion
  - (14) Materials (nonmetallic)
  - (17) Metallurgy
  - (22) Ordnance
- VII. Physical Science
  - (02) Astronomy, geophysics and geography
  - (09) Fluid mechanics
  - (20) Nuclear physics and nuclear chemistry
  - (21) Nuclear propulsion
  - (25) Physics
  - (27) Propulsion systems
- VIII. Research and Research Equipment
  - (30) Research and research equipment
- IX. Mathematics
  - (15) Mathematics

# Table 3-182. Desired Detail of Transporting Medium vs. Actual Detail of Transporting Medium

```
     -Q25   IS CROSS TABULATED WITH      -Q24     OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
     2        3        1
     1        3        1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
-Q25
    3 *     308    111   1553 1972
     T*       6      2     29   37
     R*      16      6     79  100
     C*      32      4     77   37
      *
    2 *     270   2591    132 2993
     T*       5     48      2   56
     R*       9     87      4  100
     C*      28     96      8   56
      *
    1 *     374      7     12  393
     T*       7      0      0    7
     R*      95      2      3  100
     C*      39      0      1    7
      *
      **********************************
 ( 1)         1                3
-Q24                  2

COLUMN      952          1897
 TOTAL             2709

PERCENT      18             32
 TOTAL              51

GRAND TOTAL=  5358

CHI-SQUARE (OF TABLE)        5382.95068
DF=     4


VALUES NOT ENTERED   1
  CASE NO.      VARIABLE  2      VARIABLE  1
    5307              0                 2

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT   0.6302
MEAN( 1)=         2.13132    SD( 1)=         0.68925
MEAN( 2)=         2.79427    SD( 2)=         0.59636
```

(Question 25)
I. (1) A once over lightly
II. (3) A specified answer
III. (2) A detailed analysis

(Question 24)
I. (1) A once over lightly
II. (3) A specific answer
III. (2) A detailed analysis

# Table 3-183. Actual Layout of Transporting Medium vs. Actual Detail of Transporting Medium

```
    Q26    IS CROSS TABULATED WITH      Q24      OR,
VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1
NUMBER OF REPLICATIONS= 5295
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
    2       17       1
    1        3       1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q26
  17 *      8        4        5       17
     T*     0        0        0        0
     R*    47       24       29      100
     C*     1        0        0        0
     *
  16 *               3        1        4
     T*              0        0        0
     R*             75       25      100
     C*              0        0        0
     *
  15 *               3                 3
     T*              0                 0
     R*            100                100
     C*              0                 0
     *
  14 *    118      280       67      465
     T*     2        5        1        9
     R*    25       60       14      100
     C*    13       10        4        9
     *
  13 *     54       80       61      195
     T*     1        1        2        4
     R*    28       41       32      100
     C*     6        2        5        4
     *
  12 *    117      160      189      466
     T*     2        3        4        9
     R*    25       34       41      100
     C*    12        6       11        9
     *
  11 *    226      578      596     1400
     T*     4       11       11       26
     R*    16       41       43      100
     C*    24       22       36       26
     *
  10 *     15       26       10       51
     T*     0        0        0        1
     R*    29       51       20      100
     C*     2        1        1        1
     *
   9 *     14       91       33      138
     T*     0        1        1        3
     R*    10       66       24      100
     C*     1        2        4        3
     *
   8 *     12       24       22       58
     T*     0        0        0        1
     R*    21       41       38      100
     C*     1        1        1        1
     *
   7 *    146      319      235      700
     T*     3        6        4       13
     R*    21       46       34      100
     C*    16       12       14       13
     *
   6 *     53      271      108      432
     T*     1        5        2        8
     R*    12       63       25      100
     C*     6       10        4        8
     *
   5 *     34      257      122      413
     T*     1        5        2        8
     R*     8       62       30      100
     C*     4       10        7        8
     *
   4 *      2        6                 8
     T*     0        0                 0
     R*    25       75               100
     C*     0        0                 0
     *
   3 *     46      105       36      187
     T*     1        2        1        4
     R*    25       56       19      100
     C*     5        4        3        4
     *
   2 *     21       94        9      124
     T*     0        2        0        2
     R*    17       76        7      100
     C*     2        9        1        2
     *
   1 *     71      432      131      634
     T*     1        8        2       12
     R*    11       68       21      100
     C*     8       16        8       12
     *
      **************************
( 1)         1                3
Q24                   2

COLUMN     937             1675
 TOTAL              2683

PERCENT     17               31
 TOTAL               50

GRAND TOTAL=  5295

CHI-SQUARE (OF TABLE)          408.56528
DF=   32

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0204
MEAN( 1)=          2.13938    SD( 1)=          0.68845
MEAN( 2)=          8.24486    SD( 2)=          4.12179
```

(Question 26)

| | | |
|---|---|---|
| I. | (14) | Recall |
| II. | (13) | Telephone conversation |
| III. | (11) | Group discussion |
| IV | (4) | Photographs |
| V. | (3) | Graphics (diagrams, drawings, etc.) |
| VI. | (2) | Tables or lists |
| VII. | (1) | Narrative text |
| VIII. | (18) | Narrative text and tables or lists |
| IX. | (9) | Graphics and lists |
| X. | (8) | Photographs and text |
| XI. | (*) | Graphics and text |
| XII. | (16) | Graphics, text and oral |
| XIII. | (17) | Graphics, text, oral, and recall |
| XIV. | (12) | Informal briefing, with chalk or pencil drawings |
| XV. | (5) | Microfilm - microfiche |
| XVI. | (6) | Slides or motion pictures |
| XVII. | (10) | Formal briefing or lecture |

(Question 24)

| | | |
|---|---|---|
| I. | (1) | A once over lightly |
| II. | (3) | A specific answer |
| III. | (2) | A detailed analysis |

## Table 3-184. Desired Layout of Transporting Medium vs. Actual Detail of Transporting Medium

```
     -Q27   IS CROSS TABULATED WITH      -Q24     ON.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2      17       1
     1       3       1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
-Q27
  17 *      9      11      11      31
     T*     0       0       0       1
     R*    29      35      35     100
     C*     1       0       1       1
        *
  16 *      3       3       4      10
     T*     0       0       0       0
     R*    30      30      40     100
     C*     0       0       0       0
        *
  15 *      3       4       3      10
     T*     0       0       0       0
     R*    30      40      30     100
     C*     0       0       0       0
        *
  14 *     67     210      64     341
     T*     1       4       1       6
     R*    20      62      19     100
     C*     7       8       4       6
        *
  13 *     31      39      60     130
     T*     1       1       1       2
     R*    24      30      46     100
     C*     3       1       4       2
        *
  12 *     95     139     159     393
     T*     2       3       3       7
     R*    24      35      40     100
     C*    10       5       9       7
        *
  11 *    308     682     643    1633
     T*     6      13      12      31
     R*    19      42      39     100
     C*    32      25      38      31
        *
  10 *     23      34      12      69
     T*     0       1       0       1
     R*    33      49      17     100
     C*     2       1       1       1
        *
   9 *     19      62      67     148
     T*     0       1       1       3
     R*    13      42      45     100
     C*     2       2       4       3
        *
   8 *     15      25      19      59
     T*     0       0       0       1
     R*    25      42      32     100
     C*     2       1       4       1
        *
   7 *    168     341     225     734
     T*     3       6       4      14
     R*    23      46      31     100
     C*    18      13      13      14
        *
   6 *     60     292     125     477
     T*     1       5       2       9
     R*    13      61      26     100
     C*     6      11       7       9
        *
   5 *     52     283     131     466
     T*     1       5       2       9
     R*    11      61      28     100
     C*     5      10       8       9
        *
   4 *      1      10              11
     T*     0       0               0
     R*     9      91             100
     C*     0       0               0
        *
   3 *     29      78      32     139
     T*     1       1       1       3
     R*    21      56      23     100
     C*     3       3       2       3
        *
   2 *      5      67       8      80
     T*     0       1       0       1
     R*     6      84      10     100
     C*     1       2       0       1
```

(Question 27)

| | | |
|---|---|---|
| I | (14) | Recall |
| II. | (13) | Telephone conversation |
| III. | (11) | Group discussion |
| IV. | (4) | Photographs |
| V. | (3) | Graphics (maps, graphs, etc.) |
| VI. | (2) | Tables or lists |
| VII. | (1) | Narrative text |
| VIII. | (18) | Narrative text and tables or lists |
| IX. | (9) | Graphics and lists |
| X. | (8) | Photographs and text |
| XI. | (7) | Graphics and text |
| XII. | (16) | Graphics, text and oral |
| XIII. | (17) | Graphics, text, oral, and recall |
| XIV. | (12) | Informal briefing, with chalk or pencil drawings |
| XV. | (5) | Microfilm - microfiche |
| XVI. | (6) | Slides or motion pictures |
| XVII. | (10) | Formal briefing or lecture |

(Question 24)

| | | |
|---|---|---|
| I. | (1) | A once over lightly |
| II. | (2) | A specific answer |
| III. | (3) | A detailed Analysis |

```
        *
   1 *     60     416     127     603
     T*     1       8       2      11
     R*    10      69      21     100
     C*     6      15       8      11
        *
         **************************
( 1)       1               3
-Q24                2

COLUMN     948            1690
 TOTAL            2696

PERCENT     18              32
 TOTAL             51

GRAND TOTAL=  5334

CHI-SQUARE (OF TABLE)        367.55649
DF=   32

VALUES NOT ENTERED  25
  CASE NO.        VARIABLE  2      VARIABLE  1
       81                 0                2
       90                 0                2
      339                 0                3
      790                 0                3
     1303                 0                1
     1753                 0                2
     2339                 0                1
     2628                 0                3
     2641                 0                3
     3176                 0                1
     3192                 0                2
     3248                 0                3
     3253                 0                2
     3547                 0                3
     3700                 0                2
     3998                 0                2
     4173                 0                2
     4366                 0                2
     4420                 0                1
     4582                 0                2
     4690                 0                2
     4734                 0                2
     5121                 0                2
     5241                 0                2
     5273                 0                3

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0227
MEAN( 1)=        2.13907    SD( 1)=        0.68925
MEAN( 2)=        8.21571    SD( 2)=        1.97924
```

## Table 3-185. Class of Information vs. Actual Detail of Transporting Medium

```
     028    IS CROSS TABULATED WITH      324        .

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5350

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       14       1
     1        5       1

                                                                  (Question 28)
                                                                  II.   (1)  Concepts
                                                                  III.  (9)  Raw data
                                                                  IV.   (5)  Math aids and formulae, computer programs
                                                                  V.    (3)  Designs or design techniques
                                                                  VI.   (4)  Experimental processes and procedures
                                                                  VII.  (11) Test processes and procedures
                                                                  VIII. (13) Evaluation
                                                                  IX.   (8)  Specifications
                                                                  X.    (6)  Performance and characteristics
                                                                  XI.   (7)  Production processes and procedures
                                                                  XII.  (10) Technical status
                                                                  XIII. (12) Utilization
                                                                  XIV.  (2)  Cost and funding; administrative action
( 2)              (FEATURE RIGHT VALUE IS ROW TOTAL)
028                                                               (Question 24)
  14 *     30    93    37  160                                    I.    (1)  A once over lightly
    T*      1     2     1    3                                    II.   (3)  A specific answer
    R*     19    58    23  100                                    III.  (2)  A detailed analysis
    C*      3     3     2    3
     *
  13 *     46    93    50  189
    T*      1     2     1    4
    R*     24    49    26  100
    C*      5     3     3    4
     *
  12 *     77   137   114  329
    T*      1     3     2    6
    R*     23    42    35  100
    C*      8     5     7    6
     *
  11 *     35   137    57  229
    T*      1     3     1    4
    R*     15    61    25  100
    C*      3     5     3    4
     *
  10 *    254   463   632 1349
    T*      5    17     4   25
    R*     19    65    32  100
    C*     27    24    25   25
     *
   9 *    122   447   244  813
    T*      2     8     5   15
    R*     15    55    30  100
    C*     13    17    14   15
     *
   8 *     35    86    68  189
    T*      1     2     1    4
    R*     19    46    36  100
    C*      4     3     4    4
     *                                  GRAND TOTAL=  5350
   7 *     30   141    64  235
    T*      1     3     1    4          CHI-SQUARE (OF TABLE)       114.55514
    R*     13    60    27  100          DF=   24
    C*      3     5     4    4
     *                                  VALUES NOT ENTERED   1
   6 *     40    82    65  187            CASE NO.     VARIABLE  2     VARIABLE  1
    T*      1     2     1    3              4427              0               2
    R*     21    44    35  100
    C*      4     3     4    3          (THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
     *                                  EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).
   5 *     85   302   160  547
    T*      2     6     3   10          CORRELATION COEFFICIENT -0.0376
    R*     16    55    29  100          MEAN( 1)=       2.11902    SD( 1)=       0.68925
    C*      9    11     9   10          MEAN( 2)=       2.90035    SD( 2)=       3.31766
     *
   4 *     59   197   140  387
    T*      1     4     3    7
    R*     13    51    36  100
    C*      5     7     8    7
     *
   3 *     62   203   107  372
    T*      1     4     2    7
    R*     17    55    29  100
    C*      7     7     6    7
     *
   2 *     91   128   159  378
    T*      2     2     3    7
    R*     24    34    42  100
    C*     10     5     9    7
     *
      **************************
( 1)        1           3
024             2

COLUMN     952        1697
 TOTAL          2709

PERCENT     18           32
 TOTAL             51
```

# Table 3-186. Field of Information vs. Actual Detail of Transporting Medium

```
     Q29    IS CROSS TABULATED WITH      Q24      BR.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       9       1
     1       3       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q29
    9 *      23      83      63     169
      T*      0       2       1       3
      R*     14      49      37     100
      C*      2       3       4       3
       *
    8 *      64     254     130     448
      T*      1       5       2       8
      R*     14      57      29     100
      C*      7       9       8       8
       *
    7 *     140     344     263     747
      T*      3       6       5      14
      R*     19      46      35     100
      C*     15      13      16      14
       *
    6 *     130     357     225     712
      T*      2       7       4      13
      R*     18      50      32     100
      C*     14      13      13      13
       *
    5 *     235     649     409    1291
      T*      4      12       8      24
      R*     18      50      32     100
      C*     25      24      24      24
       *
    4 *     172     467     261     900
      T*      3       9       5      17
      R*     19      52      29     100
      C*     18      17      15      17
       *
    3 *      54     198     103     355
      T*      1       4       2       7
      R*     15      56      29     100
      C*      6       7       6       7
       *
    2 *      15      42      38      95
      T*      0       1       1       2
      R*     16      44      40     100
      C*      2       2       2       2
       *
    1 *     117     302     198     617
      T*      2       6       4      12
      R*     19      49      32     100
      C*     12      11      12      12
       *
       **************************
 ( 1)        1               3
Q24                2

COLUMN     948            1690
 TOTAL            2696

PERCENT     18              32
 TOTAL              51

GRAND TOTAL= 5334

CHI-SQUARE (OF TABLE)          28.48897
DF=  16

VALUES NOT ENTERED  25
  CASE NO.      VARIABLE  2      VARIABLE  1
     420                 0                1
     465                 0                1
     467                 0                2
     472                 0                2
     716                 0                3
     995                 0                2
    1295                 0                1
    1880                 0                3
    1895                 0                2
    2582                 0                3
```

(Question 29)

I. Production, Management and Social Sciences
   - (32) Miscellaneous arts and sciences
   - (23) Personnel and training
   - (26) Production and management
   - (28) Psychology and human engineering

II. Medical Sciences
   - (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
   - (11) Ground transportation equipment
   - (13) Installations and construction
   - (18) Military sciences and operations
   - (24) Photography and other reproduction processes
   - (29) Quartermaster equipment and supplies
   - (31) Ships and marine equipment
   - (33) Transportation

IV. Aeronautics and Space Technology
   - (01) Aircraft and flight equipment
   - (12) Guided missiles
   - (19) Navigation

V. Electronics and Electrical Engineering
   - (05) Communications
   - (06) Detection
   - (07) Electrical equipment
   - (08) Electronics, electronic equipment

VI. Chemical Science and Materials
   - (03) Chemical warfare equipment and materials
   - (04) Chemistry
   - (10) Fuels and combustion
   - (14) Materials (nonmetallic)
   - (17) Metallurgy
   - (22) Ordnance

VII. Physical Science
   - (02) Astronomy, geophysics and geography
   - (09) Fluid mechanics
   - (20) Nuclear physics and nuclear chemistry
   - (21) Nuclear propulsion
   - (25) Physics
   - (27) Propulsion systems

VIII. Research and Research Equipment
   - (30) Research and research equipment

IX. Mathematics
   - (15) Mathematics

(Question 24)

I. (1) A once over lightly
II. (3) A specific answer
III. (2) A detailed analysis

| | | |
|---|---|---|
| 2587 | 0 | 3 |
| 2592 | 0 | 2 |
| 2787 | 0 | 2 |
| 2833 | 0 | 2 |
| 2836 | 0 | 3 |
| 2871 | 0 | 3 |
| 2966 | 0 | 2 |
| 3207 | 0 | 1 |
| 3209 | 0 | 2 |
| 3214 | 0 | 2 |
| 3406 | 0 | 2 |
| 3532 | 0 | 2 |
| 4186 | 0 | 3 |
| 4660 | 0 | 2 |
| 5281 | 0 | 2 |

```
(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0179
MEAN( 1)=        2.13902    SD( 1)=        0.68925
MEAN( 2)=        4.95111    SD( 2)=        2.12062
```

Table 3-187. Essentiality of Information to Task vs. Actual Detail of Transporting Medium

```
Q30    S CROSS TABULATED WITH     Q24     OR,
VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1
NUMBER OF REPLICATIONS= 5359
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       4       1
     1       3       1

( 2)                    (EXTREME RIGHT VALUE IS ROW TOTAL)
Q30
   4 *     596   2187   1404  4187
     T*     11     41     26    78
     R*     14     52     34   100
     C*     63     81     83    78
     *
   3 *     239    433    238   910
     T*      4      8      4    17
     R*     26     48     26   100
     C*     25     16     24    17
     *
   2 *     103     78     54   235
     T*      2      1      1     4
     R*     44     33     23   100
     C*     11      3      3     4
     *
   1 *      14     12      1    27
     T*      0      0      0     1
     R*     52     44      4   100
     C*      1      0      0     1
     *
     **************************
 ( 1)        1              3
Q24
     _____  _____  2  _____  _____

COLUMN     952           1697
TOTAL             2710

PERCENT     17             31
TOTAL               50

GRAND TOTAL=  5359

CHI-SQUARE (OF TABLE)        217.64441
DF=    6

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1642
MEAN( 1)=        2.13902   SD( 1)=        0.68925
MEAN( 2)=        3.72737   SD( 2)=        0.56240
```

(Question 30)

| | | |
|---|---|---|
| I | (4) | Neither essential nor helpful to successful task completion |
| II. | (3) | Not essential, but somewhat helpful to successful task completion |
| III. | (2) | Not essential, but extremely helpful to successful task completion |
| IV. | (1) | Absolutely essential to successful task completion |

(Question 24)

| | | |
|---|---|---|
| I. | (1) | A once over lightly |
| II. | (3) | A specific answer |
| III. | (2) | A detailed analysis |

Table 3-188. Extensiveness of Information Use in Task vs. Actual Detail of Transporting Medium

```
Q31  IS CROSS TABULATED WITH  Q24  BY.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    2       6       1
    1       3       1

( 2)          (EXTREME RIGHT VALUE IS ROW TOTAL)
Q31
   6 •   311   1115   772 2198
    T•     6     21    14   41
    R•    14     51    35  100
    C•    33     41    45   41
     •
   5 •   248    970   618 1836
    T•     5     18    12   34
    R•    14     53    34  100
    C•    26     36    36   34
     •
   4 •   117    346   160  623
    T•     2      6     3   12
    R•    19     56    26  100
    C•    12     13     9   12
     •
   3 •   235    241   141  617
    T•     4      4     3   12
    R•    38     39    23  100
    C•    25      9     8   12
     •
   2 •    16     26     5   47
    T•     0      0     0    1
    R•    34     55    11  100
    C•     2      1     0    1
     •
   1 •    25     12     1   38
    T•     0      0     0    1
    R•    66     32     3  100
    C•     2      0     0    1

( 1)        1           3
Q24             2

COLUMN    952         1697
 TOTAL         2710

PERCENT    17           31
 TOTAL          50

GRAND TOTAL=  5359

CHI-SQUARE (OF TABLE)       308.51253
DF=   10

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.1616
MEAN( 1)=        2.73902   SD( 1)=        0.68925
MEAN( 2)=        5.00896   SD( 2)=        1.08603
```

(Question 31)

| | | |
|---|---|---|
| I. | (6) | Not at all |
| II. | (5) | As a lead to other information |
| III. | (4) | As background information |
| IV. | (3) | In only small parts of the task |
| V. | (2) | In major portions of the task |
| VI. | (1) | Throughout the entire duration of the task |

(Question 24)

| | | |
|---|---|---|
| I. | (1) | A once over lightly |
| II | (3) | A specific answer |
| III. | (2) | A detailed analysis |

## Table 3-189. Desired Layout of Transporting Medium vs. Desired Detail of Transporting Medium

```
     Q27    IS CROSS TABULATED WITH      Q25      ON.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5334

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2      17       1
     1       3       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q27
  17 *      5      16      10      31
    T*      0       0       0       1
    R*     16      52      32     100
    C*      1       1       1       1
     *
  16 *                      6       4      10
    T*                      0       0       0
    R*                     60      40     100
    C*                      0       0       0
     *
  15 *      6       4       4      10
    T*      0       0       0       0
    R*     20      40      40     100
    C*      1       0       0       0
     *
  14 *     44     227      70     341
    T*      1       4       1       6
    R*     13      67      21     100
    C*     11       8       4       6
     *
  13 *     20      45      65     130
    T*      0       1       1       2
    R*     15      35      50     100
    C*      5       2       3       2
     *
  12 *     38     162     193     393
    T*      1       3       4       7
    R*     10      41      49     100
    C*     10       5      10       7
     *
  11 *     93     780     760    1633
    T*      6      15      14      31
    R*      6      48      47     100
    C*     24      26      19      31
     *
  10 *      6      44      19      69
    T*      0       1       0       1
    R*      9      64      28     100
    C*      2       1       1       1
     *
   9 *      8      68      72     148
    T*      0       1       1       3
    R*      5      46      49     100
    C*      2       2       4       3
     *
   8 *      4      32      23      59
    T*      0       1       0       1
    R*      7      54      49     100
    C*      1       1       1       1
     *
   7 *     65     391     278     744
    T*      1       7       5      14
    R*      9      53      38     100
    C*     17      13      14      14
     *
   6 *     22     320     134     477
    T*      0       6       3       9
    R*      5      67      28     100
    C*      6      11       7       9
     *
   5 *     17     295     154     466
    T*      0       6       3       9
    R*      4      63      33     100
    C*      4      10       6       9
     *
   4 *      1      10              11
    T*      0       0               0
    R*      9      91             100
    C*      0       0               0
     *
   3 *     14      88      37     139
    T*      0       2       1       3
    R*     10      63      27     100
    C*      4       3       2       3
     *
   2 *      4      66      10      80
    T*      0       1       0       1
    R*      5      83      13     100
    C*      1       2       1       1
     *
   1 *     46     427     130     603
    T*      1       8       2      11
    R*      8      71      22     100
    C*     12      14       7      11
     *
       **************************
( 1)          1               3
Q25                   2

COLUMN     390            1963
 TOTAL            2981

PERCENT      7              36
 TOTAL              55

GRAND TOTAL=  5334

CHI-SQUARE (OF TABLE)          336.58286
DF=   32

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0959
MEAN( 1)=          2.29490    SD( 1)=          0.59517
MEAN( 2)=          8.25422    SD( 2)=          3.94951
```

(Question 27)

| | | |
|---|---|---|
| I. | (14) | Recall |
| II. | (13) | Telephone conversation |
| III. | (11) | Group discussion |
| IV | (4) | Photographs |
| V. | (3) | Graphics (maps, graphs, etc.) |
| VI. | (2) | Tables or lists |
| VII. | (1) | Narrative text |
| VIII. | (18) | Narrative text and tables or lists |
| IX. | (9) | Graphics and lists |
| X. | (8) | Photographs and text |
| XI. | (7) | Graphics and text |
| XII. | (16) | Graphics, text and oral |
| XIII. | (17) | Graphics, text, oral, and recall |
| XIV. | (12) | Informal briefing, with chalk or pencil drawings |
| XV. | (5) | Microfilm - microfiche |
| XVI. | (6) | Slides or motion pictures |
| XVII. | (10) | Formal briefing or lecture |

(Question 25)

| | | |
|---|---|---|
| I. | (1) | A once over lightly |
| II. | (3) | A specified answer |
| III. | (2) | A detailed analysis |

Table 3-190. Disvoery of Information Available, but Unknown, during Task vs. Desired Detail of Transporting Medium

```
    032    IS CROSS TABULATED WITH      025      OR.

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2        2        1
     1        3        1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
032
   2 *     103   565   427 1092
    T*       2    11     8   20
    R*       9    52    39  100
    C*      25    19    22   20
     *
   1 *     293  2429  1545 4267
    T*       5    21     4   80
    R*       7    26     5  100
    C*      75    37    12   80
     *
      ************************
 ( 1)        1           3
025              2

COLUMN     393        1972
 TOTAL            2994

PERCENT      7           36
 TOTAL            55

GRAND TOTAL=  5359

CHI-SQUARE (OF TABLE)        12.38635
DF=    2

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0041

MEAN( 1)=        2.29404   SD( 1)=        0.59565
MEAN( 2)=        1.20377   SD( 2)=        0.40284
```

(Question 32)
I. (2) No
II. (1) Yes

(Question 25)
I. (1) A once over lightly
II. (3) A specified answer
III. (2) A detailed analysis

Table 3-191. Interviewer's Assessment of Difficulty in Use of Information vs. Desired Detail of Transporting Medium

```
     Q61    IS CROSS TABULATED WITH      Q25      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
       2       5       1
       1       3       1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q61
    4 *      28     178     178     384
     T*       1       3       3       7
     R*       7      46      46     100
     C*       7       6       9       7
      *
    3 *     246    2014    1302    3562
     T*       5      38      24      66
     R*       7      57      37     100
     C*      63      67      66      66
      *
    2 *      46     339     225     610
     T*       1       6       4      11
     R*       8      56      37     100
     C*      12      11      11      11
      *
    1 *      73     463     267     803
     T*       1       9       5      15
     R*       9      58      33     100
     C*      19      15      14      15
      *
      **************************
 ( 1)         1               3
Q25               2

COLUMN      393            1972
 TOTAL             2994

PERCENT       7              36
 TOTAL              55

GRAND TOTAL=  5359

CHI-SQUARE (OF TABLE)          23.62161
DF=    6

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0471
MEAN( 1)=        2.29404    SD( 1)=        0.49545
MEAN( 2)=        2.65815    SD( 2)=        0.81738
```

(Question 61)
I. (1) Obvious or prescribed
II. (2) Entirely or largely independent of professional judgment
III. (3) Entirely or largely dependent upon professional judgment
IV. (4) Difficult, because methods and procedures were lacking

(Question 25)
I. (1) A once over lightly
II. (2) A specified answer
III. (2) A detailed analysis

## Table 3-192. Interviewer's Assessment of Difficulty in Acquisition of Information vs. Desired Detail of Transporting Medium

```
    Q62    IS CROSS TABULATED WITH      Q25      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
    2        4       1
    1        3       1


( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q62
   3 *     67   422   385   874
     T*     1     8     7    16
     R*     8    48    44   100
     C*    17    14    20    16
      *
   2 *    184  1571  1054  2809
     T*     3    29    20    52
     R*     7    56    38   100
     C*    47    52    53    52
      *
   1 *    142  1001   533  1676
     T*     3    19    10    31
     R*     8    60    32   100
     C*    36    33    27    31
      *
       **************************
 ( 1)        1           3
Q25                2

COLUMN     393          1972
 TOTAL            2994

PERCENT      7             36
 TOTAL              55

GRAND TOTAL= 5359

CHI-SQUARE (OF TABLE)          43.17177
DF=    4


(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0760
MEAN( 1)=          2.29464    SD( 1)=          0.59545
MEAN( 2)=          1.85035    SD( 2)=          0.67344
```

(Question 62)
I. (1) Quite clear or obvious
II. (2) Fairly clear or obvious
III. (3) Neither clear nor obvious

(Question 25)
I. (1) A once over lightly
II. (3) A specified answer
III. (2) A detail analysis

Table 3-193. Desired Layout of Transporting Medium vs. Actual Layout of Transporting Medium

027 IS CROSS TABULATED WITH Q26 BY.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 52d7

| VARIABLE | MAXIMUM | MINIMUM | (AS SPECIFIED) |
|---|---|---|---|
| 2 | 17 | 1 | |
| 1 | 17 | 1 | |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q27 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 17 * | | | 2 | | 1 | 1 | 2 | 1 | | | 1 | 6 | | 4 | | | 15 | 31 |
| T* | | | 0 | | 0 | 0 | 0 | 0 | | | 0 | 0 | | 0 | | | 0 | 1 |
| R* | | | 6 | | 3 | 3 | 6 | 3 | | | 3 | 19 | | 6 | | | 48 | 100 |
| C* | | | 1 | | 0 | 0 | 0 | 2 | | | 0 | 1 | | 0 | | | 88 | 1 |
| * | | | | | | | | | | | | | | | | | | |
| 16 * | | | | | 2 | 1 | | | 1 | 1 | | | | | 3 | | | 10 |
| T* | | | | | 0 | 0 | | | 0 | 0 | | | | 0 | 0 | | | 0 |
| R* | | | | | 20 | 10 | | | 10 | 10 | | | | 20 | 30 | | | 100 |
| C* | | | | | 0 | 0 | | | 1 | 2 | | | | 0 | 100 | | | 0 |
| * | | | | | | | | | | | | | | | | | | |
| 15 * | | | | | | | | | | | 3 | 1 | | | 2 | | | 6 |
| T* | | | | | | | | | | | 0 | 0 | | | 0 | | | 0 |
| R* | | | | | | | | | | | 50 | 17 | | | 33 | | | 100 |
| C* | | | | | | | | | | | 0 | 0 | | | 67 | | | 0 |
| * | | | | | | | | | | | | | | | | | | |
| 14 * | 2 | 4 | 1 | | | | 7 | | | 1 | 3 | 7 | 2 | 313 | | | | 340 |
| T* | 0 | 0 | 0 | | | | 0 | | | 0 | 0 | 0 | 0 | 6 | | | | 6 |
| R* | 1 | 1 | 0 | | | | 2 | | | 0 | 1 | 2 | 1 | 92 | | | | 100 |
| C* | 0 | 3 | 1 | | | | 1 | | | 2 | 0 | 2 | 1 | 67 | | | | 6 |
| * | | | | | | | | | | | | | | | | | | |
| 13 * | 1 | | | | | | | | | | 2 | 6 | 115 | | | | | 124 |
| T* | 0 | | | | | | | | | | 0 | 0 | 2 | | | | | 2 |
| R* | 1 | | | | | | | | | | 2 | 5 | 93 | | | | | 100 |
| C* | 0 | | | | | | | | | | 0 | 1 | 60 | | | | | 2 |
| * | | | | | | | | | | | | | | | | | | |
| 12 * | | | 3 | | 1 | 1 | 9 | 1 | 4 | | 11 | 322 | 22 | 9 | | | | 383 |
| T* | | | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 6 | 0 | 0 | | | | 7 |
| R* | | | 1 | | 0 | 0 | 2 | 0 | 1 | | 2 | 89 | 6 | 2 | | | | 100 |
| C* | | | 2 | | 0 | 0 | 1 | 2 | 3 | | 1 | 89 | 11 | 2 | | | | 7 |
| * | | | | | | | | | | | | | | | | | | |
| 11 * | 15 | 19 | 16 | 1 | 15 | 13 | 41 | | 2 | 3 | 1554 | 42 | 24 | 65 | | | 1 | 1624 |
| T* | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | 0 | 0 | 1 | 1 | 0 | 1 | | | 0 | 31 |
| R* | 1 | 1 | 1 | 0 | 1 | 1 | 3 | | 0 | 0 | 3 | 3 | 1 | 4 | | | 0 | 100 |
| C* | 3 | 15 | 4 | 13 | 4 | 3 | 6 | | 1 | 6 | 3 | 11 | 12 | 14 | | | 4 | 31 |
| * | | | | | | | | | | | | | | | | | | |
| 10 * | 2 | 2 | 3 | | | | 3 | | | 46 | 3 | 7 | | 2 | | | | 69 |
| T* | 0 | 0 | 0 | | | | 0 | | | 1 | 0 | 0 | | 0 | | | | 1 |
| R* | 4 | 3 | 4 | | | | 4 | | | 67 | 4 | 10 | | 3 | | | | 100 |
| C* | 0 | 2 | 2 | | | | 0 | | | 90 | 0 | 2 | | 0 | | | | 1 |
| * | | | | | | | | | | | | | | | | | | |
| 9 * | | | | | 3 | 6 | 1 | | 126 | | 2 | 3 | 5 | 2 | | | | 148 |
| T* | | | | | 0 | 0 | 0 | | 2 | | 0 | 0 | 0 | 0 | | | | 3 |
| P* | | | | | 2 | 4 | 1 | | 95 | | 1 | 2 | 3 | 1 | | | | 100 |
| C* | | | | | 1 | 1 | 0 | | 91 | | 0 | 1 | 3 | 0 | | | | 3 |
| * | | | | | | | | | | | | | | | | | | |
| 8 * | | | | | | | | 48 | | | | 5 | 1 | 2 | | | | 56 |
| T* | | | | | | | | 1 | | | | 0 | 0 | 0 | | | | 1 |
| R* | | | | | | | | 86 | | | | 5 | 2 | 4 | | | | 100 |
| C* | | | | | | | | 84 | | | | 1 | 1 | 0 | | | | 1 |
| * | | | | | | | | | | | | | | | | | | |
| 7 * | 12 | 14 | 27 | | 1 | 9 | 602 | 1 | | | 3 | 14 | 5 | 35 | | | | 727 |
| T* | 0 | 0 | 1 | | 0 | 0 | 11 | 0 | | | 0 | 0 | 0 | 1 | | | | 14 |
| R* | 2 | 3 | 4 | | 0 | 1 | 83 | 0 | | | 0 | 2 | 1 | 5 | | | | 100 |
| C* | 2 | 11 | 14 | | 0 | 2 | 86 | 2 | | | 0 | 4 | 3 | 8 | | | | 14 |
| * | | | | | | | | | | | | | | | | | | |
| 6 * | 6 | 3 | 6 | | 2 | 547 | 17 | 6 | 3 | | 11 | 13 | 7 | 11 | 1 | | | 473 |
| T* | 0 | 0 | 0 | | 0 | 7 | 0 | 0 | 0 | | 0 | 0 | 0 | 9 | 0 | | | 9 |
| R* | 1 | 1 | 1 | | 0 | 82 | 4 | 1 | 1 | | 2 | 3 | 1 | 2 | 0 | | | 100 |
| C* | 1 | 2 | 3 | | 0 | 90 | 2 | 11 | 2 | | 1 | 3 | 4 | 2 | 33 | | | 9 |
| * | | | | | | | | | | | | | | | | | | |
| 5 * | 4 | 4 | 4 | | 385 | 12 | 11 | | 2 | | 3 | 19 | 4 | 18 | | | | 465 |
| T* | 0 | 0 | 0 | | 7 | 0 | 0 | | 0 | | 0 | 0 | 0 | 0 | | | | 9 |
| R* | 1 | 1 | 1 | | 83 | 3 | 2 | | 0 | | 1 | 4 | 1 | 4 | | | | 100 |
| C* | 1 | 3 | 2 | | 93 | 3 | 2 | | 1 | | 0 | 4 | 2 | 4 | | | | 9 |
| * | | | | | | | | | | | | | | | | | | |
| 4 * | | | | 7 | 3 | | | | | | | | | | | | | 10 |
| T* | | | | 0 | 0 | | | | | | | | | | | | | 0 |
| R* | | | | 70 | 30 | | | | | | | | | | | | | 100 |
| C* | | | | PR | 1 | | | | | | | | | | | | | 0 |

Table 3-193. (Continued)

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 1 | 1 | 126 | | | 1 | 3 | | | 4 | 1 | | 2 | | | 139 | | |
| T | 0 | 0 | 2 | | | 0 | 0 | | | 0 | 0 | | 0 | | | 3 | | |
| R | 1 | 1 | 91 | | | 1 | 2 | | | 3 | 1 | | 1 | | | 100 | | |
| C | 0 | 1 | 67 | | | 0 | 0 | | | 0 | 0 | | 0 | | | 3 | | |
| 2 | | 77 | | | | | | | | | 2 | | 1 | | | 80 | | |
| T | | 1 | | | | | | | | | 0 | | 0 | | | 2 | | |
| R | | 96 | | | | | | | | | 3 | | 1 | | | 100 | | |
| C | | 63 | | | | | | | | | 0 | | 0 | | | 2 | | |
| 1 | 585 | | | | | 1 | 4 | | | | 3 | 8 | | | 1 | 602 | | |
| T | 11 | | | | | 0 | 0 | | | | 0 | 0 | | | 0 | 11 | | |
| R | 97 | | | | | 0 | 1 | | | | 0 | 1 | | | 0 | 100 | | |
| C | 92 | | | | | 0 | 1 | | | | 1 | 4 | | | 6 | 11 | | |

| ( 1) | 1 | | 3 | | 5 | | 7 | | 9 | | 11 | | 13 | | 15 | | 17 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 026 | | 2 | | 4 | | 6 | | 8 | | 10 | | 12 | | 14 | | 16 | | |
| COLUMN TOTAL | 633 | 124 | 187 | 8 | 413 | 432 | 700 | 57 | 138 | 51 | 1400 | 465 | 193 | 464 | 3 | 3 | 17 | |
| PERCENT TOTAL | 11 | 2 | 3 | 0 | 7 | 8 | 13 | 1 | 2 | 0 | 26 | 8 | 3 | 8 | 0 | 0 | 0 | |

GRAND TOTAL= 5287

CHI-SQUARE (OF TABLE) 50873.38916
DF= 256

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.8649
MEAN( 1)= 8.24740 SD( 1)= 4.11930
MEAN( 2)= 8.23719 SD( 2)= 3.94995

(Question 27)

| | | |
|---|---|---|
| I. | (14) | Recall |
| II. | (13) | Telephone conversation |
| III | (11) | Group discussion |
| IV | (4) | Photographs |
| V. | (3) | Graphics (maps, graphs, etc ) |
| VI. | (2) | Tables or lists |
| VII. | (1) | Narrative text |
| VIII. | (18) | Narrative text and tables or lists |
| IX | (9) | Graphics and lists |
| X. | (8) | Photographs and text |
| XI | (7) | Graphics and text |
| XII. | (16) | Graphics text and oral |
| XIII. | (17) | Graphics, text, oral, and recall |
| XIV. | (12) | Informal briefing, with chalk or pencil drawings |
| XV. | (5) | Microfilm - microfiche |
| XVI. | (6) | Slides or motion pictures |
| XVII. | (10) | Formal briefing or lecture |

(Question 26)

| | | |
|---|---|---|
| I | (14) | Recall |
| II | (13) | Telephone conversation |
| III. | (11) | Group discussion |
| IV | (4) | Photographs |
| V | (3) | Graphics (diagrams, drawings, etc.) |
| VI. | (2) | Tables or lists |
| VII. | (1) | Narrative text |
| VIII | (18) | Narrative text and tables or lists |
| IX | (9) | Graphics and lists |
| X | (8) | Photographs and text |
| XI | (7) | Graphics and text |
| XII. | (16) | Graphics, text and oral |
| XIII | (17) | Graphics, text, oral, and recall |
| XIV | (12) | Informal briefing, with chalk or pencil drawings |
| XV | (5) | Microfilm - microfiche |
| XVI | (6) | Slides or motion pictures |
| XVII | (10) | Formal briefing or lecture |

## Table 3-194. Class of Information vs. Actual Layout of Transporting Medium

Q28 IS CROSS TABULATED WITH Q26 OR,

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5359

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 14 | 1 |
| 1 | 17 | 1 |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q28 | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 * | 9 | 8 | 9 | | 7 | 29 | 27 | 4 | 4 | 2 | 21 | 13 | 1 | 25 | | | 1 | 140 |
| T* | 0 | 0 | 0 | | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | 0 | 1 |
| R* | 6 | 5 | 6 | | 4 | 18 | 17 | 2 | 2 | 1 | 13 | 8 | 1 | 16 | | | 1 | 120 |
| C* | 1 | 6 | 5 | | 7 | 7 | 4 | 7 | 3 | 4 | 1 | 3 | 1 | 5 | | | 6 | 3 |
| 13 * | 42 | 11 | 7 | | 6 | 8 | 15 | 2 | 2 | 3 | 27 | 26 | 9 | 27 | | | 2 | 187 |
| T* | 1 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | | | 0 | 4 |
| R* | 22 | 6 | 4 | | 3 | 4 | 8 | 1 | 1 | 2 | 14 | 14 | 5 | 14 | | | 1 | 103 |
| C* | 7 | 9 | 4 | | 1 | 2 | 2 | 3 | 1 | 6 | 2 | 6 | 5 | 6 | | | 12 | 4 |
| 12 * | 22 | 12 | 10 | | 9 | 12 | 66 | 3 | 7 | 3 | 100 | 33 | 17 | 31 | | | | 325 |
| T* | 0 | 0 | 0 | | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 1 | 0 | 1 | | | | 6 |
| R* | 7 | 4 | 3 | | 3 | 4 | 20 | 1 | 2 | 1 | 31 | 10 | 5 | 10 | | | | 100 |
| C* | 3 | 10 | 5 | | 2 | 3 | 9 | 5 | 5 | 6 | 7 | 7 | 9 | 7 | | | | 6 |
| 11 * | 42 | 12 | 14 | | 7 | 12 | 29 | 8 | 3 | 2 | 25 | 22 | 10 | 34 | | | 2 | 222 |
| T* | 1 | 0 | 0 | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | | | 0 | 4 |
| R* | 19 | 5 | 6 | | 3 | 5 | 13 | 4 | 1 | 1 | 11 | 10 | 5 | 15 | | | 1 | 100 |
| C* | 7 | 10 | 7 | | 2 | 3 | 4 | 14 | 2 | 4 | 2 | 5 | 5 | 7 | | | 12 | 4 |
| 10 * | 137 | 21 | 37 | 5 | 87 | 100 | 100 | 7 | 43 | 20 | 445 | 156 | 50 | 117 | | | 5 | 1330 |
| T* | 3 | 0 | 1 | 0 | 2 | 2 | 2 | 0 | 1 | 0 | 8 | 3 | 1 | 2 | | | 0 | 25 |
| R* | 10 | 2 | 3 | 0 | 7 | 8 | 8 | 1 | 3 | 2 | 33 | 12 | 4 | 9 | | | 0 | 100 |
| C* | 22 | 17 | 20 | 63 | 21 | 23 | 14 | 12 | 31 | 39 | 32 | 33 | 26 | 25 | | | 29 | 25 |
| 9 * | 25 | 23 | 23 | | 54 | 74 | 170 | 18 | 32 | 9 | 235 | 56 | 20 | 55 | 1 | 1 | 1 | 807 |
| T* | 0 | 0 | 0 | | 1 | 1 | 3 | 0 | 1 | 0 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 15 |
| R* | 3 | 3 | 3 | | 8 | 9 | 21 | 2 | 4 | 1 | 29 | 7 | 2 | 7 | 0 | 0 | 0 | 100 |
| C* | 4 | 19 | 17 | | 15 | 17 | 24 | 31 | 23 | 18 | 17 | 12 | 10 | 17 | 33 | 25 | 6 | 15 |
| 8 * | 37 | 5 | 11 | | 6 | 8 | 28 | | 3 | 2 | 47 | 17 | 10 | 15 | | 1 | | 185 |
| T* | 1 | 0 | 0 | | 0 | 0 | 1 | | 0 | 0 | 1 | 0 | 0 | 0 | | 0 | | 3 |
| R* | 20 | 3 | 6 | | 3 | 4 | 15 | | 2 | 1 | 23 | 9 | 5 | 8 | | 1 | | 100 |
| C* | 6 | 4 | 6 | | 1 | 2 | 4 | | 2 | 4 | 3 | 4 | 5 | 3 | | 25 | | 3 |
| 7 * | 54 | 6 | 11 | 1 | 12 | 17 | 22 | 3 | 3 | 1 | 47 | 20 | 11 | 19 | | | 3 | 230 |
| T* | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | | 0 | 4 |
| R* | 23 | 3 | 5 | 0 | 5 | 7 | 10 | 1 | 1 | 0 | 20 | 9 | 5 | 8 | | | 1 | 100 |
| C* | 9 | 5 | 6 | 13 | 3 | 4 | 3 | 5 | 2 | 2 | 3 | 4 | 6 | 4 | | | 18 | 4 |
| 6 * | 34 | 7 | 7 | | 3 | 5 | 29 | 4 | 4 | 1 | 51 | 12 | 13 | 17 | | | | 182 |
| T* | 1 | 0 | 0 | | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | | | | 3 |
| R* | 19 | 1 | 4 | | 2 | 3 | 16 | 2 | 2 | 1 | 28 | 7 | 7 | 9 | | | | 100 |
| C* | 5 | 2 | 4 | | 1 | 1 | 4 | 7 | 3 | 7 | 4 | 3 | 7 | 4 | | | | 3 |
| 5 * | 71 | 7 | 17 | | 149 | 19 | 63 | 1 | 9 | 4 | 139 | 27 | 15 | 42 | 1 | | 1 | 565 |
| T* | 1 | 0 | 0 | | 3 | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 0 | 1 | 0 | | 0 | 10 |
| R* | 13 | 1 | 3 | | 27 | 3 | 8 | 0 | 2 | 1 | 26 | 5 | 3 | 3 | 0 | | 0 | 100 |
| C* | 11 | 6 | 9 | | 36 | 4 | 6 | 2 | 7 | 8 | 10 | 6 | 8 | 9 | 33 | | 6 | 10 |
| 4 * | 79 | 1 | 7 | | 11 | 46 | 69 | 2 | 7 | | 99 | 21 | 15 | 24 | | | 1 | 382 |
| T* | 1 | 0 | 0 | | 0 | 1 | 1 | 0 | 0 | | 2 | 0 | 0 | 0 | | | 0 | 7 |
| R* | 21 | 0 | 2 | | 3 | 12 | 18 | 1 | 2 | | 26 | 5 | 4 | 6 | | | 0 | 100 |
| C* | 12 | 1 | 4 | | 3 | 11 | 10 | 3 | 5 | | 7 | 5 | 8 | 5 | | | 6 | 7 |
| 3 * | 9 | 10 | 11 | 1 | 39 | 94 | 74 | 4 | 20 | 1 | 67 | 37 | 10 | 25 | 1 | 1 | | 364 |
| T* | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | | 7 |
| R* | 2 | 3 | 3 | 0 | 11 | 26 | 9 | 1 | 5 | 0 | 18 | 10 | 3 | 7 | 0 | 0 | | 100 |
| C* | 1 | 8 | 6 | 13 | 9 | 22 | 5 | 7 | 14 | 2 | 5 | 8 | 5 | 5 | 33 | 25 | | 7 |
| 2 * | 73 | 6 | 23 | 1 | 13 | 8 | 67 | 2 | 1 | 3 | 102 | 26 | 14 | 34 | | 1 | 1 | 375 |
| T* | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | | 0 | 0 | 7 |
| R* | 19 | 2 | 6 | 0 | 3 | 2 | 18 | 1 | 0 | 1 | 27 | 7 | 4 | 9 | | 0 | 0 | 100 |
| C* | 12 | 5 | 12 | 13 | 3 | 2 | 10 | 3 | 1 | 6 | 7 | 6 | 7 | 7 | | 25 | 6 | 7 |
| ( 1) | 1 | | 3 | | 5 | | 7 | | 9 | | 11 | | 13 | | 15 | | 17 | |
| Q26 | | 2 | | 4 | | 6 | | 8 | | 10 | | 12 | | 14 | | 16 | | |
| COLUMN TOTAL | 634 | 124 | 187 | 8 | 413 | 432 | 699 | 58 | 139 | 51 | 1403 | 466 | 195 | 464 | 3 | 4 | 17 | |
| PERCENT TOTAL | 12 | 2 | 4 | 0 | 8 | 8 | 13 | 1 | 3 | 1 | 26 | 9 | 4 | 9 | 0 | 0 | 0 | |

Table 3-194. (Continued)

```
GRAND TOTAL=  5296

CHI-SQUARE (OF TABLE)        1266.05961
DF=  152

VALUES NOT ENTERED  65

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.0803
MEAN(  1)=        8.15133    SD(  1)=        4.19398
MEAN(  2)=        7.90035    SD(  2)=        3.31766
```

(Question 28)

| | | |
|---|---|---|
| II. | (1) | Concepts |
| III. | (9) | Raw data |
| IV. | (5) | Math aids and formulae; computer programs |
| V | (3) | Designs or design techniques |
| VI. | (4) | Experimental processes and procedures |
| VII. | (11) | Test processes and procedures |
| VIII. | (13) | Evaluation |
| IX. | (9) | Specifications |
| X. | (6) | Performance and characteristics |
| XI | (7) | Production processes and procedures |
| XII. | (10) | Technical status |
| XIII. | (12) | Utilization |
| XIV. | (2) | Cost and funding; administrative action |

(Question 26)

| | | |
|---|---|---|
| I | (14) | Recall |
| II | (13) | Telephone conversation |
| III. | (11) | Group discussion |
| IV. | (4) | Photographs |
| V | (3) | Graphics (diagrams, drawings, etc.) |
| VI. | (2) | Tables or lists |
| VII. | (1) | Narrative text |
| VIII. | (15) | Narrative text and tables or lists |
| IX | (9) | Graphics and lists |
| X | (8) | Photographs and text |
| XI. | (7) | Graphics and text |
| XII. | (16) | Graphics, text and oral |
| XIII. | (17) | Graphics, text, oral, and recall |
| XIV. | (12) | Informal briefing, with chalk or pencil drawings |
| XV. | (5) | Microfilm - microfiche |
| XVI | (6) | Slides or motion pictures |
| XVII. | (10) | Formal briefing or lecture |

## Table 3-195. Field of Information vs. Actual Layout of Transporting Medium

```
    C29    IS CROSS TABULATED WITH      C26      BY.
VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1
NUMBER OF REPLICATIONS= 5359
VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       9       1
     1      17       1

( 2)              (EXTREME RIGHT VALUE IS ROW TOTAL)
Q26
   9 .    39     1     3          4    19    30     2     1          42    12     3    11                      167
     T.     1     0     0          0     0     1     0     0           1     0     0     0                       3
     R.    23     1     2          2    11    10     1     1          25     7     2     7                     ICO
     C.     6     1     2          1     4     4     4     1           3     3     2     2                       3
     .
   8 .    73     7    20         14    32    67     4     0     4    79    43    31    49                3     340
     T.     1     0     0          0     1     1     0     0     0     1     1     1     1                0       8
     R.    17     2     5          3     9    15     1     2     1    18    10     7    11                1     ICO
     C.    12     6    11          3     9    10     7     6     0     6     9    16    12               10       8
     .
   7 .    68    20    26     1    59    50    95     1    25     3   233    56    32    42     1     1     2     795
     T.     1     0     0     0     1     1     2     0     0     0     4     1     1     1     0     0     0      14
     R.     9     3     4     0     8     7    13     0     3     0    32     8     4     8     0     0     0     ICO
     C.    11    16    14    13    14    12    14     2    10     6    17    12    17    13    33    25    12      14
     .
   6 .    88    23    36     2    38    74    90    12    13     9   196    47    10    53     1           4     496
     T.     2     0     1     0     1     1     2     0     0     0     4     1     0     1     0           0      13
     R.    13     3     5     0     5    11    13     2     2     1    28     7     1     8     0           1     ICO
     C.    14    19    19    25     9    17    13    21     9    18    14    10     5    11    33          24      13
     .
   5 .   143    30    34     2   112    95   141    12    30    14   348   126    55   121     1     1     3    1276
     T.     3     1     1     0     2     2     3     0     1     0     7     2     1     2     0     0     0      24
     R.    11     2     3     2     9     7    11     1     3     1    27    10     4     9     0     0     0     ICO
     C.    23    24    18    25    27    22    20    21    28    27    25    27    28    26    33    25    18      24
     .
   4 .    92    13    22     1   124    71   100    10    28     6   256    78    15    67                 1     856
     T.     2     5     0     0     2     1     2     0     1     0     5     1     0     1                 0      17
     R.    10     1     2     0    14     8    12     1     3     1    29     9     2     7                 0     ICO
     C.    15    10    12    13    30    16    15    10    28    12    18    17    10    14                 6      17
     .
   3 .    30     7     8     1    38    28    42     4    12     5    91    48     8    29                 1     352
     T.     1     0     0     0     1     1     1     0     0     0     2     1     0     1                 0       7
     R.     9     2     2     0    11     8    12     1     3     1    26    14     2     8                 1     ICO
     C.     5     6     4    13     9     6     6     7     9    10     7    10     4     6                 6       7
     .
   2 .    11     1     3          3     4    24     1     3     5    19    12     7     4                       55
     T.     0     0     0          0     0     0     0     0     0     0     0     0     0                       2
     R.    12     1     3          1     4    25     4     3     5    20    13     7     4                     ICO
     C.     2     1     2          0     1     3     2     2    10     1     3     4     1                       2
     .
   1 .    87    22    35     1    21    52   103    11    10     5   124    41    28    68           2     3     613
     T.     2     0     1     0     0     1     2     0     0     0     2     1     1     1           0     0      12
     R.    14     4     6     0     3     8    17     2     2     1    20     7     5    11           0     0     ICO
     C.    14    19    19    13     5    16    15    19     7    10     9     9    15    15          50    18      12
     .
( 1)      1           3           5           7           9          11          13          15          17
Q26             2           4           6           8          10          12          14          16

COLUMN   631         187         411         700         136        1388         193           3          17
 TOTAL           124           8         431          57          51         463         464           4

PERCENT   12           4           8          13           3          26           4           0           0
 TOTAL           2           0           8           1           1           9           9           0

GRAND TOTAL= 5270

CHI-SQUARE (OF TABLE)       382.00295
DF= 128

VALUES NOT ENTERED  89

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0118
MEAN( 1)=       8.15193   SD( 1)=       4.19398
MEAN( 2)=       4.95111   SD( 2)=       2.12042
```

Table 3-195. (Continued)

(Question 29)

I. Production, Management and Social Sciences
- (32) Miscellaneous arts and sciences
- (23) Personnel and training
- (26) Production and management
- (28) Psychology and human engineering

II. Medical Sciences
- (16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
- (11) Ground transportation equipment
- (13) Installations and constructions
- (18) Military sciences and operations
- (24) Photography and other reproduction processes
- (29) Quartermaster equipment and supplies
- (31) Ships and marine equipment
- (33) Transportation

IV. Aeronautics and Space Technology
- (01) Aircraft and flight equipment
- (12) Guided missiles
- (19) Navigation

V. Electronics and Electrical Engineering
- (05) Communications
- (06) Detection
- (07) Electrical equipment
- (08) Electronics, electronic equipment

VI. Chemical Science and Materials
- (03) Chemical warfare equipment and materials
- (04) Chemistry
- (10) Fuels and combustion
- (14) Materials (nonmetallic)
- (17) Metallurgy
- (22) Ordnance

VII. Physical Science
- (02) Astronomy, geophysics and geography
- (09) Fluid mechanics
- (20) Nuclear physics and nuclear chemistry
- (21) Nuclear propulsion
- (25) Physics
- (27) Propulsion systems

VIII. Research and Research Equipment
- (30) Research and research equipment

IX. Mathematics
- (15) Mathematics

(Question 26)

I. (14) Recall
II. (13) Telephone conversation
III. (11) Group discussion
IV. (4) Photographs
V. (3) Graphics (diagrams, drawings, etc.)
VI. (2) Tables or lists
VII. (1) Narrative text
VIII. (18) Narrative text and tables or lists
IX. (9) Graphics and lists
X. (8) Photographs and text
XI. (7) Graphics and text
XII. (16) Graphics, text and oral
XIII (17) Graphics, text, oral, and recall
XIV. (12) Informal briefing, with chalk or pencil drawings
XV. (5) Microfilm - microfiche
XVI. (6) Slides or motion pictures
XVII. (10) Formal briefing or lecture

## Table 3-196. Essentiality of Information to Task vs. Class of Information

Q30 IS CROSS TABULATED WITH Q28 ON:

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5358

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 4 | 1 |
| 1 | 14 | 1 |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q30 | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 • | 289 | 272 | 274 | 462 | 135 | 174 | 145 | 687 | 1106 | 176 | 223 | 127 | 117 | 4187 |
| To | 5 | 5 | 5 | 9 | 3 | 3 | 3 | 13 | 21 | 3 | 4 | 2 | 2 | 78 |
| Ro | 7 | 6 | 7 | 11 | 3 | 4 | 3 | 16 | 26 | 4 | 5 | 3 | 3 | 100 |
| Co | 76 | 73 | 71 | 84 | 72 | 74 | 77 | 85 | 82 | 79 | 68 | 67 | 73 | 78 |
| • | | | | | | | | | | | | | | |
| 3 • | 66 | 78 | 92 | 66 | 40 | 47 | 37 | 94 | 185 | 44 | 82 | 46 | 32 | 909 |
| To | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 2 | 1 | 1 | 17 |
| Ro | 7 | 9 | 10 | 7 | 4 | 5 | 4 | 10 | 20 | 5 | 9 | 5 | 4 | 100 |
| Co | 17 | 21 | 24 | 12 | 21 | 20 | 20 | 12 | 14 | 20 | 25 | 24 | 20 | 17 |
| • | | | | | | | | | | | | | | |
| 2 • | 23 | 19 | 16 | 17 | 10 | 13 | 7 | 25 | 53 | 9 | 23 | 15 | 11 | 235 |
| To | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| Ro | 10 | 8 | 7 | 7 | 4 | 6 | 3 | 11 | 25 | 1 | 10 | 6 | 5 | 100 |
| Co | 6 | 5 | 4 | 3 | 5 | 6 | 4 | 3 | 4 | 1 | 7 | 8 | 7 | 4 |
| • | | | | | | | | | | | | | | |
| 1 • | | 3 | 5 | 2 | 2 | 1 | | 7 | 5 | 1 | | 1 | | 27 |
| To | | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | | 0 | | 1 |
| Ro | | 11 | 19 | 7 | 7 | 4 | | 26 | 19 | 4 | | 4 | | 100 |
| Co | | 1 | 1 | 0 | 1 | 0 | | 1 | 0 | 0 | | 1 | | 1 |
| • | | | | | | | | | | | | | | |

| ( 1) | 2 | 4 | 6 | 8 | 10 | 12 | 14 |
|---|---|---|---|---|---|---|---|
| Q28 | 3 | 5 | 7 | 9 | 11 | 13 | |
| COLUMN TOTAL | 378 | 387 | 187 | 189 | 1349 | 323 | 160 |
| | 372 | 547 | 235 | 813 | 224 | 189 | |
| PERCENT TOTAL | 7 | 7 | 3 | 3 | 25 | 6 | 2 |
| | 6 | 10 | 4 | 15 | 4 | 3 | |

GRAND TOTAL= 5358

CHI-SQUARE (OF TABLE) 134.00488
DF= 36

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT 0.0069
MEAN( 1)= 7.90183 SD( 1)= 3.31621
MEAN( 2)= 3.72751 SD( 2)= 0.56236

(Question 30)
I. (4) Neither essential nor helpful to successful task completion
II. (3) Not essential, but somewhat helpful to successful task completion
III. (2) Not essential, but extremely helpful to successful task completion
IV. (1) Absolutely essential to successful task completion

(Question 28)
II. (1) Concepts
III. (8) Raw data
IV. (5) Math aids and formulae, computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (9) Specifications
X. (6) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding; administrative action

## Table 3-197. Extensiveness of Information Use in Task vs. Class of Information

Q31 IS CROSS TABULATED WITH Q28 Q8.

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5358

VARIABLE MAXIMUM MINIMUM (AS SPECIFIED)
2 6 1
1 14

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)
Q31

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 • | 186 | 131 | 132 | 261 | 63 | 80 | 73 | 389 | 557 | 74 | 121 | 81 | *C | 2196 |
| T• | 3 | 2 | 2 | 5 | 1 | 1 | 1 | 7 | 10 | 1 | 2 | 2 | 1 | 41 |
| R• | 8 | 6 | 6 | 12 | 3 | 4 | 3 | 18 | 25 | 3 | 6 | 4 | 2 | 100 |
| C• | 49 | 35 | 34 | 48 | 34 | 34 | 39 | 48 | 41 | 33 | 37 | 43 | 31 | 41 |
| 5 • | 82 | 143 | 161 | 197 | 81 | 95 | 69 | 235 | 483 | 79 | 110 | 46 | 54 | 1835 |
| T• | 2 | 3 | 3 | 4 | 2 | 2 | 1 | 4 | 9 | 1 | 2 | 1 | 1 | 34 |
| R• | 4 | 8 | 9 | 11 | 4 | 5 | 4 | 13 | 26 | 4 | 6 | 3 | 3 | 100 |
| C• | 22 | 38 | 42 | 36 | 43 | 40 | 37 | 29 | 36 | 35 | 34 | 24 | 34 | 34 |
| 4 • | 28 | 45 | 48 | 44 | 19 | 32 | 21 | 103 | 150 | 37 | 37 | 24 | 35 | 623 |
| T• | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 2 | 3 | 1 | 1 | 0 | 1 | 12 |
| R• | 4 | 7 | 8 | 7 | 3 | 5 | 3 | 17 | 24 | 6 | 6 | 4 | 6 | 100 |
| C• | 7 | 12 | 12 | 8 | 10 | 14 | 11 | 13 | 11 | 17 | 11 | 13 | 22 | 12 |
| 3 • | 71 | 46 | 40 | 42 | 18 | 25 | 23 | 78 | 135 | 33 | 57 | 32 | 17 | 617 |
| T• | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 1 | 1 | 1 | 0 | 12 |
| R• | 12 | 7 | 6 | 7 | 3 | 4 | 4 | 13 | 22 | 5 | 9 | 5 | 3 | 100 |
| C• | 19 | 12 | 10 | 8 | 10 | 11 | 12 | 10 | 10 | 15 | 17 | 17 | 11 | 12 |
| 2 • | 8 | 4 | 2 | 2 | 3 | 2 | 2 | 4 | 12 | | 2 | 5 | 1 | 47 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | 0 | 0 | 1 |
| R• | 17 | 9 | 4 | 4 | 6 | 4 | 4 | 9 | 26 | | 4 | 11 | 2 | 100 |
| C• | 2 | 1 | 1 | 0 | 2 | 1 | 1 | 0 | 1 | | 1 | 3 | 1 | 1 |
| 1 • | 3 | 3 | 4 | 1 | 3 | 1 | 1 | 4 | 12 | 1 | 1 | 1 | 3 | 38 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 8 | 8 | 11 | 3 | 8 | 3 | 3 | 11 | 32 | 3 | 3 | 3 | 8 | 100 |
| C• | 1 | 1 | 1 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 2 | 1 |

( 1) 2 4 6 8 10 12 14
Q28 3 5 7 9 11 13

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COLUMN TOTAL | 378 | 372 | 387 | 547 | 187 | 235 | 189 | 813 | 1349 | 224 | 328 | 189 | 160 | |
| PERCENT TOTAL | 7 | 6 | 7 | 10 | 3 | 4 | 3 | 15 | 25 | 4 | 6 | 3 | 2 | |

GRAND TOTAL= 5358

CHI-SQUARE (OF TABLE) 202.45102
DF= 60

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0191
MEAN( 1)= 7.90183 SD( 1)= 3.31621
MEAN( 2)= 5.00896 SD( 2)= 1.08613

(Question 31)
I. (6) Not at all
II. (5) As a lead to other information
III. (4) As background information
IV. (3) In only small parts of the task
V. (2) In major portions of the task
VI. (1) Throughout the entire duration of the task

(Question 28)
II. (1) Concepts
III. (8) Raw data
IV. (5) Math aids and formulae; computer programs
V. (3) Designs or design techniques
VI. (4) Experimental processes and procedures
VII. (11) Test processes and procedures
VIII. (13) Evaluation
IX. (9) Specifications
X. (6) Performance and characteristics
XI. (7) Production processes and procedures
XII. (10) Technical status
XIII. (12) Utilization
XIV. (2) Cost and funding; administrative action

# Table 3-198. Essentiality of Information to Task vs. Field of Information

Q30 IS CROSS TABULATED WITH Q29 OR,

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5334

| VARIABLE | MAXIMUM | MINIMUM | (AS SPECIFIED) |
|---|---|---|---|
| 2 | 4 | 1 | |
| 1 | 9 | 1 | |

(Question 30)

I. (4) Neither essential nor helpful to successful task completion
II. (3) Not essential, but somewhat helpful to successful task completion
III. (2) Not essential, but extremely helpful to successful task completion
IV. (1) Absolutely essential to successful task completion

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q30 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4 * | 439 | 71 | 296 | 740 | 1038 | 539 | 595 | 329 | 115 | 4164 |
| T* | 8 | 1 | 6 | 14 | 19 | 10 | 11 | 6 | 2 | 78 |
| R* | 11 | 2 | 7 | 18 | 25 | 13 | 14 | 8 | 3 | 100 |
| C* | 71 | 75 | 84 | 82 | 80 | 76 | 80 | 73 | 68 | 78 |
| * | | | | | | | | | | |
| 3 * | 149 | 21 | 44 | 123 | 191 | 128 | 115 | 99 | 39 | 909 |
| T* | 3 | 0 | 1 | 2 | 4 | 2 | 2 | 2 | 1 | 17 |
| R* | 16 | 2 | 5 | 14 | 21 | 14 | 13 | 11 | 4 | 100 |
| C* | 24 | 22 | 12 | 14 | 15 | 18 | 15 | 22 | 23 | 17 |
| * | | | | | | | | | | |
| 2 * | 29 | 2 | 12 | 35 | 57 | 33 | 34 | 19 | 13 | 234 |
| T* | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 4 |
| R* | 12 | 1 | 5 | 15 | 24 | 14 | 15 | 8 | 6 | 100 |
| C* | 5 | 2 | 3 | 4 | 4 | 5 | 5 | 4 | 8 | 4 |
| * | | | | | | | | | | |
| 1 * | | 1 | 1 | 2 | 5 | 12 | 3 | 1 | 2 | 27 |
| T* | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R* | | 4 | 4 | 7 | 19 | 44 | 11 | 4 | 7 | 100 |
| C* | | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 |
| * | | | | | | | | | | |

( 1) 1 2 3 4 5 6 7 8 9

Q29

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| COLUMN TOTAL | 617 | 355 | 1291 | 747 | 169 | | | |
| | 95 | 900 | 712 | 448 | | | | |
| PERCENT TOTAL | 11 | 6 | 24 | 14 | 3 | | | |
| | 1 | 10 | 13 | 8 | | | | |

GRAND TOTAL= 5334

CHI-SQUARE (OF TABLE) 93.24404
DF= 24

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT -0.0163
MEAN( 1)= 4.97432 SD( 1)= 2.09626
MEAN( 2)= 3.72666 SD( 2)= 0.56285

(Question 29)

I. Production, Management and Social Sciences
(32) Miscellaneous arts and sciences
(23) Personnel and training
(26) Production and management
(28) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

# Table 3-199. Extensiveness of Information Use in Task vs. Field of Information

Q31 IS CROSS TABULATED WITH Q29 BY,

VARIABLE 2 IS CROSS TABULATED WITH VARIABLE 1

NUMBER OF REPLICATIONS= 5334

| VARIABLE | MAXIMUM | MINIMUM (AS SPECIFIED) |
|---|---|---|
| 2 | 6 | 1 |
| 1 | 9 | 1 |

( 2) (EXTREME RIGHT VALUE IS ROW TOTAL)

| Q31 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6 • | 233 | 34 | 160 | 439 | 512 | 262 | 320 | 163 | 60 | 2183 |
| T• | 4 | 1 | 3 | 8 | 10 | 5 | 6 | 3 | 1 | 41 |
| R• | 11 | 2 | 7 | 20 | 23 | 12 | 15 | 7 | 3 | 100 |
| C• | 38 | 36 | 45 | 49 | 40 | 37 | 43 | 36 | 36 | 41 |
| • | | | | | | | | | | |
| 5 • | 203 | 46 | 133 | 280 | 465 | 239 | 218 | 184 | 64 | 1832 |
| T• | 4 | 1 | 2 | 5 | 9 | 4 | 4 | 3 | 1 | 34 |
| R• | 11 | 3 | 7 | 15 | 25 | 13 | 12 | 10 | 3 | 100 |
| C• | 33 | 48 | 37 | 31 | 36 | 34 | 29 | 41 | 38 | 34 |
| • | | | | | | | | | | |
| 4 • | 103 | 4 | 29 | 82 | 140 | 91 | 96 | 50 | 23 | 618 |
| T• | 2 | 0 | 1 | 2 | 3 | 2 | 2 | 1 | 0 | 12 |
| R• | 17 | 1 | 5 | 13 | 23 | 15 | 16 | 8 | 4 | 100 |
| C• | 17 | 4 | 8 | 9 | 11 | 13 | 13 | 11 | 14 | 12 |
| • | | | | | | | | | | |
| 3 • | 71 | 10 | 30 | 92 | 153 | 95 | 100 | 47 | 18 | 616 |
| T• | 1 | 0 | 1 | 2 | 3 | 2 | 2 | 1 | 0 | 12 |
| R• | 12 | 2 | 5 | 15 | 25 | 15 | 16 | 8 | 3 | 100 |
| C• | 12 | 11 | 8 | 10 | 12 | 13 | 13 | 10 | 11 | 12 |
| • | | | | | | | | | | |
| 2 • | 3 | 1 | 2 | 3 | 10 | 14 | 9 | 4 | 1 | 47 |
| T• | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| R• | 6 | 2 | 4 | 6 | 21 | 30 | 19 | 9 | 2 | 100 |
| C• | 0 | 1 | 1 | 0 | 1 | 2 | 1 | 1 | 1 | 1 |
| • | | | | | | | | | | |
| 1 • | 4 | | 1 | 4 | 11 | 11 | 4 | | 3 | 38 |
| T• | 0 | | 0 | 0 | 0 | 0 | 0 | | 0 | 1 |
| R• | 11 | | 3 | 11 | 29 | 29 | 11 | | 8 | 100 |
| C• | 1 | | 0 | 0 | 1 | 2 | 1 | | 2 | 1 |

( 1) 1 3 5 7 9

Q29 2 4 6 8

| | | | | | |
|---|---|---|---|---|---|
| COLUMN TOTAL | 617 | 355 | 1291 | 747 | 169 |
| | 95 | 900 | 712 | 448 | |
| PERCENT TOTAL | 11 | 6 | 24 | 14 | 3 |
| | 1 | 16 | 13 | 8 | |

GRAND TOTAL= 5334

CHI-SQUARE (OF TABLE) 118.32748
DF= 40

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT= -0.0263
MEAN( 1)= 4.97432 SD( 1)= 2.09826
MEAN( 2)= 5.00750 SD( 2)= 1.08652

(Question 31)
I (6) Not at all
II. (5) As a lead to other information
III. (4) As background information
IV. (3) In only small parts of the task
V. (2) In major portions of the task
VI. (1) Throughout the entire duration of the task

(Question 29)
I. Production Management and Social Sciences
(32) Miscellaneous arts and sciences
(24) Personnel and training
(26) Production and management
(28) Psychology and human engineering

II. Medical Sciences
(16) Medical sciences

III. Mechanical, Industrial, Civil and Marine Engineering
(11) Ground transportation equipment
(13) Installations and constructions
(18) Military sciences and operations
(24) Photography and other reproduction processes
(29) Quartermaster equipment and supplies
(31) Ships and marine equipment
(33) Transportation

IV. Aeronautics and Space Technology
(01) Aircraft and flight equipment
(12) Guided missiles
(19) Navigation

V. Electronics and Electrical Engineering
(05) Communications
(06) Detection
(07) Electrical equipment
(08) Electronics, electronic equipment

VI. Chemical Science and Materials
(03) Chemical warfare equipment and materials
(04) Chemistry
(10) Fuels and combustion
(14) Materials (nonmetallic)
(17) Metallurgy
(22) Ordnance

VII. Physical Science
(02) Astronomy, geophysics and geography
(09) Fluid mechanics
(20) Nuclear physics and nuclear chemistry
(21) Nuclear propulsion
(25) Physics
(27) Propulsion systems

VIII. Research and Research Equipment
(30) Research and research equipment

IX. Mathematics
(15) Mathematics

## Table 3-200. Extensiveness of Information Use in Task vs. Essentiality of Information to Task

```
    031    IS CROSS TABULATED WITH      030      OR,

VARIABLE  2 IS CROSS TABULATED WITH VARIABLE  1

NUMBER OF REPLICATIONS= 5359

VARIABLE MAXIMUM MINIMUM  (AS SPECIFIED)
     2       6       1
     1       4       1

( 2)                (EXTREME RIGHT VALUE IS RAW TOTAL)
031
  4 .          15   135  2048 2198
    T.          0     3    38   41
    R.          1     6    93  100
    C.          6    15    49   41
     .
  5 .          21   340  1475 1836
    T.          0     6    28   74
    R.          1    19    80  100
    C.          9    37    35   34
     .
  4 .     1    65   212   347  623
    T.    0     1     4     6   12
    R.    0    10    34    56  100
    C.    4    27    23     8   12
     .
  3 .    10   122   197   288  617
    T.    0     2     4     5   12
    R.    7    20    32    47  100
    C.   37    52    22     7   12
     .
  2 .     1     3    17    26   47
    T.    0     0     0     0    1
    R.    2     6    36    55.  100
    C.    4     1     2     1    1
     .
  1 .    15    11     9     3   38
    T.    0     0     0     0    1
    R.   39    29    24     8  100
    C.   56     5     1     0    1

     .
     ..............................
 ( 1)     1          3
030           2          4

COLUMN    27        910
TOTAL          235        4187

PERCENT    0         16
TOTAL          4          78

GRAND TOTAL= 5359

CHI-SQUARE (OF TABLE)      2293.95096
DF=  15

(THE FOLLOWING COMPUTATIONS ARE BASED ON ALL DATA AS ENTERED
EVEN IF SOME ARE EXCLUDED FROM THE ABOVE TABLE).

CORRELATION COEFFICIENT  0.4624
MEAN( 1)=       3.72737   SD( 1)=       0.56240
MEAN( 2)=       5.00096   SD( 2)=       1.08603
```

(Question 31)

| | | |
|---|---|---|
| I. | (6) | Not at all |
| II. | (5) | As a lead to other information |
| III. | (4) | As background information |
| IV. | (3) | In only small parts of the task |
| V. | (2) | In major portions of the task |
| VI. | (1) | Throughout the entire duration of the task |

(Question 30)

| | | |
|---|---|---|
| I. | (4) | Neither essential nor helpful to successful task completion |
| II. | (3) | Not essential, but somewhat helpful to successful task completion |
| III. | (2) | Not essential, but extremely helpful to successful task completion |
| IV. | (1) | Absolutely essential to successful task completion |

# 4. CORRELATION MATRIX

## 4.1 INTERPRETATION

This section presents the complete correlation matrix for questions, combinations of questions and indices which summarize profiles. Although it was developed as a by-product of the regression analysis, it is presented in Volume IIIA rather than Volume IIIB; for it has been discussed in connection with the two-way frequency distributions which appear in Section 3.

An entry in the matrix gives the correlation between the question (combination of questions or index) identified to the left of the matrix with the row of the entry, and the question (combination of questions or index) identified at the top of the matrix with the column of the entry. Only the upper triangular half of the matrix need be presented, since the matrix is symmetric.

As an example, the correlation between Q55 and 1/2 (Q49 + Q58) is -.033.

## 4.2 MATRIX

| QUESTION | | (Q48) | (Q50A) | (Q50C) | (Q50B) | (Q51) | (Q52) | (Q55) | (Q56) | |
|---|---|---|---|---|---|---|---|---|---|---|
| Q48 | User's Age (Q48) | 1.000 | -0.071 | -0.124 | -0.734 | 0.576 | 0.517 | 0.034 | -0.114 | |
| Q50A | User's Highest Degree | (Q50A) | 1.000 | 0.[illegible] | 0.35[illegible] | -0.026 | -0.119 | -0.393 | 0.097 | |
| Q50C | User's Field of Degree | | | (Q50C) | 1.00[illegible] | 0.31[illegible] | -0.071 | -0.113 | -0.230 | 0.300 |
| Q50B | User's Year of Degree | | | | (Q50B) | 1.000 | -0.552 | -0.495 | -0.155 | 0.140 |
| Q51 | User's Job Experience | | | | | (Q51) | 1.000 | 0.351 | -0.053 | -0.086 |
| Q52 | User's Company Experience | | | | | | (Q52) | 1.000 | 0.140 | -0.098 |
| Q55 | User's Kind of Position | | | | | | | (Q55) | 1.000 | -0.[illegible]9 |
| Q56 | User's Field of Position | | | | | | | | (Q56) | 1.000 |
| Q58 | User's Equivalent GS Rating | | | | | | | | | (Q58) |
| Q49 | Number of Personnel Supervised by User | | | | | | | | | |
| Q54 | User's Type of Activity | | | | | | | | | |

A

| | (Q55) | (Q56) | (Q58) | (Q49) | (Q54) | (Q2) | (Q7) | (Q9) | (Q8) | (Q10) | (Q6) | (Q5) | (Q3) | (Q4) | (Q63 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q55 | 1.000 | -0.114 | 0.438 | 0.189 | 0.193 | -0.037 | 0.067 | -0.035 | 0.023 | -0.092 | 0.029 | 0.060 | 0.070 | -0.086 | 0.0 |
| Q56 | -0.393 | 1.000 | 0.434 | 0.029 | 0.112 | -0.137 | 0.129 | -0.356 | -0.057 | 0.054 | 0.064 | 0.043 | 0.174 | -0.057 | 0.2 |
| Q58 | -0.230 | 0.306 | 1.000 | -0.004 | 0.059 | -0.044 | 0.059 | -0.173 | -0.046 | 0.240 | 0.011 | -0.017 | 0.066 | 0.024 | 0.0 |
| Q49 | -0.155 | 0.140 | -0.287 | -0.152 | -0.127 | 0.014 | -0.024 | -0.112 | -0.036 | 0.112 | -0.001 | -0.044 | -0.022 | 0.079 | 0.0 |
| Q54 | -0.053 | -0.084 | 0.357 | 0.163 | 0.125 | -0.072 | 0.064 | -0.094 | -0.074 | -0.077 | 0.041 | 0.007 | 0.089 | -0.072 | 0.1 |
| Q2 | 0.140 | -0.098 | 0.255 | 0.205 | 0.251 | -0.024 | 0.141 | 0.072 | 0.076 | -0.097 | -0.039 | 0.058 | 0.057 | -0.163 | 0.0 |
| Q7 | -0.055 | -0.159 | -0.214 | 0.093 | 0.042 | 0.129 | -0.114 | 0.060 | 0.267 | -0.170 | -0.034 | 0.043 | -0.173 | -0.086 | -0.2 |
| Q9 | -0.000 | -0.159 | -0.214 | 0.093 | 0.042 | 0.129 | -0.114 | 0.060 | 0.267 | -0.170 | -0.034 | 0.043 | -0.173 | -0.086 | -0.2 |
| Q8 | -0.000 | -0.159 | -0.214 | 0.093 | 0.042 | 0.129 | -0.114 | 0.060 | 0.267 | -0.170 | -0.034 | 0.043 | -0.173 | -0.086 | -0.2 |
| Q10 | -0.000 | -0.159 | -0.214 | 0.093 | 0.042 | 0.129 | -0.114 | 0.060 | 0.267 | -0.170 | -0.034 | 0.043 | -0.173 | -0.086 | -0.2 |
| Q6 | -0.000 | -0.159 | -0.214 | 0.093 | 0.042 | 0.129 | -0.114 | 0.060 | 0.267 | -0.170 | -0.034 | 0.043 | -0.173 | -0.086 | -0.2 |
| Q5 | -0.000 | -0.159 | -0.214 | 0.093 | 0.042 | 0.129 | -0.114 | 0.060 | 0.267 | -0.170 | -0.034 | 0.043 | -0.173 | -0.086 | -0.2 |
| Q3 | -0.000 | -0.159 | -0.214 | 0.093 | 0.042 | 0.129 | -0.114 | 0.060 | 0.267 | -0.170 | -0.034 | 0.043 | -0.173 | -0.086 | -0.2 |
| Q4 | -0.000 | -0.159 | -0.214 | 0.093 | 0.042 | 0.129 | -0.114 | 0.060 | 0.267 | -0.170 | -0.034 | 0.043 | -0.173 | -0.086 | -0.2 |
| Q63 | -0.000 | -0.159 | -0.214 | 0.093 | 0.042 | 0.129 | -0.114 | 0.060 | 0.267 | -0.170 | -0.034 | 0.043 | -0.173 | -0.086 | -0.2 |

| | | |
|---|---|---|
| Q55 | Use of Company TIC | 1.000 |
| Q40 | Use of DOD Specialized In | 0.000 |
| Q41 | Use of Other Specialized I | 0.000 |
| Q38 | Use of STAR | 0.000 |
| Q44 | Use of English Abstracts | 0.000 |
| Q37 | Use of TAB | 0.000 |
| Q39 | Use of DDC | 0.000 |
| Q42 | Encounter of Restrictions | 0.000 |
| Q45 | Encounter of Difficulties | 0.000 |
| Q59 | Interviewer Assessment of | 0.000 |

B

| | (N4) | (N63) | (N35) | (N40) | (N41) | (N38) | (N44) | (N37) | (N39) | (N42) | (N45) | (N59) | QUESTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | -0.386 | 0.356 | 0.070 | 0.092 | 0.096 | -0.002 | 0.065 | 0.032 | 0.079 | -0.010 | -0.043 | 0.101 | Q4 |
| | -0.057 | 0.214 | 0.226 | 0.107 | 0.140 | 0.112 | 0.332 | 0.211 | 0.255 | 0.103 | 0.118 | 0.285 | Q50A |
| | 0.024 | 0.088 | 0.133 | 0.055 | 0.039 | 0.036 | 0.169 | 0.117 | 0.123 | 0.065 | 0.038 | 0.137 | Q50C |
| | 0.079 | 0.036 | 0.021 | -0.053 | -0.024 | 0.052 | 0.039 | 0.062 | 0.040 | 0.046 | 0.051 | 0.015 | Q50B |
| | -0.072 | 0.125 | 0.035 | 0.099 | 0.061 | -0.017 | 0.107 | -0.006 | 0.036 | -0.021 | -0.061 | 0.14. | Q51 |
| | -0.163 | 0.007 | -0.025 | 0.033 | 0.015 | -0.037 | -0.021 | -0.057 | -0.019 | -0.004 | -0.041 | 0.018 | Q52 |
| | -0.004 | -0.258 | -0.271 | -0.071 | -0.104 | -0.114 | -0.300 | -0.215 | -0.303 | -0.140 | -0.244 | -0.327 | Q55 |
| | 0.105 | 0.045 | 0.065 | 0.017 | -0.044 | 0.050 | 0.107 | 0.064 | 0.085 | -0.345 | -0.010 | 0.021 | Q56 |
| | -0.184 | 0.214 | 0.179 | 0.197 | 0.164 | 0.093 | 0.244 | 0.198 | 0.304 | 0.136 | 0.101 | 0.288 | Q58 |
| | -0.276 | 0.085 | 0.057 | 0.124 | 0.071 | 0.029 | 0.040 | 0.012 | 0.071 | 0.054 | 0.011 | 0.094 | Q49 |
| | -0.298 | 0.117 | 0.083 | 0.130 | 0.088 | 0.065 | 0.055 | 0.104 | 0.121 | 0.095 | 0.042 | 0.143 | Q54 |
| | 0.153 | -0.069 | -0.101 | -0.026 | -0.037 | -0.015 | -0.151 | -0.057 | -0.043 | 0.016 | -0.092 | -0.105 | Q2 |
| | -0.031 | 0.098 | 0.093 | 0.033 | 0.043 | -0.001 | 0.075 | 0.071 | 0.105 | 0.030 | 0.013 | 0.137 | Q7 |
| | -0.062 | -0.232 | -0.285 | -0.077 | -0.116 | -0.105 | -0.290 | -0.191 | -0.287 | -0.142 | -0.042 | -0.297 | Q9 |
| | -0.110 | -0.224 | -0.019 | 0.031 | 0.036 | -0.008 | -0.038 | -0.051 | -0.027 | -0.013 | -0.054 | -0.075 | Q6 |
| | 0.067 | 0.021 | 0.004 | -0.019 | -0.078 | -0.001 | 0.072 | 0.026 | 0.037 | -0.011 | -0.010 | -0.010 | Q10 |
| | 0.068 | 0.153 | 0.133 | 0.047 | 0.031 | 0.026 | 0.031 | 0.047 | 0.064 | 0.031 | -0.014 | 0.037 | Q8 |
| | -0.055 | -0.342 | 0.393 | 0.586 | 0.129 | 0.064 | 0.044 | 0.032 | 0.052 | 0.049 | 0.061 | 0.032 | Q5 |
| | -0.057 | 0.203 | 0.072 | 0.027 | 0.066 | 0.024 | 0.124 | 0.078 | 0.075 | 0.062 | 0.025 | 0.141 | Q3 |
| | (N4) -.270 | 0.026 | 0.106 | -0.070 | -0.098 | 0.025 | -0.063 | 0.021 | 0.002 | 0.016 | -0.043 | -0.058 | Q4 |
| | (N63) 1.000 | 0.149 | 0.087 | 0.072 | 0.058 | 0.131 | 0.095 | 0.204 | 0.038 | 0.001 | 0.263 | Q63 | |
| | of Company TIC (N35) 1.000 | 0.263 | 0.147 | 0.234 | 0.334 | 0.271 | 0.293 | 0.113 | 0.102 | 0.332 | Q35 | | |
| | of D Specialized Information Centers (Q40) 1.000 | 0.171 | 0.183 | 0.201 | 0.214 | 0.305 | 0.134 | 0.133 | 0.266 | Q40 | | | |
| | of Other Specialized Information Centers (N41) .000 | 0.087 | 0.229 | 0.089 | 0.149 | 0.263 | 0.110 | 0.193 | Q41 | | | | |
| | of AR (N38) .000 | 0.217 | 0.504 | 0.243 | 0.261 | 0.053 | 0.212 | Q38 | | | | | |
| | of English Abstracts or Translations (N44) 1.000 | 0.283 | 0.271 | 0.116 | 0.086 | 0.312 | Q44 | | | | | | |
| | of TAB (N37) 1.000 | 0.414 | 0.166 | 0.265 | 0.293 | Q37 | | | | | | | |
| | of DDC (N39) 1.000 | 0.217 | 0.112 | 0.305 | Q39 | | | | | | | | |
| | ounter of Restrictions (N42) 1.000 | 0.124 | 0.174 | Q42 | | | | | | | | | |
| | counter of Difficulties (N45) 1.000 | 0.178 | Q45 | | | | | | | | | | |
| | erviewer Assessment of Information Needs of User (N59) 1.000 | Q59 | | | | | | | | | | | |

Figure 4-1. Correlation Matrix

| QUESTION | | Q26 | Q29 | Q25 | Q22 | Q24 | Q21 | Q20 | |
|---|---|---|---|---|---|---|---|---|---|
| Q48 | User's Age | 0.043 | -0.098 | 0.013 | 0.019 | 0.018 | 0.010 | 0.007 | -0. |
| Q50A | User's Highest Degree | -0.043 | 0.068 | 0.009 | 0.044 | 0.071 | 0.002 | 0.064 | 0. |
| Q50C | User's Field of Degree | -0.049 | -0.190 | 0.007 | 0.029 | 0.016 | -0.006 | 0.005 | 0. |
| Q50B | User's Year of Degree | -0.072 | 0.117 | 0.005 | -0.013 | 0.003 | -0.028 | 0.016 | 0. |
| Q51 | User's Job Experience | 0.019 | -0.041 | 0.045 | 0.035 | 0.037 | -0.006 | -0.012 | -0. |
| Q52 | User's Company Experience | 0.091 | -0.094 | -0.014 | -0.035 | 0.019 | -0.007 | -0.011 | -0. |
| Q55 | User's King of Position | 0.117 | -0.181 | -0.007 | -0.045 | -0.065 | -0.033 | -0.052 | -0. |
| Q56 | User's Field of Position | -0.111 | 0.015 | 0.005 | -0.004 | 0.003 | -0.007 | 0.013 | - . |
| Q58 | User's Equivalent GS Rating | 0.049 | -0.035 | 0.073 | 0.071 | 0.023 | 0.039 | 0.064 | 0. |
| Q49 | Number of Personnel Supervised by User | 0.047 | -0.119 | 0.045 | 0.020 | 0.033 | 0.014 | -0.018 | 0. |
| Q54 | User's Type of Activity | 0.246 | -0.119 | 0.095 | 0.095 | 0.063 | 0.030 | 0.021 | 0. |
| Q2 | Task Initiator | 0.059 | -0.035 | -0.024 | -0.021 | -0.051 | 0.003 | 0.040 | 0. |
| Q7 | Task Recipient | -0.038 | -0.021 | 0.047 | 0.021 | 0.054 | 0.009 | 0.024 | 0. |
| Q9 | Kind of Task | 0.114 | -0.132 | -0.048 | -0.045 | -0.074 | -0.038 | -0.067 | -0. |
| Q8 | Class of Task | 0.179 | -0.142 | -0.022 | -0.038 | 0.011 | -0.019 | -0.006 | 0. |
| Q10 | Field of Task | -0.041 | 0.088 | -0.024 | -0.021 | -0.017 | -0.007 | 0.003 | 0. |
| Q6 | Formality of Task Output | 0.011 | -0.175 | 0.009 | 0.037 | 0.040 | 0.017 | 0.002 | 0. |
| Q5 | Type of Task Output | 0.059 | -0.130 | 0.035 | 0.013 | 0.035 | 0.005 | 0.001 | 0. |
| Q3 | Task Duration | -0.019 | 0.056 | 0.045 | 0.046 | 0.028 | 0.015 | 0.037 | 0. |
| Q4 | Percentage of Time on Task | -0.092 | 0.098 | 0.017 | 0.002 | 0.021 | 0.021 | 0.001 | -0. |
| Q63 | Interviewer Assessment of Task Creativity | -0.036 | 0.087 | 0.145 | 0.024 | 0.120 | -0.009 | 0.029 | 0. |
| Q35 | Use of Company TIC | -0. | . | . | . | . | 0.015 | 0.047 | 0. |
| Q40 | Use of DOD Specialized Information Centers | 0.044 | -0.110 | . | 0.059 | 0.110 | 0.030 | 0.074 | 0. |
| Q41 | Use of Other Specialized Information Centers | -0.027 | -0.069 | 0.063 | 0.033 | 0.040 | -0.017 | 0.057 | 0. |
| Q38 | Use of STAR | -0.032 | 0.024 | 0.061 | 0.035 | 0.047 | -0.007 | 0.046 | 0. |
| Q44 | Use of English Abstracts or Translations | -0.039 | 0.064 | 0.035 | 0.033 | 0.052 | 0.014 | 0.068 | 0. |
| Q37 | Use of TAB | -0.029 | -0.004 | 0.033 | 0.047 | 0.018 | 0.005 | 0.009 | 0. |
| Q39 | Use of DDC | -0.028 | 0.036 | 0.036 | 0.032 | 0.085 | -0.026 | 0.110 | 0. |
| Q42 | Encounter of Restrictions | 0.039 | -0.027 | 0.028 | 0.044 | 0.024 | 0.004 | 0.026 | 0. |
| Q45 | Encounter of Difficulties | -0.005 | -0.007 | 0.031 | 0.059 | -0.009 | 0.031 | 0.028 | 0. |
| Q59 | Interviewer Assessment of Information Needs of User | -0.011 | 0.043 | 0.121 | 0.109 | 0.078 | 0.070 | 0.107 | 0. |
| Q26 | Class of Informatica | (Q28) 1.000 | -0.206 | -0.037 | -0.002 | -0.036 | 0.006 | -0.003 | 0. |
| Q29 | Field of Information | (Q29) 1.000 | | 0.016 | -0.025 | 0.011 | -0.031 | 0.014 | 0. |
| Q25 | Desired Depth of Information Media | | (Q25) 1.000 | | 0.078 | 0.692 | 0.075 | 0.121 | 0. |
| Q22 | Desired Volume of Information Media | | | (Q22) 1.000 | | 0.022 | 0.826 | 0.140 | 0. |
| Q24 | Actual Depth of Information Media | | | | (Q24) 1.000 | | 0.049 | 0.058 | 0. |
| Q21 | Actual Volume of Information Media | | | | | (Q21) 1.000 | | 0.148 | 0. |
| Q20 | Desired Composition of Information Media | | | | | | (Q20) 1.000 | | 0. |
| Q27 | Desired Layout of Information Media | | | | | | | (Q27) 1. | |

| | |
|---|---|
| Q18 | Actual Composition of Information Med |
| Q26 | Actual Layout of Information Media |
| Q19 | Usual Composition of Information Medi |
| Q15 | Why Used First Source for Information |
| Q14 | Location of First Source for Informati |
| Q17 | Acquisition from First Source for Infor |
| Q13 | Desired Acquisition Time |
| Q12 | Actual Acquisition Time |
| Q30 | Essentiality of Information |
| Q23 | Usefulness of Title Listings or Abstrac |
| Q32 | Discovery of Post Task Information |
| Q62 | Interviewer Assessment of Difficulty in |
| Q61 | Interviewer Assessment of Difficulty in |

*F = 1/2 ( | Q9 - Q55 | + | Q11 - Q56 | )

**E = 1/4 (Q33 Q35) 1/2 (Q40 + Q41) + 1/2 (Q38 + Q44) + 1/2 (Q37 + Q39)

***P = 1/2 (Q42 Q43) + Q45 Q46)

****I = 1/6 ( | Q16 - Q28 | + | 1/2 (Q22 + Q25) - 1/2 (Q18 + Q25) | + (1 - Q17) | + | Q13

A

| Q20 | Q27 | Q18 | Q26 | Q19 | Q15 | Q14 | Q17 | Q13 | Q12 | Q30 | Q23 | Q32 | Q62 | Q32 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.007 | -0.006 | 0.216 | 0.004 | 0.015 | -0.025 | 0.025 | 0.015 | 0.091 | 0.086 | 0.045 | 0.010 | -0.078 | -0.009 | .078 |
| 0.044 | 0.049 | 0.066 | 0.082 | 0.052 | 0.024 | 0.007 | -0.069 | 0.199 | 0.126 | -0.045 | 0.120 | 0.093 | 0.125 | .093 |
| 0.005 | 0.016 | 0.016 | 0.005 | 0.054 | 0.017 | 0.009 | -0.032 | 0.074 | 0.040 | -0.040 | 0.072 | -0.014 | 0.081 | .014 |
| 0.016 | 0.016 | 0.017 | 0.022 | -0.000 | 0.030 | -0.025 | -0.025 | -0.035 | -0.052 | -0.061 | 0.032 | 0.058 | 0.070 | .058 |
| -0.012 | -0.018 | -0.022 | -0.007 | -0.013 | 0.013 | -0.010 | -0.002 | 0.069 | 0.057 | 0.059 | 0.023 | -0.014 | 0.053 | .014 |
| -0.011 | -0.032 | -0.015 | -0.044 | -0.011 | -0.004 | 0.043 | 0.062 | 0.060 | 0.045 | 0.026 | -0.058 | -0.072 | -0.015 | .072 |
| -0.052 | -0.067 | -0.057 | -0.060 | -0.038 | -0.020 | 0.013 | 0.092 | -0.161 | -0.299 | 0.000 | -0.134 | -0.050 | -0.167 | .050 |
| 0.013 | -0.001 | 0.020 | -0.011 | 0.004 | 0.027 | 0.004 | -0.005 | 0.037 | 0.009 | -0.033 | 0.025 | 0.012 | 0.017 | .012 |
| 0.046 | 0.076 | 0.048 | 0.080 | 0.047 | -0.008 | 0.071 | -0.040 | 0.184 | 0.153 | 0.022 | 0.114 | 0.003 | 0.075 | .002 |
| -0.018 | 0.043 | -0.013 | 0.045 | -0.035 | 0.005 | 0.044 | 0.044 | 0.044 | 0.074 | 0.015 | -0.010 | 0.011 | 0.003 | .011 |
| 0.021 | 0.040 | 0.017 | 0.025 | 0.009 | 0.001 | 0.072 | 0.048 | 0.060 | 0.089 | 0.005 | 0.024 | 0.071 | 0.035 | .071 |
| 0.040 | 0.018 | 0.032 | 0.015 | -0.023 | 0.002 | 0.076 | 0.038 | -0.092 | -0.024 | -0.006 | -0.071 | -0.003 | -0.098 | .003 |
| 0.024 | 0.036 | 0.037 | 0.027 | 0.006 | 0.014 | 0.042 | -0.031 | 0.080 | -0.058 | 0.017 | 0.042 | 0.014 | 0.048 | .014 |
| -0.067 | -0.057 | -0.082 | -0.043 | -0.019 | -0.024 | 0.011 | 0.083 | -0.154 | -0.181 | -0.018 | -0.169 | -0.093 | -0.179 | .093 |
| -0.006 | 0.025 | -0.025 | 0.030 | -0.032 | -0.009 | 0.004 | 0.047 | -0.035 | -0.000 | -0.002 | -0.067 | -0.025 | -0.102 | .025 |
| 0.003 | 0.016 | 0.009 | 0.008 | 0.007 | -0.017 | -0.026 | 0.008 | 0.008 | -0.033 | -0.030 | 0.010 | 0.023 | 0.022 | .023 |
| 0.002 | 0.015 | 0.031 | 0.025 | -0.004 | 0.026 | 0.029 | -0.001 | 0.078 | 0.074 | 0.054 | 0.078 | 0.016 | 0.098 | .016 |
| 0.001 | 0.018 | -0.019 | 0.033 | -0.013 | 0.011 | 0.006 | -0.008 | -0.012 | 0.000 | -0.012 | 0.034 | -0.000 | 0.030 | .000 |
| 0.037 | 0.100 | 0.045 | 0.291 | 0.001 | -0.026 | 0.065 | -0.109 | 0.519 | 0.375 | 0.025 | 0.106 | 0.054 | 0.072 | .054 |
| 0.001 | -0.009 | 0.024 | -0.009 | -0.003 | -0.008 | -0.025 | -0.007 | -0.073 | -0.039 | 0.038 | -0.016 | 0.039 | -0.017 | .039 |
| 0.029 | 0.065 | 0.051 | 0.051 | -0.039 | 0.080 | 0.040 | -0.027 | 0.140 | 0.131 | 0.026 | 0.132 | -0.005 | 0.287 | .005 |
| 0.047 | 0.054 | .072 | .043 | 0.035 | 0.042 | 0.041 | -0.065 | 0.106 | 0.079 | -0.028 | 0.215 | 0.067 | 0.129 | .067 |
| 0.074 | 0.087 | 0.081 | 0.093 | -0.071 | 0.056 | 0.113 | -0.042 | 0.056 | 0.069 | -0.007 | 0.142 | 0.104 | 0.142 | .104 |
| 0.057 | 0.064 | 0.050 | 0.067 | -0.000 | 0.057 | 0.087 | -0.045 | 0.080 | 0.071 | -0.0 | 0.102 | 0.069 | 0.040 | .069 |
| 0.046 | 0.088 | 0.053 | 0.084 | 0.010 | 0.030 | 0.048 | -0.041 | 0.036 | 0.047 | 0.005 | 0.139 | 0.023 | 0.111 | .023 |
| 0.068 | 0.076 | 0.075 | 0.082 | 0.026 | 0.048 | 0.039 | -0.073 | 0.135 | 0.074 | -0.036 | 0.173 | 0.047 | 0.144 | .047 |
| 0.096 | 0.072 | 0.092 | 0.062 | 0.006 | 0.037 | 0.068 | -0.072 | 0.078 | 0.092 | -0.012 | 0.152 | 0.051 | 0.136 | .051 |
| 0.110 | 0.076 | 0.107 | 0.070 | 0.006 | 0.050 | 0.062 | -0.065 | 0.108 | 0.090 | -0.016 | 0.134 | 0.051 | 0.171 | .061 |
| 0.026 | 0.047 | 0.025 | 0.051 | -0.003 | -0.022 | 0.059 | -0.046 | 0.107 | 0.121 | 0.024 | 0.096 | 0.057 | 0.072 | .057 |
| 0.028 | 0.021 | 0.001 | 0.025 | -0.002 | -0.003 | 0.006 | -0.116 | 0.090 | 0.085 | -0.021 | 0.077 | 0.147 | 0.069 | .147 |
| 0.107 | 0.104 | 0.116 | 0.094 | 0.014 | -0.016 | 0.104 | -0.118 | 0.196 | 0.183 | 0.021 | 0.236 | 0.144 | 0.330 | .144 |
| -0.003 | 0.015 | -0.020 | 0.081 | 0.008 | 0.010 | 0.084 | -0.008 | 0.018 | 0.045 | 0.006 | -0.039 | -0.015 | 0.001 | .015 |
| 0.014 | 0.009 | 0.022 | 0.007 | 0.019 | 0.017 | -0.032 | 0.008 | 0.007 | -0.018 | 0.011 | 0.046 | 0.015 | 0.043 | .015 |
| 0.121 | 0.114 | 0.146 | 0.117 | -0.033 | 0.048 | 0.046 | -0.051 | 0.061 | 0.095 | 0.061 | 0.151 | 0.017 | 0.089 | .017 |
| 0.160 | 0.254 | 0.154 | 0.237 | 0.094 | -0.032 | 0.201 | -0.279 | 0.227 | 0.253 | 0.032 | 0.249 | 0.104 | 0.040 | .104 |
| 0.058 | 0.058 | 0.127 | 0.059 | -0.006 | 0.053 | -0.021 | 0.086 | 0.013 | 0.006 | 0.121 | 0.093 | -0.001 | 0.067 | .001 |
| 0.148 | 0.243 | 0.138 | 0.232 | 0.071 | -0.029 | 0.185 | -0.254 | 0.191 | 0.215 | 0.056 | 0.208 | 0.058 | -0.019 | .058 |
| (Q20) 1.000 | 0.258 | 0.799 | 0.241 | -0.009 | -0.049 | 0.185 | -0.118 | 0.061 | 0.093 | -0.060 | 0.272 | 0.057 | 0.051 | .057 |
| (Q27) | 1.000 | 0.257 | 0.863 | -0.003 | -0.044 | 0.135 | -0.194 | 0.175 | 0.207 | -0.023 | 0.206 | 0.047 | 0.054 | .047 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| tion of Information Media | (Q18) | 1.000 | 0.248 | -0.020 | -0.057 | 0.167 | -0.075 | 0.046 | 0.050 | -0.032 | 0.296 | 0.029 | 0.043 | .029 |
| of Information Media | (Q26) | 1.000 | 0.013 | -0.043 | 0.171 | -0.192 | 0.164 | 0.198 | -0.015 | 0.195 | 0.045 | 0.055 | .045 |
| ion of Information Media | (Q19) | 1.000 | -0.039 | -0.032 | -0.056 | 0.017 | 0.014 | -0.021 | 0.090 | 0.002 | -0.010 | .002 |
| Source for Information | (Q15) | 1.000 | 0.119 | 0.046 | -0.041 | -0.020 | -0.006 | 0.033 | -0.052 | 0.022 | .052 |
| st Source for Information | (Q14) | 1.000 | -0.076 | 0.177 | 0.240 | -0.049 | 0.142 | 0.068 | 0.070 | .068 |
| n First Source for Information | (Q17) | 1.000 | -0.193 | -0.227 | 0.077 | -0.261 | -0.097 | -0.111 | .097 |
| tion Time | (Q13) | 1.000 | 0.684 | -0.027 | 0.146 | 0.085 | 0.083 | .085 |
| ion Time | (Q12) | 1.000 | 0.019 | 0.163 | 0.092 | 0.095 | .092 |
| Information | (Q30) | 1.000 | -0.038 | -0.047 | -0.012 | .047 |
| itle Listings or Abstracts | (Q23) | 1.000 | 0.073 | 0.130 | .073 |
| st Task Information | (Q32) | 1.000 | 0.109 | .000 |
| ssment of Difficulty in Acquisition of Information | (Q62) | 1.000 | ... |
| ssment of Difficulty in Use of Information | ... |

| | |
|---|---|
| 1/2(Q49+Q58) | User's Level |
| 1/2(Q2+Q7) | Task Direction |
| 1/2(Q8+Q9) | Kind and Class of |
| 1/2(Q5+Q6) | Form of Task Outp |
| Q3xQ4 | Task Time |
| F* | User - Task Flexi |
| Q33xQ35 | Use of Company T |
| 1/2(Q10+Q41) | Use of Specialized |
| 1/2(Q38+Q44) | Use of Specialized |
| 1/2(Q37+Q39) | Use of TAB and DI |
| 1/2(Q51+Q52) | User's Experience |
| E** | Utilization Effort |
| P*** | Utilization Proble |
| 1/2(Q14+Q15) | Location of and W |
| 1/2(Q14+Q17) | Location of and Ac |
| 1/2(Q22+Q25) | Desired Content of |
| 1/2(Q21+Q24) | Actual Content of |
| 1/2(Q20+Q27) | Desired Form of |
| 1/2(Q18+Q26) | Actual Form of Inf |
| 1/2(Q61+Q62) | Difficulty in Acqui |
| P**** | Inadequacy of Sear |
| 1/2(Q30+Q31) | Contribution of Inf |

46)

| 1/2 (Q22 + Q25) - 1/2 (Q21 + Q24) | + | 1/2(Q20 + Q27) -

+ (1 - Q17) | + | Q13 - Q12 | + | Q32 )

| Q32 | Q62 | Q61 | $\frac{Q49+Q50}{2}$ | $\frac{Q2+Q7}{2}$ | $\frac{Q8+Q9}{2}$ | $\frac{Q5+Q6}{2}$ | Q3 x Q4 | F* | Q33 x Q35 | $\frac{Q40+Q41}{2}$ | $\frac{Q38+Q44}{2}$ | $\frac{Q37+Q39}{2}$ | $\frac{Q61+Q62}{2}$ | S** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .078 | -0.009 | 0.080 | 0.339 | -0.002 | 0.012 | 0.062 | 0.026 | 0.040 | 0.070 | 0.114 | 0.051 | 0.047 | 0.666 | 0.117 |
| .003 | 0.125 | 0.194 | 0.223 | -0.062 | -0.266 | 0.075 | 0.139 | -0.064 | 0.226 | 0.158 | 0.317 | 0.279 | -0.085 | 0.333 |
| .014 | 0.087 | 0.116 | 0.093 | -0.012 | -0.141 | -0.003 | 0.073 | -0.080 | 0.133 | 0.063 | 0.166 | 0.139 | -0.111 | 0.169 |
| .058 | 0.070 | 0.009 | -0.242 | 0.001 | -0.096 | -0.032 | 0.027 | -0.036 | 0.021 | -0.055 | 0.054 | 0.054 | -0.638 | 0.014 |
| .014 | 0.053 | 0.126 | 0.283 | -0.034 | -0.092 | 0.033 | 0.059 | -0.002 | 0.033 | 0.109 | 0.079 | 0.027 | 0.842 | 0.080 |
| .072 | -0.015 | 0.040 | 0.265 | -0.006 | 0.098 | 0.014 | -0.042 | 0.042 | -0.025 | 0.034 | -0.034 | -0.035 | 0.800 | -0.016 |
| .050 | -0.167 | -0.199 | -0.033 | 0.059 | 0.559 | 0.006 | -0.195 | 0.114 | -0.273 | -0.103 | -0.292 | -0.319 | 0.046 | -0.335 |
| .012 | 0.017 | 0.020 | -0.100 | -0.012 | -0.192 | -0.130 | 0.095 | -0.112 | 0.065 | -0.005 | 0.109 | 0.091 | -0.110 | 0.083 |
| .002 | 0.075 | 0.212 | 0.761 | 0.014 | -0.176 | 0.149 | 0.051 | -0.021 | 0.170 | 0.235 | 0.238 | 0.313 | 0.376 | 0.344 |
| .011 | 0.003 | 0.046 | 0.905 | 0.026 | 0.062 | 0.120 | -0.103 | 0.051 | 0.007 | 0.134 | 0.045 | 0.042 | 0.222 | 0.094 |
| .071 | 0.035 | 0.091 | 0.432 | 0.044 | 0.031 | 0.118 | -0.088 | 0.109 | 0.083 | 0.146 | 0.073 | 0.134 | 0.224 | 0.164 |
| .003 | -0.098 | -0.105 | -0.054 | 0.893 | 0.113 | -0.004 | 0.051 | 0.041 | -0.101 | -0.037 | -0.129 | -0.055 | -0.063 | -0.101 |
| .014 | 0.048 | 0.099 | 0.159 | 0.487 | -0.165 | 0.211 | 0.064 | 0.006 | 0.093 | 0.042 | 0.076 | 0.109 | 0.065 | 0.111 |
| .093 | -0.179 | -0.244 | -0.093 | 0.035 | 0.760 | -0.038 | -0.184 | 0.155 | -0.280 | -0.114 | -0.260 | -0.297 | 0.001 | -0.324 |
| .025 | -0.192 | -0.151 | 0.033 | -0.000 | 0.777 | 0.036 | -0.120 | 0.097 | -0.019 | 0.042 | -0.036 | -0.040 | -0.005 | -0.013 |
| .023 | 0.022 | 0.025 | -0.058 | -0.023 | -0.179 | -0.150 | 0.057 | -0.084 | 0.009 | -0.042 | 0.058 | 0.039 | -0.105 | 0.010 |
| .016 | 0.008 | 0.050 | 0.152 | 0.200 | -0.088 | 0.707 | 0.133 | 0.053 | 0.103 | 0.040 | 0.037 | 0.068 | 0.004 | 0.088 |
| .000 | 0.050 | 0.020 | 0.119 | -0.066 | 0.086 | 0.722 | -0.113 | 0.056 | 0.093 | 0.128 | 0.056 | 0.053 | 0.038 | 0.111 |
| .054 | 0.072 | 0.167 | 0.090 | 0.010 | -0.158 | 0.003 | 0.753 | -0.015 | 0.072 | 0.051 | 0.111 | 0.087 | 0.090 | 0.108 |
| .039 | -0.017 | 0.005 | -0.282 | 0.120 | -0.113 | 0.008 | 0.389 | -0.062 | 0.006 | -0.100 | -0.040 | 0.009 | -0.140 | -0.045 |
| .005 | 0.261 | 0.340 | 0.161 | -0.016 | -0.297 | 0.074 | 0.199 | -0.047 | 0.149 | 0.104 | 0.180 | 0.197 | 0.084 | 0.214 |
| .057 | 0.129 | 0.202 | 0.084 | -0.044 | -0.192 | 0.137 | 0.070 | -0.011 | 1.000 | 0.254 | 0.362 | 0.335 | 0.007 | 0.633 |
| .104 | 0.162 | 0.146 | 0.181 | -0.007 | -0.028 | 0.096 | 0.019 | 0.066 | 0.203 | 0.905 | 0.244 | 0.319 | 0.082 | 0.651 |
| .069 | 0.040 | 0.049 | 0.127 | -0.017 | -0.051 | 0.092 | 0.016 | 0.054 | 0.197 | 0.574 | 0.223 | 0.151 | 0.048 | 0.427 |
| .023 | 0.111 | 0.103 | 0.063 | -0.013 | -0.072 | 0.064 | 0.057 | 0.060 | 0.209 | 0.190 | 0.619 | 0.370 | -0.032 | 0.456 |
| .047 | 0.144 | 0.215 | 0.142 | -0.089 | -0.210 | 0.046 | 0.078 | -0.044 | 0.334 | 0.266 | 0.899 | 0.316 | 0.057 | 0.571 |
| .051 | 0.136 | 0.164 | 0.101 | -0.018 | -0.156 | 0.055 | 0.093 | -0.001 | 0.271 | 0.216 | 0.453 | 0.680 | -0.036 | 0.586 |
| .061 | 0.171 | 0.242 | 0.193 | 0.010 | -0.202 | 0.081 | 0.072 | -0.020 | 0.293 | 0.317 | 0.327 | 0.949 | 0.012 | 0.715 |
| .057 | 0.072 | 0.128 | 0.115 | 0.028 | -0.086 | 0.056 | 0.073 | 0.029 | 0.113 | 0.147 | 0.129 | 0.233 | -0.016 | 0.230 |
| .147 | 0.069 | 0.072 | 0.055 | -0.066 | -0.091 | 0.031 | 0.019 | 0.019 | 0.102 | 0.158 | 0.097 | 0.113 | -0.024 | 0.171 |
| .144 | 0.330 | 0.324 | 0.205 | -0.030 | -0.239 | 0.089 | 0.114 | -0.005 | 0.332 | 0.306 | 0.366 | 0.347 | 0.101 | 0.466 |
| .015 | 0.001 | -0.044 | 0.081 | 0.047 | 0.191 | 0.049 | -0.012 | 0.052 | -0.025 | 0.029 | -0.032 | -0.032 | 0.061 | -0.017 |
| .015 | 0.043 | 0.046 | -0.101 | -0.013 | -0.179 | -0.144 | 0.063 | -0.107 | 0.028 | -0.044 | 0.067 | 0.028 | -0.080 | 0.017 |
| .017 | 0.089 | 0.055 | 0.066 | 0.005 | -0.071 | 0.065 | 0.047 | -0.020 | 0.055 | 0.072 | 0.104 | 0.089 | 0.021 | 0.113 |
| .104 | 0.040 | 0.070 | 0.047 | -0.009 | -0.050 | 0.025 | 0.131 | 0.023 | 0.042 | 0.051 | 0.062 | 0.042 | 0.000 | 0.064 |
| .061 | 0.067 | 0.027 | 0.053 | -0.020 | -0.049 | 0.087 | 0.038 | -0.008 | 0.053 | 0.026 | 0.063 | 0.075 | 0.035 | 0.074 |
| .058 | -0.019 | 0.019 | 0.028 | 0.004 | -0.017 | 0.016 | 0.114 | 0.029 | 0.016 | 0.018 | 0.008 | -0.019 | -0.007 | 0.008 |
| .057 | 0.051 | 0.093 | 0.008 | 0.046 | -0.047 | 0.002 | 0.025 | 0.013 | 0.047 | 0.086 | 0.076 | 0.122 | -0.014 | 0.121 |
| .047 | 0.054 | 0.040 | 0.066 | 0.032 | -0.020 | 0.023 | 0.089 | -0.003 | 0.054 | 0.100 | 0.100 | 0.086 | -0.030 | 0.121 |
| .029 | 0.043 | 0.079 | 0.013 | 0.044 | -0.069 | 0.008 | 0.044 | 0.005 | 0.072 | 0.072 | 0.084 | 0.118 | -0.023 | 0.124 |
| .045 | 0.055 | 0.034 | 0.070 | 0.025 | -0.007 | 0.041 | 0.083 | -0.005 | 0.043 | 0.106 | 0.104 | 0.078 | -0.030 | 0.118 |
| .002 | -0.010 | 0.006 | -0.003 | -0.018 | -0.033 | -0.013 | -0.002 | -0.015 | 0.035 | -0.018 | 0.025 | 0.007 | -0.014 | 0.012 |
| .052 | 0.022 | -0.006 | -0.001 | 0.008 | -0.021 | 0.026 | -0.019 | -0.046 | 0.042 | 0.071 | 0.052 | 0.053 | 0.006 | 0.079 |
| .068 | 0.070 | 0.098 | 0.065 | 0.085 | 0.010 | 0.024 | 0.052 | 0.038 | 0.041 | 0.131 | 0.052 | 0.074 | 0.018 | 0.114 |
| .097 | -0.111 | -0.100 | 0.013 | 0.019 | 0.085 | -0.006 | -0.098 | 0.024 | -0.065 | -0.054 | -0.077 | -0.077 | 0.034 | -0.095 |
| .085 | 0.083 | 0.145 | 0.117 | -0.044 | -0.121 | 0.045 | 0.392 | 0.004 | 0.106 | 0.081 | 0.125 | 0.114 | 0.066 | 0.146 |
| .092 | 0.095 | 0.119 | 0.124 | 0.005 | -0.052 | 0.052 | 0.305 | 0.028 | 0.079 | 0.088 | 0.081 | 0.104 | 0.062 | 0.127 |
| .047 | -0.012 | 0.002 | 0.021 | 0.002 | -0.013 | 0.029 | 0.035 | 0.012 | -0.028 | -0.016 | -0.027 | -0.017 | 0.053 | -0.024 |
| .073 | 0.130 | 0.128 | 0.046 | -0.034 | -0.153 | 0.078 | 0.080 | -0.009 | 0.215 | 0.162 | 0.201 | 0.161 | -0.019 | 0.251 |
| .000 | 0.109 | 0.087 | 0.069 | 0.004 | -0.076 | 0.011 | 0.050 | 0.002 | 0.057 | 0.116 | 0.048 | 0.067 | -0.051 | 0.111 |
| (Q62) | 1.000 | 0.482 | 0.037 | -0.064 | -0.182 | 0.089 | 0.053 | -0.015 | 0.129 | 0.135 | 0.166 | 0.185 | 0.025 | 0.217 |
| (Q61) | 1.000 | 0.132 | -0.048 | -0.256 | 0.049 | 0.119 | -0.016 | 0.202 | 0.143 | 0.219 | 0.252 | 0.104 | 0.28 | |
| User's Level | 1/2(Q49+Q68) | 1.000 | 0.025 | -0.038 | 0.155 | -0.050 | 0.027 | 0.084 | 0.205 | 0.143 | 0.190 | 0.333 | 0.23 | |
| Task Direction | 1/2(Q2+Q7) | 1.000 | 0.024 | 0.092 | 0.074 | 0.038 | -0.046 | -0.014 | -0.078 | 0.002 | -0.026 | -0.03 | | |
| Kind and Class of Task | 1/2(Q8+Q9) | 1.000 | -0.000 | -0.197 | 0.162 | -0.192 | -0.045 | -0.202 | -0.216 | -0.003 | -0.21 | | | |
| Form of Task Output | 1/2(Q5+Q6) | 1.000 | 0.013 | 0.076 | 0.137 | 0.118 | 0.065 | 0.084 | 0.030 | 0.14 | | | | |
| Task Time | (Q3xQ4) | 1.000 | -0.045 | 0.070 | 0.023 | 0.089 | 0.090 | 0.014 | 0.09 | | | | | |
| User - Task Flexibility | (F)* | 1.000 | -0.011 | 0.078 | -0.008 | -0.016 | 0.023 | 0.02 | | | | | | |
| Use of Company TIC | (Q33xQ35) | 1.000 | 0.254 | 0.362 | 0.330 | 0.007 | 0.63 | | | | | | | |
| Use of Specialized Information Centers | 1/2(Q40+Q41) | 1.000 | 0.249 | 0.331 | 0.089 | 0.72 | | | | | | | | |
| Use of Specialized Information Services | 1/2(Q38+Q44) | 1.000 | 0.420 | 0.031 | 0.66 | | | | | | | | | |
| Use of TAB and DDC | 1/2(Q37+Q39) | 1.000 | -0.003 | 0.77 | | | | | | | | | | |
| User's Experience | 1/2(Q61+Q62) | 1.000 | 0.04 | | | | | | | | | | | |
| Utilization Effort | (E)** | 1.00 | | | | | | | | | | | | |
| Utilization Problems | | | | | | | | | | | | | | |
| Location of and Why Used First Source for Information | | | | | | | | | | | | | | |
| Location of and Acquisition from First Source for Information | | | | | | | | | | | | | | |
| Desired Content of Information Media | | | | | | | | | | | | | | |
| Actual Content of Information Media | | | | | | | | | | | | | | |
| Desired Form of Information Media | | | | | | | | | | | | | | |
| Actual Form of Information Media | | | | | | | | | | | | | | |
| Difficulty in Acquisition and Use of Search for Information | | | | | | | | | | | | | | |
| Inadequacy of Search and Acquisition Process | | | | | | | | | | | | | | |
| Contribution of Information to Task | | | | | | | | | | | | | | |

| Q61+Q62 / 2 | F** | P*** | Q14+Q15 / 2 | Q14+Q17 / 2 | Q22+Q25 / 2 | Q21+Q24 / 2 | Q20+Q27 / 2 | Q18+Q26 / 2 | Q61+Q62 / 2 | P**** | Q30+Q31 / 2 | QUESTION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.666 | 0.112 | -0.018 | -0.008 | 0.029 | 0.022 | 0.023 | 0.024 | 0.033 | 0.032 | -0.024 | 0.045 | Q48 |
| -0.085 | 0.333 | 0.176 | 0.023 | -0.051 | 0.073 | 0.046 | 0.067 | 0.126 | 0.178 | 0.064 | -0.045 | Q50A |
| -0.111 | 0.168 | 0.084 | 0.019 | -0.020 | 0.027 | 0.005 | 0.025 | 0.033 | 0.115 | 0.012 | -0.040 | Q50C |
| -0.698 | 0.019 | 0.068 | 0.011 | -0.037 | -0.037 | -0.019 | 0.012 | 0.013 | 0.051 | 0.034 | -0.061 | Q50B |
| 0.842 | 0.086 | -0.014 | 0.005 | -0.009 | 0.029 | 0.019 | 0.024 | 0.029 | 0.096 | -0.003 | 0.059 | Q51 |
| 0.800 | -0.016 | -0.037 | 0.019 | 0.079 | -0.012 | 0.007 | -0.012 | -0.027 | 0.009 | -0.021 | 0.026 | Q52 |
| 0.046 | -0.335 | -0.143 | -0.010 | 0.082 | -0.084 | -0.065 | -0.127 | -0.136 | -0.209 | -0.079 | 0.000 | Q55 |
| -0.110 | 0.083 | -0.041 | 0.024 | -0.001 | -0.001 | -0.004 | 0.001 | -0.001 | 0.022 | 0.030 | -0.033 | Q56 |
| 0.376 | 0.346 | 0.199 | 0.030 | 0.015 | 0.057 | 0.069 | 0.055 | 0.109 | 0.153 | 0.058 | 0.022 | Q58 |
| 0.222 | 0.098 | 0.051 | 0.026 | 0.065 | 0.040 | 0.032 | -0.006 | -0.005 | 0.024 | 0.028 | 0.015 | Q49 |
| 0.224 | 0.164 | 0.092 | 0.038 | 0.087 | 0.072 | 0.062 | 0.027 | 0.018 | 0.069 | 0.078 | 0.005 | Q54 |
| -0.063 | -0.101 | -0.046 | 0.040 | 0.080 | -0.030 | -0.022 | -0.021 | -0.029 | -0.117 | -0.019 | -0.006 | Q2 |
| 0.065 | 0.111 | 0.048 | 0.032 | 0.003 | 0.046 | 0.045 | 0.061 | 0.066 | 0.080 | 0.015 | 0.017 | Q7 |
| 0.001 | -0.329 | -0.162 | -0.014 | 0.074 | -0.084 | -0.052 | -0.128 | -0.135 | -0.236 | -0.104 | -0.018 | Q9 |
| -0.005 | -0.013 | -0.007 | -0.005 | 0.040 | -0.038 | -0.007 | -0.020 | -0.028 | -0.142 | -0.027 | -0.002 | Q8 |
| -0.105 | 0.016 | -0.028 | -0.026 | -0.010 | -0.025 | -0.016 | 0.006 | -0.001 | 0.027 | 0.036 | -0.030 | Q10 |
| 0.004 | 0.086 | 0.036 | 0.036 | 0.019 | 0.053 | 0.069 | 0.028 | 0.054 | 0.090 | -0.009 | 0.054 | Q6 |
| 0.038 | 0.119 | 0.065 | 0.012 | -0.003 | 0.027 | 0.026 | 0.007 | 0.015 | 0.030 | 0.000 | -0.012 | Q5 |
| 0.040 | 0.138 | 0.069 | 0.012 | -0.044 | 0.140 | 0.103 | 0.137 | 0.157 | 0.129 | 0.176 | 0.025 | Q3 |
| -0.140 | -0.048 | -0.021 | -0.019 | -0.022 | 0.011 | 0.028 | -0.015 | -0.033 | -0.009 | -0.024 | 0.039 | Q4 |
| 0.084 | 0.218 | 0.045 | 0.085 | 0.004 | 0.099 | 0.068 | 0.085 | 0.095 | 0.358 | 0.015 | 0.026 | Q63 |
| 0.007 | 0.033 | 0.128 | 0.055 | -0.025 | 0.051 | 0.045 | 0.115 | 0.159 | 0.185 | 0.067 | -0.028 | Q35 |
| 0.082 | 0.051 | 0.173 | 0.102 | 0.041 | 0.071 | 0.029 | 0.113 | 0.114 | 0.166 | 0.081 | -0.007 | Q40 |
| 0.048 | 0.427 | 0.104 | 0.090 | 0.021 | 0.048 | 0.012 | 0.085 | 0.102 | 0.051 | 0.070 | -0.022 | Q41 |
| -0.032 | 0.456 | 0.107 | 0.048 | -0.002 | 0.062 | 0.024 | 0.122 | 0.128 | 0.124 | 0.016 | 0.005 | Q38 |
| 0.057 | 0.571 | 0.150 | 0.058 | -0.033 | 0.079 | 0.043 | 0.124 | 0.146 | 0.201 | 0.078 | -0.036 | Q44 |
| -0.036 | 0.580 | 0.175 | 0.064 | -0.013 | 0.055 | 0.015 | 0.115 | 0.118 | 0.171 | 0.045 | -0.012 | Q37 |
| 0.012 | 0.716 | 0.249 | 0.071 | -0.011 | 0.079 | 0.034 | 0.129 | 0.129 | 0.232 | 0.065 | -0.016 | Q39 |
| -0.016 | 0.230 | 0.566 | 0.017 | 0.008 | 0.050 | 0.021 | 0.058 | 0.064 | 0.110 | 0.050 | 0.024 | Q42 |
| -0.024 | 0.171 | 0.759 | 0.001 | -0.090 | 0.063 | 0.023 | 0.054 | 0.068 | 0.081 | 0.116 | -0.021 | Q45 |
| 0.101 | 0.466 | 0.246 | 0.040 | -0.026 | 0.153 | 0.101 | 0.184 | 0.210 | 0.378 | 0.128 | 0.021 | Q59 |
| 0.061 | -0.017 | 0.013 | 0.051 | 0.049 | -0.022 | -0.018 | 0.012 | 0.005 | -0.021 | -0.063 | 0.006 | Q28 |
| -0.080 | 0.017 | -0.019 | -0.003 | -0.015 | -0.011 | -0.017 | 0.037 | 0.038 | 0.051 | 0.012 | 0.011 | Q29 |
| 0.021 | 0.112 | 0.046 | 0.062 | -0.011 | 0.018 | 0.489 | 0.154 | 0.175 | 0.086 | 0.023 | 0.061 | Q25 |
| 0.000 | 0.063 | 0.072 | 0.076 | -0.091 | 0.032 | 0.640 | 0.349 | 0.363 | 0.061 | 0.069 | 0.032 | Q22 |
| 0.035 | 0.074 | 0.019 | 0.032 | 0.055 | 0.410 | 0.661 | 0.087 | 0.109 | 0.058 | -0.063 | 0.121 | Q24 |
| -0.007 | 0.006 | 0.031 | 0.070 | -0.082 | 0.693 | 0.782 | 0.322 | 0.342 | -0.003 | -0.005 | 0.056 | Q21 |
| -0.014 | 0.123 | 0.047 | 0.054 | 0.027 | 0.192 | 0.147 | 0.542 | 0.463 | 0.079 | 0.063 | -0.060 | Q20 |
| -0.030 | 0.121 | 0.059 | 0.058 | -0.034 | 0.264 | 0.219 | 0.603 | 0.568 | 0.056 | 0.012 | -0.023 | Q27 |
| -0.023 | 0.124 | 0.038 | 0.038 | 0.050 | 0.203 | 0.183 | 0.476 | 0.549 | 0.467 | 0.004 | -0.032 | Q18 |
| -0.030 | 0.118 | 0.053 | 0.052 | -0.041 | 0.252 | 0.210 | 0.538 | 0.603 | 0.053 | -0.015 | -0.015 | Q26 |
| -0.014 | 0.012 | -0.001 | -0.048 | -0.046 | 0.056 | 0.050 | 0.040 | 0.062 | -0.004 | -0.014 | -0.001 | Q19 |
| 0.006 | 0.079 | -0.036 | 0.865 | 0.115 | 0.002 | 0.011 | -0.051 | -0.055 | 0.012 | -0.021 | -0.006 | Q15 |
| 0.018 | 0.114 | 0.053 | 0.601 | 0.598 | 0.184 | 0.126 | 0.188 | 0.190 | 0.095 | 0.112 | -0.049 | Q14 |
| 0.034 | -0.095 | -0.112 | -0.001 | 0.754 | -0.246 | -0.137 | -0.317 | -0.327 | -0.123 | 0.227 | 0.077 | Q17 |
| 0.066 | 0.146 | 0.129 | 0.056 | -0.038 | 0.213 | 0.151 | 0.194 | 0.221 | 0.126 | 0.341 | -0.027 | Q13 |
| 0.062 | 0.127 | 0.129 | 0.105 | -0.025 | 0.252 | 0.165 | 0.204 | 0.230 | 0.121 | 0.172 | 0.019 | Q12 |
| 0.053 | -0.029 | 0.008 | -0.030 | 0.030 | 0.059 | 0.118 | -0.006 | 0.008 | -0.007 | -0.109 | 1.000 | Q30 |
| -0.019 | 0.252 | 0.120 | 0.098 | -0.116 | 0.280 | 0.214 | 0.416 | 0.463 | 0.150 | 0.030 | -0.038 | Q23 |
| -0.051 | 0.111 | 0.126 | -0.007 | -0.033 | 0.092 | 0.043 | 0.089 | 0.085 | 0.116 | 0.642 | -0.047 | Q32 |
| 0.025 | 0.217 | 0.103 | 0.053 | -0.043 | 0.081 | 0.028 | 0.121 | 0.119 | 0.906 | 0.055 | -0.012 | Q62 |
| 0.104 | 0.284 | 0.154 | 0.044 | -0.016 | 0.086 | 0.031 | 0.121 | 0.124 | 0.807 | 0.084 | 0.002 | Q61 |
| 0.333 | 0.231 | 0.129 | 0.032 | 0.053 | 0.074 | 0.054 | 0.040 | 0.048 | 0.088 | 0.047 | 0.021 | 1/2(Q49+Q58) |
| 0.026 | -0.038 | -0.019 | 0.050 | 0.071 | -0.004 | -0.009 | 0.009 | 0.004 | -0.066 | -0.010 | 0.002 | 1/2(Q2+Q7) |
| -0.003 | -0.219 | -0.148 | -0.012 | 0.074 | -0.079 | -0.038 | -0.055 | -0.105 | -0.246 | -0.084 | -0.013 | 1/2(Q8+Q9) |
| 0.050 | 0.144 | 0.071 | 0.033 | 0.011 | 0.056 | 0.066 | 0.024 | 0.048 | 0.083 | -0.006 | 0.029 | 1/2(Q5+Q6) |
| 0.014 | 0.091 | 0.054 | 0.011 | -0.045 | 0.130 | 0.109 | 0.114 | 0.135 | 0.094 | 0.124 | 0.035 | Q3xQ4 |
| 0.023 | 0.022 | 0.028 | -0.019 | 0.045 | 0.007 | 0.017 | 0.010 | 0.005 | -0.018 | 0.002 | 0.012 | F* |
| 0.007 | 0.033 | 0.128 | 0.055 | -0.025 | 0.063 | 0.045 | 0.115 | 0.139 | 0.185 | 0.062 | -0.028 | Q33xQ35 |
| 0.089 | 0.725 | 0.189 | 0.123 | 0.043 | 0.080 | 0.030 | 0.130 | 0.139 | 0.160 | 0.097 | -0.016 | 1/2(Q40+Q41) |
| 0.031 | 0.663 | 0.169 | 0.068 | -0.028 | 0.091 | 0.045 | 0.155 | 0.175 | 0.217 | 0.070 | -0.027 | 1/2(Q38+Q44) |
| -0.003 | 0.779 | 0.261 | 0.080 | -0.014 | 0.085 | 0.032 | 0.144 | 0.145 | 0.246 | 0.068 | -0.017 | 1/2(Q37+Q39) |
| 1.000 | 0.047 | -0.030 | 0.014 | 0.040 | 0.012 | 0.016 | 0.009 | 0.003 | 0.067 | -0.014 | 0.053 | 1/2(Q51+Q52) |
| (E)** 1.000 | 0.274 | 0.121 | -0.001 | 0.112 | 0.051 | 0.191 | 0.207 | 0.284 | 0.107 | -0.029 | E** | |
| (P)*** 1.000 | -0.002 | -0.054 | 0.082 | 0.035 | 0.086 | 0.097 | 0.144 | 0.112 | 0.008 | P*** | | |
| 1/2(Q14+Q15) 1.000 | 0.395 | 0.095 | 0.073 | 0.054 | 0.052 | 0.057 | 0.040 | -0.030 | 1/2(Q14+Q15) | | | |
| 1/2(Q14+Q17) 1.000 | -0.078 | -0.027 | -0.130 | -0.137 | -0.036 | 0.256 | 0.030 | 1/2(Q14+Q17) | | | | |
| 1/2(Q22+Q25) 1.000 | 0.777 | 0.361 | 0.384 | 0.096 | 0.067 | 0.059 | 1/2(Q22+Q25) | | | | | |
| 1/2(Q21+Q24) 1.000 | 0.257 | 0.325 | 0.034 | -0.042 | 0.118 | 1/2(Q21+Q24) | | | | | | |
| 1/2(Q20+Q27) 1.000 | 0.867 | 0.139 | 0.028 | -0.006 | 1/2(Q20+Q27) | | | | | | | |
| 1/2(Q18+Q26) 1.000 | 0.140 | 0.018 | 0.008 | 1/2(Q18+Q26) | | | | | | | | |
| 1/2(Q61-Q62) 1.000 | 0.077 | -0.007 | 1/2(Q61-Q62) | | | | | | | | | |
| (I)**** 1.000 | -0.179 | P**** | | | | | | | | | | |
| 1/2(Q30+Q31) 1.000 | 1/2(Q30+Q31) | | | | | | | | | | | |

Figure 4-1. (Cont)

# 5. STEPWISE REGRESSION RELATIONSHIPS

## 5.1 INTERPRETATION

See Appendix 15 of Volume II, Reference 5 for a description of BMD 02R, the computer program employed for the stepwise regression analysis, and Reference 6 for a discussion of stepwise regression analysis.

Special summary indices have been used in the regression analyses. The defining equations of these are given below:

$$F = \frac{1}{2}(|Q9 - Q55| + |Q10 - Q56|)$$

$$I = \frac{1}{6}\left(\left|Q16 - Q28\right| + \left|\frac{1}{2}(Q22 + Q25) - \frac{1}{2}(Q21 + Q24)\right|\right.$$

$$\left. + \left|\frac{1}{2}(Q20 + Q27) - \frac{1}{2}(Q18 + Q26)\right|\right.$$

$$\left. + (1 - Q17) + |Q13 - Q12| + Q32\right)$$

$$E = \frac{1}{4}(Q33 \times Q35 + \frac{1}{2}(Q40 + Q41) + \frac{1}{2}(Q38 + Q44) + \frac{1}{2}(Q37 + Q39))$$

$$P = \frac{1}{2}(Q42 \times Q43 + Q45 \times Q46)$$

Four regression analysis computer runs, containing 39 stepwise regression analyses, appear in this section. The composition of these computer runs was determined from the linear models in the general structure. A list of runs appears in Section 4.2. Each stepwise regression analysis begins with the words Sub-Problem (1, 2, ...) and is followed by 5 indented terms which identify 5 limits established by North American Aviation, Inc. for this analysis. The example chosen to illustrate the interpretation of a stepwise regression analysis is Sub-Problem 6, Figure 5-1. The intrepretation follows:

① Sub-Problem, 6: Indicates the sixth Linear Model estimated by stepwise regression analysis in the given computer run.

② Dependent Variable, 27: Number 27 is the number assigned in this run to 1/2(Q22 + Q25), which is abbreviated in the computer printout as "22 + 25." It indicates that 1/2(Q22 + Q25) is the Dependent Variable for the regression analysis in Sub-Problem 6.

③ Maximum Number of Steps, 64: Signifies that 64 is the maximum number of stepwise regression analysis steps which may be used for Sub-Problem 6.

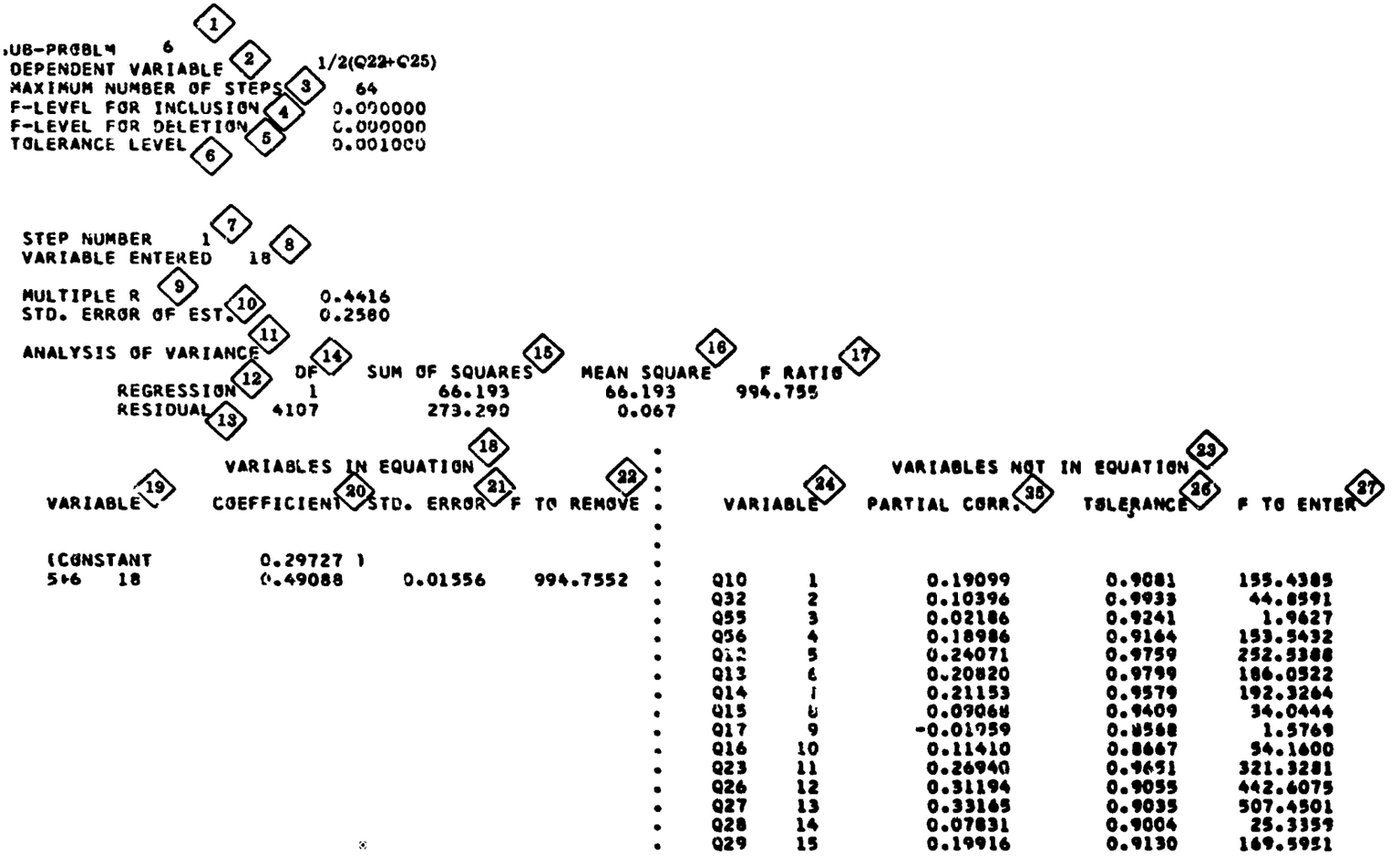



Figure 5-1. Example of Stepwise Regression Analysis Printout

④ F-Level For Inclusion, 0.000000: The zero value indicates that all Independent Variables in the Model for 1/2(Q22 + Q25) are to be selected for inclusion in it, even if their F-To Enter is small. See ㉗ below.

⑤ F-Level For Deletion, 0.000000: The zero value indicates that no Independent Variable selected for inclusion in the Model is to be deleted from it, even if its F-To Remove is small. See ㉒ below.

⑥ Tolerance Level, 0.001000: There is a computer test which determines whether an Independent Variable has a Tolerance greater than or equal to 0.001000. See ㉖ below.

⑦ Step Number, 1: Indicates the computer selection of the first (and most significant) Independent Variable. There are nine Step Numbers in this example, each selecting an additional Independent Variable for inclusion in the Linear Model for Sub-Problem 6. A Summary Table, located at the end of Step Number 9, lists the Number of the Independent Variable selected for inclusion in the Model at each step and additional information.

⑧ Variable Entered, 18: Number 18 is the number assigned in this run to 1/2(Q25 + Q6). It indicates that 1/2(Q5 + Q6) has been selected for inclusion in the Model at this step.

⑨ Multiple R: Denotes the Multiple Correlation Coefficient. It measure the degree of linear relationship between the Dependent Variable and the Model at this step.

⑩ Standard Error of Estimate: A measure of the amount of variation in the Dependent Variable which is unexplained by the variation of the Independent Variables included in the Model at this step.

⑪ Analysis of Variance: An analysis of the variation which is explained by, and that which is residual to, the Model at this step. See ⑫, ⑬, ⑭, ⑮, ⑯ and ⑰ below.

⑫ Regression: Identifies the line of information that contains the variation which is explained by the Model at this step.

⑬ Residual: Identifies the line of information that contains the variation which is residual to, or unexplained by, the Model at this step.

⑭ DF: Denotes Degrees of Freedom. For a regression analysis, the DF is the size of the sample minus the number of Independent Variables in the Model at this step minus one. The value 1 under DF means that 1 Degree of Freedom was used when the first Independent Variable was selected for inclusion in Model. Adding 1 to the sum of 1 and 4107 yields 4109, which is the sample size for this regression analysis. It is not 5359, because any case with a blank answer for any question considered in this computer run is automatically eliminated from the sample.

(15) Sum of Squares: In the Regression row, this is the sum of the squares of the difference between the Dependent Variable mean and the Model estimate of the Dependent Variable at this step. It is the sum of the squares of the unexplained variation.

In the Residual row, this is the sum of the squares of the difference between the Model estimate of the Dependent Variable at this step. It is the sum of the squares of the unexplained variation.

(16) Mean Square: In the Regression and Residual rows, this is the ratio of the appropriate Sum of Squares and its Degrees of Freedom.

(17) F-Ratio: The ratio of the Regression Mean Square and the Residual Mean Square. It measures the ability of the Model at this step to predict the Dependent Variable. In the example, the value 9696.902 (located under both F-Ratio and F-To Remove in (22) below) indicates that 1/2(Q5 + Q6) is an excellent predictor of 1/2(Q22 + Q25).

(18) Variables in Equation: A heading used to identify the Independent Variables selected for inclusion in the Model at this step. It encompasses Variable (19), Coefficient (20), Std. Error (21), and F-To Remove (22).

(19) Variable: Contains the constant term and Independent Variables selected for inclusion in the Model at this step. They are identified by both the abbreviated form of notation for questions in the Interview Guide (e.g., 5 + 6 for 1/2(Q5 + Q6)), and the Number assigned to that Independent Variable in this run (e.g., 18).

(20) Coefficient: Denotes the Regression Coefficient. This column contains the estimates of the constant term and multipliers for the Independent Variables selected for inclusion in the Model at this step.

(21) Std. Error: Denotes the Standard Error of the Regression Coefficient. This column contains the standard deviations of the Coefficient estimates.

(22) F-To Remove: Measures the relative amount of variation in the Dependent Variable which would not be explained, if that Independent Variable were removed from the Model at this step.

(23) Variables Not In Equation: Denotes Independent Variables not selected for inclusion in the Model at this step. However, information is presented concerning these variables. It includes Variable (24), Partial Corr. (25), Tolerance (26), and F-To Enter (27).

(24) Variable: Contains Independent Variables not selected for inclusion in the Model at this step. They are identified as described under (19) above.

(25) Partial Corr.: Denotes Partial Correlation Coefficient. This column contains the corresponding measures of the degree of linear relationship between that Independent Variable and the residual formed by the Dependent Variable minus the Model at this step.

(26) Tolerance: Contains the corresponding values for one minus the square of the measure for the degree of linear relationship between that Independent Variable and the Model at this step. It measures in an indirect manner, what Partial Corr. measures in a direct manner.

(27) F-To Enter: Measures the relative amount of variation in the Dependent Variable which would be explained, if that Independent Variable were now to be selected for inclusion in the Model.

## 5.2 INDEX

Tables are in sequence by the question number of the dependent variable. When the dependent variable is a combination of questions, the lowest-numbered question determines its place in the sequence. For convenience, these dependent variables are listed in the index for each question in the combination.

| Questions | Description | Table | Page |
|---|---|---|---|
| Q38 in E | Use of STAR as part of Effort Index | 5-23 | 5-120 |
| Q39 | Use of DDC | 5-26 | 5-129 |
| Q39 in E | Use of DDC as part of Effort Index | 5-23 | 5-120 |
| 1/2(Q40+Q41) | Use of DOD Specialized Information Centers plus Use of Other Specialized Information Centers | 5-27 | 5-133 |
| Q40 in E | Use of DOD Specialized Information Centers as part of Effort Index | 5-23 | 5-120 |
| 1/2(Q41+Q40) | Use of Other Specialized Information Centers plus Use of DOD Specialized Information Centers | 5-27 | 5-133 |
| Q40 in E | Use of DOD Specialized Information Centers as part of Effort Index | 5-23 | 5-120 |
| Q41+Q40 | Use of Other Specialized Information Centers plus Use of DOD Specialized Information Centers | 5-27 | 5-133 |
| Q41 in E | Use of Other Specialized Information Centers as part of Effort Index | 5-23 | 5-120 |
| Q42xQ43 | Encounter of Restrictions times Nature of Restrictions | 5-28 | 5-136 |
| Q42 in P | Encounter of Restrictions as part of Problem Index | 5-29 | 5-140 |
| Q43xQ42 | Nature of Restrictions times Encounter of Restrictions | 5-28 | 5-136 |
| Q43 in P | Nature of Restrictions as part of Problem Index | 5-29 | 5-140 |
| 1/2(Q44+Q38) | Use of English Abstracts or Translations plus Use of STAR | 5-25 | 5-126 |
| Q45xQ46 | Encounter of Difficulties times Nature of Difficulties | 5-30 | 5-142 |
| Q45 in P | Encounter of Difficulties as part of Problem Index | 5-29 | 5-140 |
| Q46xQ45 | Nature of Difficulties times Encounter of Difficulties | 5-30 | 5-142 |
| Q46 in P | Nature of Difficulties as part of Problem Index | 5-29 | 5-140 |
| 1/2(Q49+Q58) | Number of Personnel Supervised by User plus User's Equivalent GS Rating | 5-31 | 5-146 |

## 5.3 RELATIONSHIPS

## Table 5-1. Task Initiator plus Task Recipient

SUB-PROBLEM 7
DEPENDENT VARIABLE 4(Q9HGT)
MAXIMUM NUMBER OF STEPS 20
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 3

MULTIPLE R 0.0476
STD. ERROR OF EST. 0.1786

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 0.108 | 0.108 | 3.378 |
| RESIDUAL | 1483 | 47.369 | 0.032 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.45039 ) | | | | | | | |
| Q55 3 | 0.03370 | 0.01834 | 3.3783 | Q10 | 1 | 0.00064 | 0.9735 | 0.0006 |
| | | | | Q48 | 2 | -0.00056 | 0.9969 | 0.0005 |
| | | | | Q56 | 4 | -0.00510 | 0.9625 | 0.0385 |
| | | | | Q63 | 5 | -0.00648 | 0.9321 | 0.0623 |
| | | | | Q50A | 6 | -0.05424 | 0.8472 | 4.3792 |
| | | | | Q50C | 7 | -0.00400 | 0.9564 | 0.0238 |
| | | | | 3X4 | 9 | 0.08352 | 0.9643 | 10.4239 |
| | | | | 5*6 | 10 | 0.09149 | 0.9999 | 12.5252 |
| | | | | 8*9 | 11 | -0.00916 | 0.6898 | 0.1252 |
| | | | | 49*58 | 12 | 0.01807 | 0.9978 | 0.4846 |
| | | | | 51*52 | 13 | -0.03713 | 0.9978 | 2.0487 |
| | | | | (F) | 14 | 0.03394 | 0.9850 | 1.7114 |

STEP NUMBER 2
VARIABLE ENTERED 12

MULTIPLE R 0.0509
STD. ERROR OF EST. 0.1786

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 0.123 | 0.062 | 1.931 |
| RESIDUAL | 1484 | 47.353 | 0.032 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.44454 ) | | | | | | | |
| Q55 3 | 0.03430 | 0.01836 | 3.4909 | Q10 | 1 | 0.00277 | 0.9602 | 0.0114 |
| 49*58 12 | 0.02053 | 0.02949 | 0.4846 | Q48 | 2 | -0.00732 | 0.8758 | 0.0794 |
| | | | | Q56 | 4 | -0.00285 | 0.9473 | 0.0120 |
| | | | | Q63 | 5 | -0.00921 | 0.9123 | 0.1259 |
| | | | | Q50A | 6 | -0.06039 | 0.7979 | 5.4290 |
| | | | | Q50C | 7 | -0.00513 | 0.9527 | 0.0391 |
| | | | | 3X4 | 9 | 0.08465 | 0.9614 | 10.7021 |
| | | | | 5*6 | 10 | 0.08975 | 0.9729 | 12.0428 |
| | | | | 8*9 | 11 | -0.00919 | 0.6898 | 0.1255 |
| | | | | 51*52 | 13 | -0.04573 | 0.8879 | 3.1076 |
| | | | | (F) | 14 | 0.03344 | 0.9842 | 1.6601 |

Table 5-1. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 4

MULTIPLE R 0.0510
STD. ERROR OF EST. 0.1797

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 0.124 | 0.041 | 1.290 |
| RESIDUAL | 1483 | 47.193 | 0.032 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.44616 ) | | |
| 055 3 | 0.03349 | 0.01875 | 3.2483 |
| 056 4 | -0.00206 | 0.01804 | 0.0120 |
| 49+56 12 | 0.02012 | 0.02974 | 0.4578 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 01C | 1 | 0.00647 | 0.9102 | 0.0620 |
| 04R | 2 | -0.00765 | 0.8867 | 0.0867 |
| 0A3 | 5 | -0.00910 | 0.9122 | 0.1251 |
| 0508 | 6 | -0.06033 | 0.7968 | 5.4138 |
| 050F | 7 | -0.00448 | 0.8648 | 0.0297 |
| 3X4 | 9 | 0.08488 | 0.9591 | 10.7554 |
| 566 | 10 | 0.08996 | 0.9619 | 12.0911 |
| 809 | 11 | -0.00952 | 0.6830 | 0.1345 |
| 51+52 | 13 | -0.04603 | 0.8938 | 3.1462 |
| (F) | 14 | 0.03332 | 0.9754 | 1.6472 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 055 3 | | 0.0476 | 0.0023 | 0.0023 | 3.3783 | 1 |
| 2 | 49+56 12 | | 0.0509 | 0.0026 | 0.0003 | 0.4846 | 2 |
| 3 | 056 4 | | 0.0510 | 0.0026 | 0.0000 | 0.0120 | 3 |

## Table 5-2. Elapsed Time on Task times Percentage of Time on Task

```
SUB-PROBLEM   11
DEPENDENT VARIABLE          Q3xQ4
MAXIMUM NUMBER OF STEPS      20
F-LEVEL FOR INCLUSION     0.000000
F-LEVEL FOR DELETION      0.000000
TOLERANCE LEVEL           0.001000


 STEP NUMBER    1
 VARIABLE ENTERED   11

 MULTIPLE R              0.2041
 STD. ERROR OF EST.      0.1745

 ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
       REGRESSION     1          1.965          1.965     64.553
       RESIDUAL    1485         45.202          0.030

                VARIABLES IN EQUATION                          .                VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE            .    VARIABLE     PARTIAL CORR.    TOLERANCE   F TO ENTER
                                                                .
 (CONSTANT        0.20325 )                                     .
  8+9   11       -0.17879      0.02225      64.5530            .    Q10    1        0.01601        0.9837       0.3805
                                                                .    Q48    2        0.01240        0.9978       0.2282
                                                                .    Q55    3       -0.09270        0.6998      12.8625
                                                                .    Q56    4        0.05298        0.9645       4.1765
                                                                .    Q63    5        0.14629        0.9183      32.4103
                                                                .    Q50A   6        0.09447        0.9309      13.3621
                                                                .    Q50C   7        0.04584        0.9840       3.1281
                                                                .     2+7   8        0.07844        0.9996       9.1868
                                                                .     5+6  10        0.01569        0.9999       0.3655
                                                                .   49+58 12       -0.05108        0.9993       3.8818
                                                                .   51+52 13        0.01306        0.9999       0.2531
                                                                .    (F)  14       -0.00686        0.9770       0.1164


 STEP NUMBER    2
 VARIABLE ENTERED    3

 MULTIPLE R              0.2234
 STD. ERROR OF EST.      0.1738

 ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
       REGRESSION     2          2.353          1.177     38.966
       RESIDUAL    1484         44.813          0.030

                VARIABLES IN EQUATION                          .                VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE            .    VARIABLE     PARTIAL CORR.    TOLERANCE   F TO ENTER
                                                                .
 (CONSTANT        0.21059 )                                     .
 Q55    3        -0.07703      0.02148      12.8625            .    Q10    1        0.00878        0.9627       0.1144
  8+9   11       -0.12548      0.02669      22.1118            .    Q48    2        0.01580        0.9966       0.3705
                                                                .    Q56    4        0.04333        0.9531       2.7897
                                                                .    Q63    5        0.13607        0.9034      27.9752
                                                                .    Q50A   6        0.06980        0.8443       7.2596
                                                                .    Q50C   7        0.03085        0.9562       1.4129
                                                                .     2+7   8        0.08302        0.9976      10.2923
                                                                .     5+6  10        0.01661        0.9939       0.4095
                                                                .   49+58 12       -0.05500        0.9978       4.4994
                                                                .   51+52 13        0.01763        0.9975       0.4612
                                                                .    (F)  14       -0.00460        0.9749       0.0314
```

Table 5-2. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 8

MULTIPLE R 0.2376
STD. ERROR OF EST. 0.1732

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 2.667 | 0.887 | 29.570 |
| RESIDUAL | 1483 | 44.594 | 0.030 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| CONSTANT | | 0.17602 | | |
| 055 | 3 | -0.08011 | 0.02143 | 13.9683 |
| 2+7 | 8 | 0.08075 | 0.02517 | 10.2923 |
| R+9 | 11 | -0.12470 | 0.02660 | 21.9713 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 010 | 1 | 0.00884 | 0.9627 | 0.1159 |
| 048 | 2 | 0.01589 | 0.9966 | 0.3744 |
| 056 | 4 | 0.04398 | 0.9531 | 2.8727 |
| 063 | 5 | 0.13723 | 0.9036 | 28.6445 |
| 050A | 6 | 0.07472 | 0.8417 | 8.3210 |
| 050C | 7 | 0.03130 | 0.9562 | 1.4534 |
| 5+6 | 10 | 0.00909 | 0.9915 | 0.1224 |
| 49+58 | 12 | -0.05470 | 0.9975 | 4.7805 |
| 51+52 | 13 | 0.02081 | 0.9941 | 0.6424 |
| (F) | 14 | -0.00754 | 0.9737 | 0.0843 |

STEP NUMBER 4
VARIABLE ENTERED 12

MULTIPLE R 0.2439
STD. ERROR OF EST. 0.1730

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 2.805 | 0.701 | 23.430 |
| RESIDUAL | 1482 | 44.341 | 0.030 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| CONSTANT | | 0.19135 | | |
| 055 | 3 | -0.08198 | 0.02142 | 14.6441 |
| 2+7 | 8 | 0.08175 | 0.02514 | 10.5706 |
| R+9 | 11 | -0.12467 | 0.02657 | 22.0146 |
| 49+58 | 12 | -0.06747 | 0.02657 | 6.4805 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 010 | 1 | 0.00221 | 0.9495 | 0.0073 |
| 048 | 2 | 0.03811 | 0.8754 | 2.1546 |
| 056 | 4 | 0.03718 | 0.9379 | 2.0503 |
| 063 | 5 | 0.14751 | 0.8835 | 32.9425 |
| 050A | 6 | 0.09139 | 0.7920 | 12.4737 |
| 050C | 7 | 0.03494 | 0.9525 | 1.8104 |
| 5+6 | 10 | 0.01863 | 0.9650 | 0.5141 |
| 51+52 | 13 | 0.04216 | 0.8957 | 2.6376 |
| (F) | 14 | -0.00595 | 0.9729 | 0.0525 |

STEP NUMBER 5
VARIABLE ENTERED 7

MULTIPLE R 0.2465
STD. ERROR OF EST. 0.1730

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 2.847 | 0.573 | 19.167 |
| RESIDUAL | 1481 | 44.300 | 0.030 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| CONSTANT | | 0.16479 | | |
| 055 | 3 | -0.07866 | 0.02156 | 13.2458 |
| 056 | 4 | 0.02634 | 0.01937 | 2.0503 |
| 2+7 | 8 | 0.08148 | 0.02513 | 10.6131 |
| R+9 | 11 | -0.12086 | 0.02669 | 20.5016 |
| 49+58 | 12 | -0.05726 | 0.02869 | 3.9558 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 010 | 1 | -0.03160 | 0.5088 | 1.4795 |
| 048 | 2 | 0.04209 | 0.8865 | 2.6268 |
| 063 | 5 | 0.14790 | 0.8834 | 33.0972 |
| 050A | 6 | 0.09032 | 0.7912 | 12.1720 |
| 050C | 7 | 0.03683 | 0.8665 | 0.9131 |
| 5+6 | 10 | 0.02275 | 0.9540 | 0.7663 |
| 51+52 | 13 | 0.04492 | 0.8813 | 2.9924 |
| (F) | 14 | -0.00279 | 0.9658 | 0.0116 |

**Table 5-2. (Continued)**

STEP NUMBER 6
VARIABLE ENTERED 1

MULTIPLE R 0.2484
STD. ERROR OF EST. 0.1729

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 2.911 | 0.485 | 16.224 |
| RESIDUAL | 1480 | 44.256 | 0.030 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.17761 | | | | | | | |
| Q10 1 | -0.03073 | 0.02526 | 1.4795 | Q48 | 2 | 0.04196 | 0.8665 | 2.6084 |
| Q55 3 | -0.07866 | 0.02155 | 13.3178 | Q63 | 5 | 0.14720 | 0.8828 | 32.7567 |
| Q56 4 | 0.04697 | 0.02503 | 3.5232 | Q50A | 6 | 0.08918 | 0.7899 | 11.8579 |
| 2+7 8 | 0.08207 | 0.02513 | 10.6636 | Q50C | 7 | 0.02678 | 0.8614 | 1.0618 |
| 8+9 11 | -0.12256 | 0.02672 | 21.0301 | 5+6 | 10 | 0.02021 | 0.9475 | 0.6044 |
| 49+58 12 | -0.05875 | 0.02881 | 4.1577 | 51+52 | 13 | 0.04415 | 0.8808 | 2.8791 |
| | | | | (F) | 14 | -0.00184 | 0.9650 | 0.0050 |

STEP NUMBER 7
VARIABLE ENTERED 10

MULTIPLE R 0.2492
STD. ERROR OF EST. 0.1729

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 2.929 | 0.418 | 13.989 |
| RESIDUAL | 1479 | 44.238 | 0.030 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.16413 | | | | | | | |
| Q10 1 | -0.02909 | 0.02535 | 1.3170 | Q48 | 2 | 0.04188 | 0.8665 | 2.5910 |
| Q55 3 | -0.07864 | 0.02156 | 13.3077 | Q63 | 5 | 0.14621 | 0.8789 | 32.2853 |
| Q56 4 | 0.04741 | 0.02504 | 3.5860 | Q50A | 6 | 0.08795 | 0.7857 | 11.5230 |
| 2+7 8 | 0.08029 | 0.02524 | 10.1197 | Q50C | 7 | 0.02663 | 0.8614 | 1.0487 |
| 5+6 10 | 0.01955 | 0.02515 | 0.6044 | 51+52 | 13 | 0.04479 | 0.8800 | 2.9711 |
| 8+9 11 | -0.12229 | 0.02673 | 20.9279 | (F) | 14 | -0.00287 | 0.9625 | 0.0122 |
| 49+58 12 | -0.06207 | 0.02913 | 4.5405 | | | | | |

F LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | MULTIPLE RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 8+9 | 11 | 0.2041 | 0.0417 | 0.0417 | 64.5530 | 1 |
| 2 | 55 | 3 | 0.2234 | 0.0499 | 0.0082 | 12.8625 | 2 |
| 3 | 2+7 | 8 | 0.2376 | 0.0564 | 0.0065 | 10.2923 | 3 |
| 4 | 49+58 | 12 | 0.2439 | 0.0595 | 0.0030 | 4.7805 | 4 |
| 5 | Q56 | 4 | 0.2465 | 0.0608 | 0.0013 | 2.0503 | 5 |
| 6 | Q10 | 1 | 0.2484 | 0.0617 | 0.0009 | 1.4795 | 6 |
| 7 | 5+6 | 10 | 0.2492 | 0.0621 | 0.0004 | 0.6044 | 7 |

Table 5-3. Type of Task plus Formality of Task

SUB-PROFILE 10
DEPENDENT VARIABLE 1(Q5+Q6)
MAXIMUM NUMBER OF STEPS 28
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 12

MULTIPLE R 0.1635
STD. ERROR OF EST. 0.1808

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 1.334 | 1.334 | 40.802 |
| RESIDUAL | 1485 | 48.563 | 0.033 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.64996 ) | | | | | | | |
| 4*5*8 12 | 0.19051 | 0.02982 | 40.8020 | Q10 | 1 | -0.13321 | 0.9885 | 26.8109 |
| | | | | Q48 | 2 | 0.01616 | 0.8809 | 0.3875 |
| | | | | Q55 | 3 | 0.01982 | 0.9978 | 0.5833 |
| | | | | Q56 | 4 | -0.10818 | 0.9870 | 17.5735 |
| | | | | Q63 | 5 | 0.05944 | 0.9766 | 5.2611 |
| | | | | Q50A | 6 | 0.05337 | 0.9625 | 4.2385 |
| | | | | Q50C | 7 | -0.03344 | 0.9951 | 1.6616 |
| | | | | 2*7 | 8 | 0.09059 | 0.9998 | 12.2787 |
| | | | | 3X4 | 9 | 0.02143 | 0.9980 | 0.6820 |
| | | | | 8*9 | 11 | 0.01199 | 0.9993 | 0.2132 |
| | | | | 51*52 | 13 | -0.02272 | 0.8918 | 0.7662 |
| | | | | (F) | 14 | 0.06127 | 0.9995 | 5.5928 |

STEP NUMBER 2
VARIABLE ENTERED 1

MULTIPLE R 0.2098
STD. ERROR OF EST. 0.1793

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 2.196 | 1.099 | 34.161 |
| RESIDUAL | 1484 | 47.702 | 0.032 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.71847 ) | | | | | | | |
| Q10 | 1 | -0.09730 | 0.01879 | 26.8109 | Q48 | 2 | 0.00484 | 0.8745 | 0.0348 |
| 4*5*8 12 | | 0.17399 | 0.02974 | 34.2257 | Q55 | 3 | -0.00277 | 0.9693 | 0.0113 |
| | | | | | Q56 | 4 | -0.02190 | 0.5103 | 0.7116 |
| | | | | | Q63 | 5 | 0.06525 | 0.9752 | 6.3401 |
| | | | | | Q50A | 6 | 0.06278 | 0.9383 | 5.8672 |
| | | | | | Q50C | 7 | 0.00331 | 0.9199 | 0.0163 |
| | | | | | 2*7 | 8 | 0.09067 | 0.9997 | 12.2927 |
| | | | | | 3X4 | 9 | 0.02798 | 0.9958 | 1.1621 |
| | | | | | 8*9 | 11 | -0.01242 | 0.9666 | 0.2288 |
| | | | | | 51*52 | 13 | -0.03299 | 0.8868 | 1.6155 |
| | | | | | (F) | 14 | 0.05304 | 0.9951 | 4.1840 |

Table 5-3. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 8

MULTIPLE R 0.2278
STD. ERROR OF EST. 0.1786

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 2.588 | 0.863 | 27.045 |
| RESIDUAL | 1483 | 47.309 | 0.032 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.67654 ) | | | | | | | |
| 010 | 1 | -0.09494 | 0.01872 | 26.8153 | 048 | 2 | 0.00523 | 0.8745 | 0.0406 |
| 2+7 | 8 | 0.09090 | 0.02593 | 17.2927 | 055 | 3 | -0.00717 | 0.9670 | 0.0763 |
| 49+58 | 12 | 0.17242 | 0.02963 | 33.8588 | 056 | 4 | -0.02089 | 0.5103 | 0.6470 |
| | | | | | 063 | 5 | 0.06745 | 0.9747 | 6.7741 |
| | | | | | 050A | 6 | 0.06999 | 0.9331 | 7.4954 |
| | | | | | 050C | 7 | 0.00461 | 0.9198 | 0.0315 |
| | | | | | 3X4 | 9 | 0.02142 | 0.9903 | 0.6800 |
| | | | | | 8+9 | 11 | -0.01417 | 0.9663 | 0.2977 |
| | | | | | 51+52 | 13 | -0.02924 | 0.8852 | 1.2685 |
| | | | | | (F) | 14 | 0.04976 | 0.9936 | 3.6787 |

STEP NUMBER 4
VARIABLE ENTERED 4

MULTIPLE R 0.2287
STD. ERROR OF EST. 0.1786

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 2.609 | 0.652 | 20.441 |
| RESIDUAL | 1482 | 47.289 | 0.032 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.68089 ) | | | | | | | |
| 010 | 1 | -0.08238 | 0.02604 | 10.0122 | 048 | 2 | 0.00362 | 0.8692 | 0.0195 |
| 056 | 4 | -0.02064 | 0.02566 | 0.6470 | 055 | 3 | -0.00963 | 0.9538 | 0.1388 |
| 2+7 | 8 | 0.09064 | 0.02593 | 17.2198 | 063 | 5 | 0.06854 | 0.9725 | 6.9894 |
| 49+58 | 12 | 0.17111 | 0.02968 | 33.2371 | 050A | 6 | 0.07226 | 0.9251 | 7.7752 |
| | | | | | 050C | 7 | 0.00908 | 0.8813 | 0.1220 |
| | | | | | 3X4 | 9 | 0.02302 | 0.9849 | 0.7856 |
| | | | | | 8+9 | 11 | -0.01622 | 0.9577 | 0.3897 |
| | | | | | 51+52 | 13 | -0.03010 | 0.8838 | 1.3432 |
| | | | | | (F) | 14 | 0.04795 | 0.9846 | 3.4132 |

STEP NUMBER 5
VARIABLE ENTERED 11

MULTIPLE R 0.2292
STD. ERROR OF EST. 0.1787

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 2.621 | 0.524 | 16.424 |
| RESIDUAL | 1481 | 47.276 | 0.032 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.68887 ) | | | | | | | |
| 010 | 1 | -0.08347 | 0.02610 | 10.2382 | 048 | 2 | 0.00424 | 0.8680 | 0.0266 |
| 056 | 4 | -0.02216 | 0.02578 | 0.7338 | 055 | 3 | -0.00114 | 0.6783 | 0.0019 |
| 2+7 | 8 | 0.09093 | 0.02594 | 12.2478 | 063 | 5 | 0.06667 | 0.8963 | 6.6077 |
| 8+9 | 11 | -0.01456 | 0.02329 | 0.3897 | 050A | 6 | 0.07045 | 0.8672 | 7.3821 |
| 49+58 | 12 | 0.17015 | 0.02972 | 32.7676 | 050C | 7 | 0.00809 | 0.8779 | 0.0970 |
| | | | | | 3X4 | 9 | 0.02023 | 0.9667 | 0.6059 |
| | | | | | 51+52 | 13 | -0.03002 | 0.8838 | 1.3348 |
| | | | | | (F) | 14 | 0.05060 | 0.9662 | 3.7989 |

Table 5-3. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 3

MULTIPLE R 0.2292
STD. ERROR OF EST. 0.1787

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 2.621 | 0.437 | 13.678 |
| RESIDUAL | 1480 | 47.276 | 0.032 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.69904 ) | | | | | | | |
| 010 | 1 | -0.08345 | 0.02611 | 10.2229 | 040 | 2 | 0.00429 | 0.8665 | 0.0272 |
| 059 | 3 | -0.00098 | 0.02228 | 0.0019 | 043 | 5 | 0.06704 | 0.8828 | 6.6764 |
| 056 | 4 | -0.02725 | 0.02587 | 0.7397 | 050A | 6 | 0.07345 | 0.7899 | 8.0234 |
| 207 | 8 | 0.09298 | 0.02597 | 12.7688 | 050C | 7 | 0.00801 | 0.8414 | 0.0650 |
| 869 | 11 | -0.01388 | 0.02762 | 0.2526 | 314 | 9 | 0.02021 | 0.9343 | 0.4044 |
| 49459 | 12 | 0.17908 | 0.02978 | 32.4222 | 5152 | 13 | -0.03000 | 0.8806 | 1.3325 |
| | | | | | (F) | 14 | 0.05067 | 0.9650 | 3.8076 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 49459 12 | | 0.1635 | 0.0267 | 0.0267 | 40.8020 | 1 |
| 2 | 010 1 | | 0.2098 | 0.0440 | 0.0173 | 26.8109 | 2 |
| 3 | 207 8 | | 0.2278 | 0.0519 | 0.0079 | 12.2427 | 3 |
| 4 | 056 4 | | 0.2287 | 0.0523 | 0.0004 | 0.6470 | 4 |
| 5 | 869 11 | | 0.2292 | 0.0525 | 0.0002 | 0.3897 | 5 |
| 6 | 059 3 | | 0.2292 | 0.0525 | 0.0000 | 0.0019 | 6 |

## Table 5-4. Class of Task plus Kind of Task

SUB-SAMPLE 0
DEPENDENT VARIABLE 1(CLASS)
MAXIMUM NUMBER OF STEPS 28
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000990
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 5

MULTIPLE R 0.5549
STD. ERROR OF EST. 0.1690

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 19.067 | 19.067 | 667.712 |
| RESIDUAL | 1495 | 42.685 | 0.029 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.24927 ) | | | | | | |
| 055 5 | 0.44827 | 0.01735 | 667.7119 | C10 1 | -0.10478 | 0.4735 | 16.4334 |
| | | | | 048 2 | 0.01844 | 0.9969 | 0.5161 |
| | | | | 056 6 | -0.20873 | 0.9625 | 14.6891 |
| | | | | 063 5 | -0.17536 | 0.9321 | 47.0825 |
| | | | | 050A 4 | -0.05871 | 0.8472 | 5.1851 |
| | | | | 050C 7 | -0.01737 | 0.9544 | 0.2272 |
| | | | | 2+7 8 | -0.00918 | 0.9977 | 0.1252 |
| | | | | 3&4 9 | -0.12117 | 0.9443 | 22.1118 |
| | | | | 5+6 10 | 0.00121 | 0.9990 | 0.0002 |
| | | | | 49+58 12 | 0.00045 | 0.9978 | 0.0003 |
| | | | | 51+52 13 | -0.01701 | 0.9978 | 0.4265 |
| | | | | (F) 14 | 0.10137 | 0.9850 | 15.3910 |

STEP NUMBER 2
VARIABLE ENTERED 4

MULTIPLE R 0.5629
STD. ERROR OF EST. 0.1682

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 19.460 | 9.730 | 344.220 |
| RESIDUAL | 1684 | 41.691 | 0.025 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.29867 ) | | | | | | |
| 055 5 | 0.43524 | 0.01760 | 611.4176 | 010 1 | -0.05164 | 0.5111 | 3.9654 |
| 056 6 | -0.06724 | 0.01759 | 14.6091 | 048 2 | 0.00503 | 0.9778 | 0.0376 |
| | | | | 063 3 | -0.17705 | 0.9320 | 47.9890 |
| | | | | 050A 4 | -0.05870 | 0.8472 | 5.1278 |
| | | | | 050C 7 | 0.01739 | 0.8743 | 0.4487 |
| | | | | 2+7 8 | -0.00973 | 0.9977 | 0.1405 |
| | | | | 3&4 9 | -0.11650 | 0.9014 | 20.4055 |
| | | | | 5+6 10 | -0.01125 | 0.9843 | 0.1879 |
| | | | | 49+58 12 | -0.01212 | 0.9820 | 0.2179 |
| | | | | 51+52 13 | -0.02769 | 0.9868 | 1.1381 |
| | | | | (F) 14 | 0.09259 | 0.9757 | 12.8240 |

Table 5-4. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 12

MULTIPLE R 0.5633
STD. ERROR OF EST. 0.1683

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 19.486 | 6.495 | 229.432 |
| RESIDUAL | 1483 | 41.985 | 0.028 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.30255 ) | | | | | | | |
| 055 | 3 | 0.43466 | 0.01765 | 606.3944 | 010 | 1 | -0.05219 | 0.5102 | 4.0484 |
| 056 | 4 | -0.06828 | 0.01774 | 14.8191 | 048 | 2 | 0.00969 | 0.8667 | 0.1391 |
| 49+58 | 12 | -0.01307 | 0.02000 | 0.2179 | 063 | 5 | -0.17719 | 0.9122 | 49.0356 |
| | | | | | 050A | 6 | -0.05748 | 0.7968 | 4.9135 |
| | | | | | 050C | 7 | 0.01876 | 0.8648 | 0.5216 |
| | | | | | 247 | 8 | -0.00952 | 0.9974 | 0.1344 |
| | | | | | 3X4 | 9 | -0.11723 | 0.9591 | 20.6515 |
| | | | | | 4+6 | 10 | -0.00953 | 0.9619 | 0.1347 |
| | | | | | 51+52 | 13 | -0.02513 | 0.8838 | 0.9361 |
| | | | | | (F) | 14 | 0.09281 | 0.9754 | 12.8776 |

STEP NUMBER 4
VARIABLE ENTERED 8

MULTIPLE R 0.5631
STD. ERROR OF EST. 0.1683

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 19.490 | 4.873 | 172.007 |
| RESIDUAL | 1482 | 41.981 | 0.028 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.30655 ) | | | | | | | |
| 055 | 3 | 0.43496 | 0.01768 | 605.5536 | 010 | 1 | -0.05214 | 0.5102 | 4.0366 |
| 056 | 4 | -0.06830 | 0.01774 | 14.8183 | 048 | 2 | 0.00962 | 0.8676 | 0.1370 |
| 247 | 8 | -0.00897 | 0.02046 | 0.1344 | 063 | 5 | -0.17729 | 0.9121 | 48.0608 |
| 49+58 | 12 | -0.01289 | 0.02002 | 0.2118 | 050A | 6 | -0.05817 | 0.7939 | 5.0280 |
| | | | | | 050C | 7 | 0.01872 | 0.8648 | 0.5189 |
| | | | | | 3X4 | 9 | -0.11685 | 0.9522 | 20.5016 |
| | | | | | 4+6 | 10 | -0.00871 | 0.9541 | 0.1125 |
| | | | | | 51+52 | 13 | -0.02559 | 0.8819 | 0.9706 |
| | | | | | (F) | 14 | 0.09319 | 0.9743 | 12.9735 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | MULTIPLE RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 055 3 | | 0.5569 | 0.3102 | 0.3102 | 667.7119 | 1 |
| 2 | 056 4 | | 0.5629 | 0.3169 | 0.0067 | 14.6091 | 2 |
| 3 | 49+58 12 | | 0.5630 | 0.3170 | 0.0001 | 0.2179 | 3 |
| 4 | 247 8 | | 0.5631 | 0.3171 | 0.0001 | 0.1344 | 4 |

## Table 5-5. Flexibility Index

```
SUB-PROBLM   13
DEPENDENT VARIABLE          F
MAXIMUM NUMBER OF STEPS     29
F-LEVEL FOR INCLUSION       0.000000
F-LEVEL FOR DELETION        0.000000
TOLERANCE LEVEL             0.001000

STEP NUMBER    1
VARIABLE ENTERED    3

MULTIPLE R                  0.1225
STD. ERROR OF EST.          0.1332

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
   REGRESSION     1          0.401          0.401        22.610
   RESIDUAL    1485         26.330          0.018

                VARIABLES IN EQUATION                          VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE .  VARIABLE    PARTIAL CORR.   TOLERANCE   F TO ENTER
 (CONSTANT        0.07218 )                         .
 Q55     3        0.06500     0.01367     22.6101   .  Q10     1     -0.04934      0.9735      3.6221
                                                    .  Q48     2      0.02061      0.9969      0.6309
                                                    .  Q56     4     -0.09738      0.9625     14.2059
                                                    .  Q63     5     -0.03680      0.9321      2.0120
                                                    .  Q50A    6     -0.02455      0.8472      0.8952
                                                    .  Q50C    7     -0.05736      0.9564      4.8989
                                                    .  2+7     8      0.03394      0.9977      1.7114
                                                    .  3X4     9     -0.01682      0.9643      0.4200
                                                    .  5+6    10      0.06319      0.9999      5.9488
                                                    .  8+9    11      0.10132      0.6896     15.3910
                                                    .  49+58  12      0.02878      0.9976      1.2299
                                                    .  51+52  13      0.00130      0.9978      0.0025

STEP NUMBER    2
VARIABLE ENTERED    4

MULTIPLE R                  0.1560
STD. ERROR OF EST.          0.1326

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
   REGRESSION     2          0.651          0.325        18.509
   RESIDUAL    1484         26.081          0.018

                VARIABLES IN EQUATION                          VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE .  VARIABLE    PARTIAL CORR.   TOLERANCE   F TO ENTER
 (CONSTANT        0.11015 )                         .
 Q55     3        0.05488     0.01387     15.6491   .  Q10     1      0.02464      0.5111      0.9006
 Q56     4       -0.05225     0.01386     14.2059   .  Q48     2      0.00722      0.9778      0.0774
                                                    .  Q63     5     -0.03778      0.9320      2.1197
                                                    .  Q50A    6     -0.02408      0.8472      0.8606
                                                    .  Q50C    7     -0.03030      0.8743      1.3632
                                                    .  2+7     8      0.03360      0.9977      1.6766
                                                    .  3X4     9     -0.01156      0.9614      0.1982
                                                    .  5+6    10      0.05169      0.9843      3.9722
                                                    .  8+9    11      0.09259      0.6831     12.8240
                                                    .  49+58  12      0.01674      0.9820      0.4157
                                                    .  51+52  13     -0.00904      0.9868      0.1213

STEP NUMBER    3
VARIABLE ENTERED    7

MULTIPLE R                  0.1588
STD. ERROR OF EST.          0.1326

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
   REGRESSION     3          0.675          0.225        12.796
   RESIDUAL    1483         26.057          0.018

                VARIABLES IN EQUATION                          VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE .  VARIABLE    PARTIAL CORR.   TOLERANCE   F TO ENTER
 (CONSTANT        0.11542 )                         .
 Q55     3        0.05229     0.01405     13.8569   .  Q10     1      0.02632      0.5096      1.0277
 Q56     4       -0.04739     0.01450     10.6418   .  Q48     2      0.00356      0.9632      0.0187
 Q50C    7       -0.01403     0.01201      1.3432   .  Q63     5     -0.03695      0.9313      2.0265
                                                    .  Q50A    6     -0.01001      0.6262      0.1486
                                                    .  2+7     8      0.03394      0.9977      1.6690
                                                    .  3X4     9     -0.01106      0.9611      0.1812
                                                    .  5+6    10      0.05227      0.9840      4.0596
                                                    .  8+9    11      0.09318      0.6829     12.9789
                                                    .  49+58  12      0.02001      0.9714      0.5939
                                                    .  51+52  13     -0.01223      0.9763      0.2216
```

Table 5-5. (Continued)

```
STEP NUMBER    4
VARIABLE ENTERED   12

MULTIPLE R              0.1601
STD. ERROR OF EST.      0.1326

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
      REGRESSION    4           0.685          0.171      9.743
      RESIDUAL   1482          26.046          0.018

                VARIABLES IN EQUATION                          .          VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE            .   VARIABLE   PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                                .
 (CONSTANT        0.10992 )                                     .
 Q55     3        0.05247    0.01407      14.1736              .   Q10    1     0.02731       0.5084      1.1057
 Q56     4       -0.04559    0.01467       9.6610              .   Q4R    2    -0.00378       0.8423      0.0212
                                                                .
                                                                .
                                                                .
 Q50C    7       -0.01500    0.01208       1.5408              .   Q63    5    -0.04026       0.9120      2.4043
 49+5R  12        0.01710    0.02218       0.5939              .   Q50A   6    -0.01486       0.5450      0.3269
                                                                .    2+7    8     0.03319       0.9974      1.6335
                                                                .    3X4    9    -0.01007       0.9587      0.1501
                                                                .    5+6   10     0.04984       0.9619      3.6879
                                                                .    8+9   11     0.09348       0.6828     13.0569
                                                                .   51+52  13    -0.02017       0.8652      0.6025

STEP NUMBER    5
VARIABLE ENTERED    6

MULTIPLE R              0.1607
STD. ERROR OF EST.      0.1326

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
      REGRESSION    5           0.691          0.138      7.856
      RESIDUAL   1481          26.040          0.018

                VARIABLES IN EQUATION                          .          VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE            .   VARIABLE   PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                                .
 (CONSTANT        0.11397 )                                     .
 Q55     3        0.04981    0.01506      10.9459              .   Q10    1     0.02625       0.5054      1.0208
 Q56     4       -0.04672    0.01480       9.9609              .   Q4R    2    -0.00411       0.8419      0.0250
 Q50A    6       -0.00942    0.01648       0.3269              .   Q63    5    -0.03893       0.9022      2.2464
 Q50C    7       -0.01097    0.01398       0.6159              .    2+7    8     0.03227       0.9929      1.5429
 49+5R  12        0.02000    0.02276       0.7720              .    3X4    9    -0.00873       0.9505      0.1129
                                                                .    5+6   10     0.05121       0.9556      3.8914
                                                                .    8+9   11     0.09262       0.6787     12.8065
                                                                .   51+52  13    -0.02199       0.8542      0.7158

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

 STEP                VARIABLE                MULTIPLE                 INCREASE          F VALUE TO          NUMBER OF INDEPENDENT
 NUMBER          ENTERED  REMOVED        R          RSQ               IN RSQ          ENTER OR REMOVE        VARIABLES INCLUDED

    1            Q55    3                0.1225     0.0150            0.0150            22.6101                      1
    2            Q56    4                0.1560     0.0243            0.0093            14.2059                      2
    3            Q50C   7                0.1588     0.0252            0.0009             1.3632                      3
    4             49+5R 12                0.1601     0.0256            0.0004             0.5939                      4
    5            Q50A   6                0.1607     0.0258            0.0002             0.3269                      5

FINISH CARD ENCOUNTERED
PROGRAM TERMINATED
```

Table 5-6. Field of Task

SUB-PROBLEM 9
DEPENDENT VARIABLE Q10
MAXIMUM NUMBER OF STEPS 29
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 4

MULTIPLE R 0.6987
STD. ERROR OF EST. 0.1787

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 44.954 | 44.954 | 1416.054 |
| RESIDUAL | 1485 | 47.143 | 0.032 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.20955 ) | | |
| Q56 | 4 | 0.68791 | 0.01628 | 1416.0540 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q48 | 2 | -0.02024 | 0.9785 | 0.6082 |
| Q55 | 3 | -0.03930 | 0.9625 | 2.2960 |
| Q63 | 5 | -0.01119 | 0.9982 | 0.1860 |
| Q50A | 6 | -0.02706 | 0.9934 | 1.0871 |
| Q50C | 7 | 0.05955 | 0.9960 | 5.2811 |
| 2+7 | 8 | 0.00392 | 0.9998 | 0.0228 |
| 3X4 | 9 | -0.01528 | 0.9920 | 0.3464 |
| 5+6 | 10 | -0.08605 | 0.9845 | 11.0707 |
| 8+9 | 11 | -0.06466 | 0.9665 | 6.2297 |
| 49+58 | 12 | -0.03871 | 0.9870 | 2.2274 |
| 51+52 | 13 | -0.03737 | 0.9874 | 2.0750 |
| (F) | 14 | 0.02047 | 0.9860 | 0.6223 |

STEP NUMBER 2
VARIABLE ENTERED 3

MULTIPLE R 0.6992
STD. ERROR OF EST. 0.1781

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 45.027 | 22.513 | 708.793 |
| RESIDUAL | 1484 | 47.070 | 0.032 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.22507 ) | | |
| Q55 | 3 | -0.07874 | 0.01864 | 2.2360 |
| Q56 | 4 | 0.68243 | 0.01863 | 1342.5625 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q48 | 2 | -0.01916 | 0.9778 | 0.5445 |
| Q63 | 5 | -0.02207 | 0.9320 | 0.7230 |
| Q50A | 6 | -0.04566 | 0.8472 | 3.0986 |
| Q50C | 7 | 0.05406 | 0.8743 | 4.3474 |
| 2+7 | 8 | 0.00573 | 0.9977 | 0.0487 |
| 3X4 | 9 | -0.02255 | 0.9614 | 0.7546 |
| 5+6 | 10 | -0.08642 | 0.9843 | 11.2114 |
| 8+9 | 11 | -0.05164 | 0.6831 | 3.9654 |
| 49+58 | 12 | -0.04164 | 0.9820 | 2.5755 |
| 51+52 | 13 | -0.03640 | 0.9868 | 1.9673 |
| (F) | 14 | 0.02464 | 0.9757 | 0.9006 |

Table 5-6. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 12

MULTIPLE R 0.6999
STD. ERROR OF EST. 0.1781

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 45.109 | 15.036 | 474.556 |
| RESIDUAL | 1483 | 46.988 | 0.032 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | ) | 0.24036 | | |
| Q55 | 3 | -0.03036 | 0.01867 | 2.6438 |
| Q56 | 4 | 0.67855 | 0.01876 | 1308.0965 |
| 49+58 | 12 | -0.04754 | 0.02962 | 2.6755 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q48 | 2 | -0.00545 | 0.8667 | 0.0440 |
| Q63 | 5 | -0.01618 | 0.9122 | 0.3883 |
| Q5CA | 6 | -0.03644 | 0.7968 | 1.9926 |
| Q5CC | 7 | 0.05877 | 0.8648 | 5.1365 |
| 2+7 | 8 | 0.00647 | 0.9974 | 0.0620 |
| 3X4 | 9 | -0.02461 | 0.9591 | 0.8981 |
| 5+6 | 10 | -0.08134 | 0.9619 | 9.8700 |
| R+9 | 11 | -0.05219 | 0.6830 | 4.0484 |
| 51+52 | 13 | -0.02427 | 0.8838 | 0.8734 |
| (F) | 14 | 0.02536 | 0.9754 | 0.9536 |

STEP NUMBER 4
VARIABLE ENTERED 8

MULTIPLE R 0.6999
STD. ERROR OF EST. 0.1781

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 45.110 | 11.278 | 355.708 |
| RESIDUAL | 1482 | 46.986 | 0.032 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | ) | 0.23748 | | |
| Q55 | 3 | -0.03058 | 0.01870 | 2.6744 |
| Q56 | 4 | 0.67867 | 0.01877 | 1307.7998 |
| 2+7 | 8 | 0.00644 | 0.02588 | 0.0620 |
| 49+58 | 12 | -0.04767 | 0.02964 | 2.5872 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q48 | 2 | -0.00540 | 0.8666 | 0.0431 |
| Q63 | 5 | -0.01613 | 0.9121 | 0.3852 |
| Q5CA | 6 | -0.03632 | 0.7939 | 1.9562 |
| Q5CC | 7 | 0.05880 | 0.8648 | 5.1384 |
| 3X4 | 9 | -0.02525 | 0.9522 | 0.9449 |
| 5+6 | 10 | -0.08226 | 0.9541 | 10.0885 |
| R+9 | 11 | -0.05214 | 0.6829 | 4.0366 |
| 51+52 | 13 | -0.02400 | 0.8819 | 0.8533 |
| (F) | 14 | 0.02516 | 0.9743 | 0.9379 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | Q56 4 | | 0.6987 | 0.4881 | 0.4881 | 1416.0560 | 1 |
| 2 | Q55 3 | | 0.6992 | 0.4889 | 0.0008 | 2.2960 | 2 |
| 3 | 49+58 12 | | 0.6999 | 0.4898 | 0.0009 | 2.5755 | 3 |
| 4 | 2+7 8 | | 0.6999 | 0.4898 | 0.0000 | 0.0620 | 4 |

## Table 5-7. Actual Acquisition Time for Information

```
SUB-PROBLM    8
DEPENDENT VARIABLE          Q12
MAXIMUM NUMBER OF STEPS      64
F-LEVEL FOR INCLUSION       0.000000
F-LEVEL FOR DELETION        0.000000
TOLERANCE LEVEL             0.001000


STEP NUMBER    1
VARIABLE ENTERED   17

MULTIPLE R                  0.3115
STD. ERROR OF EST.          0.2091

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
   REGRESSION     1          19.289         19.289       441.358
   RESIDUAL    4107         179.492          0.044
```

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.11114 ) | | | | | | | |
| 3X4 17 | 0.37895 | 0.01804 | 441.3592 | Q10 | 1 | -0.06051 | 0.9964 | 15.0898 |
| | | | | Q32 | 2 | 0.08087 | 0.9980 | 27.0311 |
| | | | | Q55 | 3 | -0.05435 | 0.9666 | 12.1662 |
| | | | | Q56 | 4 | -0.03369 | 0.9905 | 4.6653 |
| | | | | Q13 | 6 | 0.65176 | 0.8378 | 3032.3045 |
| | | | | Q14 | 7 | 0.22718 | 0.9984 | 223.4384 |
| | | | | Q15 | 8 | -0.00034 | 0.9996 | 0.0005 |
| | | | | Q17 | 9 | -0.19956 | 0.9912 | 170.3001 |
| | | | | Q16 | 10 | 0.06128 | 0.9994 | 15.4791 |
| | | | | Q23 | 11 | 0.14392 | 0.9950 | 86.8521 |
| | | | | Q26 | 12 | 0.18459 | 0.9937 | 144.8486 |
| | | | | Q27 | 13 | 0.18392 | 0.9926 | 143.7533 |
| | | | | Q28 | 14 | 0.04490 | 0.9998 | 8.2952 |
| | | | | Q29 | 15 | -0.04648 | 0.9966 | 8.8895 |
| | | | | 2+7 | 16 | -0.01912 | 0.9938 | 1.5020 |
| | | | | 5+6 | 18 | 0.05988 | 0.9999 | 14.7742 |
| | | | | 8+9 | 19 | 0.00091 | 0.9619 | 0.0034 |
| | | | | 49+58 | 20 | 0.15379 | 0.9974 | 99.4587 |
| | | | | 61+62 | 21 | 0.08958 | 0.9931 | 33.2165 |
| | | | | 14+15 | 22 | 0.11464 | 1.0000 | 54.6769 |
| | | | | 14+17 | 23 | -0.00854 | 0.9976 | 0.2995 |
| | | | | 18+26 | 24 | 0.19580 | 0.9816 | 163.6951 |
| | | | | 20+27 | 25 | 0.16999 | 0.9872 | 122.1752 |
| | | | | 21+24 | 26 | 0.12150 | 0.9909 | 61.5185 |
| | | | | 22+25 | 27 | 0.20920 | 0.9851 | 187.9280 |
| | | | | (E) | 28 | 0.11448 | 0.9943 | 54.5220 |
| | | | | (P) | 29 | 0.11510 | 0.9975 | 55.1287 |
| | | | | (F) | 30 | 0.03694 | 0.9985 | 5.6117 |
| | | | | (I) | 31 | 0.14743 | 0.9852 | 91.2317 |
| | | | | 30+31 | 32 | 0.00687 | 0.9992 | 0.1939 |

```
STEP NUMBER    2
VARIABLE ENTERED   24

MULTIPLE R                  0.3628
STD. ERROR OF EST.          0.2050

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
   REGRESSION     2          26.171         13.085       311.269
   RESIDUAL    4106         172.610          0.042
```

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.04329 ) | | | | | | | |
| 3X4 17 | 0.34795 | 0.01786 | 379.7095 | Q10 | 1 | -0.06151 | 0.9964 | 15.5907 |
| 18+26 24 | 0.10903 | 0.00852 | 163.6951 | Q32 | 2 | 0.06610 | 0.9911 | 18.0126 |
| | | | | Q55 | 3 | -0.02908 | 0.9495 | 3.4750 |
| | | | | Q56 | 4 | -0.03264 | 0.9904 | 4.3784 |
| | | | | Q13 | 6 | 0.63874 | 0.8092 | 2828.9822 |
| | | | | Q14 | 7 | 0.19971 | 0.9677 | 170.5309 |

Table 5-7. (Continued)

| | | | | |
|---|---|---|---|---|
| Q15 | 8 | 0.00788 | 0.9979 | 9.2548 |
| Q17 | 9 | -0.14868 | 0.8949 | 92.7967 |
| Q16 | 10 | 0.06964 | 0.9981 | 20.0034 |
| Q23 | 11 | 0.06184 | 0.7844 | 15.7597 |
| Q26 | 12 | 0.08781 | 0.6518 | 31.9004 |
| Q27 | 13 | 0.09330 | 0.6938 | 36.0446 |
| Q28 | 14 | 0.04375 | 0.9997 | 7.8716 |
| Q29 | 15 | -0.05376 | 0.9956 | 11.8965 |
| 2*7 | 16 | -0.01871 | 0.9938 | 1.4382 |
| 5*6 | 18 | 0.05105 | 0.9974 | 10.7246 |
| 8*9 | 19 | 0.02209 | 0.9512 | 2.0048 |
| 49*58 | 20 | 0.14470 | 0.9936 | 87.7851 |
| 61*62 | 21 | 0.06393 | 0.9735 | 16.8459 |
| 14*15 | 22 | 0.10588 | 0.9968 | 46.5406 |
| 14*17 | 23 | 0.01794 | 0.9800 | 1.3223 |
| 20*27 | 25 | 0.00648 | 0.2720 | 0.1721 |
| 21*24 | 26 | 0.06782 | 0.9040 | 18.9695 |
| 22*25 | 27 | 0.15282 | 0.8629 | 98.1547 |
| (E) | 28 | 0.07601 | 0.9493 | 23.8536 |
| (P) | 29 | 0.09747 | 0.9871 | 39.3697 |
| (F) | 30 | 0.03727 | 0.9985 | 5.7089 |
| (I) | 31 | 0.14628 | 0.9848 | 89.7567 |
| 30*31 | 32 | 0.01469 | 0.9977 | 0.8862 |

STEP NUMBER 3
VARIABLE ENTERED 20

MULTIPLE R 0.3871
STD. ERROR OF EST. 0.2029

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 29.785 | 9.928 | 241.160 |
| RESIDUAL | 4105 | 168.996 | 0.0 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | -0.00723 ) | | |
| 3X4 17 | 0.35774 | 0.01770 | 408.4339 |
| 49*58 20 | 0.19310 | 0.02061 | 87.7851 |
| 18*26 24 | 0.10412 | 0.00845 | 151.8279 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.04624 | 0.9841 | 8.7921 |
| Q32 | 2 | 0.06555 | 0.9910 | 17.7119 |
| Q55 | 3 | -0.02289 | 0.9476 | 2.1522 |
| Q56 | 4 | -0.01708 | 0.9786 | 1.1970 |
| Q13 | 6 | 0.63121 | 0.7931 | 2718.0998 |
| Q14 | 7 | 0.19345 | 0.9642 | 159.5534 |
| Q15 | 8 | 0.00687 | 0.9979 | 0.1934 |
| Q17 | 9 | -0.15205 | 0.8948 | 97.1221 |
| Q16 | 10 | 0.05585 | 0.9879 | 12.8400 |
| Q23 | 11 | 0.05793 | 0.7836 | 13.8198 |
| Q26 | 12 | 0.08142 | 0.6501 | 27.3882 |
| Q27 | 13 | 0.08655 | 0.6918 | 30.9748 |
| Q28 | 14 | 0.03285 | 0.9936 | 4.4325 |
| Q29 | 15 | -0.03594 | 0.9794 | 5.3086 |
| 2*7 | 16 | -0.02194 | 0.9934 | 1.9761 |
| 5*6 | 18 | 0.02871 | 0.9721 | 3.3846 |
| 8*9 | 19 | 0.02891 | 0.9493 | 3.4327 |
| 61*62 | 21 | 0.05102 | 0.9648 | 10.7095 |
| 14*15 | 22 | 0.10104 | 0.9956 | 43.0113 |
| 14*17 | 23 | 0.01101 | 0.9777 | 0.4976 |
| 20*27 | 25 | 0.00686 | 0.2720 | 0.1930 |
| 21*24 | 26 | 0.06207 | 0.9042 | 15.8722 |
| 22*25 | 27 | 0.14469 | 0.8587 | 87.6487 |
| (E) | 28 | 0.04461 | 0.8998 | 8.1846 |
| (P) | 29 | 0.08002 | 0.9701 | 26.4491 |
| (F) | 30 | 0.03492 | 0.9951 | 5.0119 |
| (I) | 31 | 0.14244 | 0.9834 | 84.9943 |
| 30*31 | 32 | 0.00839 | 0.9957 | 0.2890 |

Table 5-7. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 26

MULTIPLE R 0.3913
STD. ERROR OF EST. 0.2025

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 30.436 | 7.609 | 185.493 |
| RESIDUAL | 4104 | 168.345 | 0.041 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.03453 ) | | | | | | | |
| 3X4 17 | 0.35351 | 0.01770 | 398.8497 | Q10 | 1 | -0.04521 | 0.9838 | 8.4028 |
| 49+58 20 | 0.13944 | 0.02059 | 84.6195 | Q32 | 2 | 0.06523 | 0.9910 | 17.5342 |
| 18+26 24 | 0.09389 | 0.00882 | 113.0421 | Q55 | 3 | -0.02194 | 0.9473 | 1.9753 |
| 21+24 26 | 0.05923 | 0.01487 | 15.8722 | Q56 | 4 | -0.01640 | 0.9784 | 1.1034 |
| | | | | Q13 | 6 | 0.63043 | 0.7918 | 2706.2483 |
| | | | | Q14 | 7 | 0.19127 | 0.9624 | 155.8070 |
| | | | | Q15 | 8 | 0.00444 | 0.9963 | 0.0808 |
| | | | | Q17 | 9 | -0.15118 | 0.8945 | 95.9724 |
| | | | | Q16 | 10 | 0.05564 | 0.9879 | 12.7418 |
| | | | | Q23 | 11 | 0.05334 | 0.7789 | 11.7087 |
| | | | | Q26 | 12 | 0.08062 | 0.6500 | 26.8421 |
| | | | | Q27 | 13 | 0.08428 | 0.6907 | 29.3546 |
| | | | | Q28 | 14 | 0.03445 | 0.9930 | 4.8762 |
| | | | | Q29 | 15 | -0.03425 | 0.9786 | 4.8197 |
| | | | | 2+7 | 16 | -0.02097 | 0.9931 | 1.8050 |
| | | | | 5+6 | 18 | 0.02574 | 0.9698 | 2.7210 |
| | | | | 8+9 | 19 | 0.02909 | 0.9493 | 3.4758 |
| | | | | 61+62 | 21 | 0.05278 | 0.9642 | 11.4624 |
| | | | | 14+15 | 22 | 0.09887 | 0.9927 | 40.5008 |
| | | | | 14+17 | 23 | 0.01013 | 0.9775 | 0.4214 |
| | | | | 20+27 | 25 | 0.00501 | 0.2718 | 0.1031 |
| | | | | 22+25 | 27 | 0.14540 | 0.4026 | 88.6146 |
| | | | | (E) | 28 | 0.04682 | 0.8988 | 9.0155 |
| | | | | (P) | 29 | 0.08045 | 0.9701 | 26.7257 |
| | | | | (F) | 30 | 0.03424 | 0.9980 | 4.8163 |
| | | | | (I) | 31 | 0.14692 | 0.9795 | 90.5132 |
| | | | | 30+31 | 32 | 0.00117 | 0.9822 | 0.0056 |

STEP NUMBER 5
VARIABLE ENTERED 28

MULTIPLE R 0.3937
STD. ERROR OF EST. 0.2023

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 30.805 | 6.161 | 150.488 |
| RESIDUAL | 4103 | 167.976 | 0.041 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.03740 ) | | | | | | | |
| 3X4 17 | 0.35010 | 0.01772 | 393.3341 | Q10 | 1 | -0.04722 | 0.9822 | 9.1652 |
| 49+58 20 | 0.17487 | 0.02114 | 68.4355 | Q32 | 2 | 0.06135 | 0.9830 | 15.4991 |
| 18+26 24 | 0.08826 | 0.00901 | 95.3630 | Q55 | 3 | -0.00798 | 0.8583 | 0.2610 |
| 21+24 26 | 0.06074 | 0.01486 | 16.7027 | Q56 | 4 | -0.02130 | 0.9683 | 1.8622 |
| (E) 28 | 0.03223 | 0.01073 | 9.0155 | Q13 | 6 | 0.62940 | 0.7884 | 2691.0063 |
| | | | | Q14 | 7 | 0.18913 | 0.9593 | 152.1723 |
| | | | | Q15 | 8 | 0.00021 | 0.9682 | 0.0002 |
| | | | | Q17 | 9 | -0.15011 | 0.8938 | 94.5581 |
| | | | | Q16 | 10 | 0.05410 | 0.9867 | 12.0427 |
| | | | | Q23 | 11 | 0.04580 | 0.7543 | 8.6238 |
| | | | | Q26 | 12 | 0.08135 | 0.6499 | 27.3247 |
| | | | | Q27 | 13 | 0.08442 | 0.6907 | 29.4448 |
| | | | | Q28 | 14 | 0.03589 | 0.9921 | 5.2909 |
| | | | | Q29 | 15 | -0.03543 | 0.9780 | 5.1543 |
| | | | | 2+7 | 16 | -0.01808 | 0.9892 | 1.3414 |
| | | | | 5+6 | 18 | 0.02111 | 0.9598 | 1.8293 |
| | | | | 8+9 | 19 | 0.03803 | 0.9195 | 5.9419 |
| | | | | 61+62 | 21 | 0.04283 | 0.9085 | 7.5391 |
| | | | | 14+15 | 22 | 0.09475 | 0.9827 | 37.1581 |
| | | | | 14+17 | 23 | 0.00939 | 0.9772 | 0.3618 |
| | | | | 20+27 | 25 | 0.00422 | 0.2717 | 0.0732 |
| | | | | 22+25 | 27 | 0.14315 | 0.4014 | 85.8133 |
| | | | | (P) | 29 | 0.07134 | 0.9138 | 20.9845 |
| | | | | (F) | 30 | 0.03318 | 0.9974 | 4.5207 |
| | | | | (I) | 31 | 0.14335 | 0.9712 | 86.0651 |
| | | | | 30+31 | 32 | 0.00228 | 0.9817 | 0.0213 |

Table 5-7. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 1

MULTIPLE R 0.3960
STD. ERROR OF EST. 0.2021

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 31.179 | 5.197 | 127.184 |
| RESIDUAL | 4102 | 167.601 | 0.041 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.01031 ) | | |
| Q10 | 1 | -0.03873 | 0.01279 | 9.1652 |
| 3X4 | 17 | 0.35287 | 0.01773 | 395.2714 |
| 49+58 | 20 | 0.16737 | 0.02126 | 61.9737 |
| 18+26 | 24 | 0.08833 | 0.00900 | 95.3948 |
| 21+24 | 26 | 0.05999 | 0.01485 | 15.3232 |
| (E) | 28 | 0.03356 | 0.01073 | 9.7776 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.4271 | 0.9823 | 16.1901 |
| Q55 | 3 | -0.01573 | 0.8365 | 1.0147 |
| Q56 | 4 | 0.01649 | 0.4934 | 1.1161 |
| Q13 | 6 | 0.62978 | 0.7884 | 2695.7955 |
| Q14 | 7 | 0.18836 | 0.9588 | 150.8552 |
| Q15 | 8 | -0.00078 | 0.9878 | 0.0025 |
| Q17 | 9 | -0.14954 | 0.8936 | 93.8074 |
| Q16 | 10 | 0.04990 | 0.9778 | 10.2353 |
| Q23 | 11 | 0.04611 | 0.7542 | 8.7383 |
| Q26 | 12 | 0.08202 | 0.6498 | 27.7728 |
| Q27 | 13 | 0.08573 | 0.6902 | 30.3640 |
| Q28 | 14 | 0.03213 | 0.9853 | 4.2376 |
| Q29 | 15 | -0.00927 | 0.6340 | 0.3524 |
| 2+7 | 16 | -0.01880 | 0.9890 | 1.4507 |
| 5+6 | 18 | 0.01467 | 0.9410 | 0.8825 |
| 8+9 | 19 | 0.03031 | 0.8916 | 3.7699 |
| 61+62 | 21 | 0.04369 | 0.9082 | 7.8413 |
| 14+15 | 22 | 0.09359 | 0.9820 | 36.2361 |
| 14+17 | 23 | 0.00930 | 0.9772 | 0.3550 |
| 20+27 | 25 | 0.00529 | 0.2716 | 0.1146 |
| 22+25 | 27 | 0.14221 | 0.4011 | 86.6690 |
| (P) | 29 | 0.06993 | 0.9129 | 20.1542 |
| (F) | 30 | 0.02978 | 0.9919 | 3.6604 |
| (I) | 31 | 0.14548 | 0.9697 | 88.6767 |
| 30+31 | 32 | 0.00081 | 0.9807 | 0.0027 |

STEP NUMBER 7
VARIABLE ENTERED 14

MULTIPLE R 0.3971
STD. ERROR OF EST. 0.2021

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 31.352 | 4.479 | 109.706 |
| RESIDUAL | 4101 | 167.428 | 0.041 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.02298 ) | | |
| Q10 | 1 | -0.03654 | 0.01283 | 8.1099 |
| Q28 | 14 | 0.02388 | 0.01160 | 4.2376 |
| 3X4 | 17 | 0.35294 | 0.01772 | 396.7335 |
| 49+58 | 20 | 0.16412 | 0.02111 | 59.3038 |
| 18+26 | 24 | 0.08799 | 0.00899 | 95.6953 |
| 21+24 | 26 | 0.06082 | 0.01485 | 15.7751 |
| (E) | 28 | 0.03414 | 0.01073 | 10.1192 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.06287 | 0.9823 | 16.2678 |
| Q55 | 3 | -0.01962 | 0.8251 | 1.5781 |
| Q56 | 4 | 0.01852 | 0.4916 | 1.4061 |
| Q13 | 6 | 0.62981 | 0.7883 | 2695.5004 |
| Q14 | 7 | 0.18650 | 0.9528 | 147.7504 |
| Q15 | 8 | -0.00091 | 0.9877 | 0.0034 |
| Q17 | 9 | -0.14896 | 0.8932 | 93.0439 |
| Q16 | 10 | 0.04493 | 0.9470 | 8.2936 |
| Q23 | 11 | 0.04739 | 0.7532 | 9.2284 |
| Q26 | 12 | 0.07911 | 0.6425 | 25.8192 |
| Q27 | 13 | 0.08307 | 0.6838 | 28.4863 |
| Q29 | 15 | -0.00356 | 0.6145 | 0.0521 |
| 2+7 | 16 | -0.02012 | 0.9874 | 1.6598 |
| 5+6 | 18 | 0.01350 | 0.9397 | 0.7477 |
| 8+9 | 19 | 0.02448 | 0.8572 | 2.4593 |
| 61+62 | 21 | 0.04431 | 0.9079 | 8.0660 |
| 14+15 | 22 | 0.09235 | 0.9802 | 35.2651 |
| 14+17 | 23 | 0.00817 | 0.9760 | 0.2737 |
| 20+27 | 25 | 0.00469 | 0.2715 | 0.0902 |
| 22+25 | 27 | 0.14310 | 0.4009 | 85.7137 |
| (P) | 29 | 0.06973 | 0.9128 | 20.0322 |
| (F) | 30 | 0.02889 | 0.9911 | 3.4241 |
| (I) | 31 | 0.15503 | 0.9314 | 100.9724 |
| 30+31 | 32 | 0.00122 | 0.9806 | 0.0061 |

Table 5-7. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 30

MULTIPLE R 0.3980
STD. ERROR OF EST. 0.2020

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 31.492 | 3.936 | 96.477 |
| RESIDUAL | 4100 | 167.289 | 0.041 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.02793 ) | | | | | | | |
| Q10 | 1 | -0.03483 | 0.01286 | 7.3350 | Q32 | 2 | 0.06254 | 0.9822 | 16.0929 |
| Q28 | 14 | 0.02326 | 0.01160 | 4.0211 | Q55 | 3 | -0.02313 | 0.8141 | 2.1937 |
| 3X4 | 17 | 0.35413 | 0.01773 | 399.1197 | Q56 | 4 | 0.02075 | 0.4886 | 1.7655 |
| 49+58 | 20 | 0.16406 | 0.02131 | 59.2952 | Q13 | 6 | 0.62991 | 0.7882 | 2696.2254 |
| 18+26 | 24 | 0.08812 | 0.00899 | 95.0318 | Q14 | 7 | 0.18606 | 0.9525 | 146.9862 |
| 21+24 | 26 | 0.06047 | 0.01485 | 15.3939 | Q15 | 8 | 0.00034 | 0.9859 | 0.0005 |
| (E) | 28 | 0.03359 | 0.01073 | 9.7952 | Q17 | 9 | -0.14975 | 0.8927 | 94.0248 |
| (F) | 30 | 0.04399 | 0.02372 | 3.4241 | Q16 | 10 | 0.04398 | 0.9458 | 7.9439 |
| | | | | | Q23 | 11 | 0.04791 | 0.7529 | 9.4299 |
| | | | | | Q26 | 12 | 0.07944 | 0.6424 | 26.0327 |
| | | | | | Q27 | 13 | 0.08349 | 0.6837 | 28.7765 |
| | | | | | Q29 | 15 | -0.00167 | 0.6118 | 0.0114 |
| | | | | | 2+7 | 16 | -0.02131 | 0.9858 | 1.8614 |
| | | | | | 5+6 | 18 | 0.01169 | 0.9359 | 0.5603 |
| | | | | | 8+9 | 19 | 0.02050 | 0.8390 | 1.7230 |
| | | | | | 61+62 | 21 | 0.04482 | 0.9077 | 8.2493 |
| | | | | | 14+15 | 22 | 0.09314 | 0.9796 | 35.8726 |
| | | | | | 14+17 | 23 | 0.00729 | 0.9751 | 0.2178 |
| | | | | | 20+27 | 25 | 0.00470 | 0.2715 | 0.0906 |
| | | | | | 22+25 | 27 | 0.14342 | 0.4009 | 86.0842 |
| | | | | | (P) | 29 | 0.06932 | 0.9126 | 19.7939 |
| | | | | | (I) | 31 | 0.15476 | 0.9313 | 100.5805 |
| | | | | | 30+31 | 32 | 0.00100 | 0.9805 | 0.0041 |

STEP NUMBER 9
VARIABLE ENTERED 3

MULTIPLE R 0.3986
STD. ERROR OF EST. 0.2020

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 31.581 | 3.509 | 86.026 |
| RESIDUAL | 4099 | 167.199 | 0.041 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.01653 ) | | | | | | | |
| Q10 | 1 | -0.03759 | 0.01299 | 8.3699 | Q32 | 2 | 0.06237 | 0.9821 | 16.0025 |
| Q55 | 3 | -0.02046 | 0.01382 | 2.1937 | Q56 | 4 | 0.01923 | 0.4864 | 1.5162 |
| Q28 | 14 | 0.02523 | 0.01168 | 4.6712 | Q13 | 6 | 0.62984 | 0.7853 | 2694.6639 |
| 3X4 | 17 | 0.35026 | 0.01791 | 382.2724 | Q14 | 7 | 0.18806 | 0.9483 | 150.2458 |
| 49+58 | 20 | 0.16411 | 0.02130 | 59.3499 | Q15 | 8 | 0.00051 | 0.9858 | 0.0011 |
| 18+26 | 24 | 0.08731 | 0.00901 | 93.9528 | Q17 | 9 | -0.14924 | 0.8921 | 93.3481 |
| 21+24 | 26 | 0.05982 | 0.01485 | 15.2298 | Q16 | 10 | 0.04477 | 0.9448 | 8.2292 |
| (E) | 28 | 0.02845 | 0.01128 | 5.3627 | Q23 | 11 | 0.04736 | 0.7525 | 9.2138 |
| (F) | 30 | 0.04799 | 0.02388 | 4.0395 | Q26 | 12 | 0.08002 | 0.6421 | 26.4088 |
| | | | | | Q27 | 13 | 0.08393 | 0.6835 | 29.0724 |
| | | | | | Q29 | 15 | -0.00326 | 0.6090 | 0.0435 |
| | | | | | 2+7 | 16 | -0.02036 | 0.9840 | 1.6988 |
| | | | | | 5+6 | 18 | 0.01237 | 0.9351 | 0.6275 |
| | | | | | 8+9 | 19 | 0.03609 | 0.6447 | 5.3447 |
| | | | | | 61+62 | 21 | 0.04248 | 0.8960 | 7.4080 |
| | | | | | 14+15 | 22 | 0.09414 | 0.9781 | 36.6394 |
| | | | | | 14+17 | 23 | 0.00878 | 0.9711 | 0.3160 |
| | | | | | 20+27 | 25 | 0.00449 | 0.2715 | 0.0828 |
| | | | | | 22+25 | 27 | 0.14313 | 0.4008 | 85.7084 |
| | | | | | (P) | 29 | 0.06818 | 0.7099 | 19.1407 |
| | | | | | (I) | 31 | 0.15430 | 0.9207 | 99.9454 |
| | | | | | 30+31 | 32 | 0.00054 | 0.9801 | 0.0012 |

Table 5-7. (Continued)

STEP NUMBER 10
VARIABLE ENTERED 19

MULTIPLE R 0.4000
STD. ERROR OF EST. 0.2019

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 31.799 | 3.180 | 78.040 |
| RESIDUAL | 4098 | 164.982 | 0.041 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.02965 ) | | | | | | | |
| Q10 | 1 | -0.03473 | 0.01304 | 7.3895 | Q32 | 2 | 0.06479 | 0.9783 | 17.2706 |
| Q55 | 3 | -0.03799 | 0.01575 | 5.8157 | Q56 | 4 | 0.01979 | 0.4865 | 1.6045 |
| Q28 | 14 | 0.02086 | 0.01182 | 3.1164 | Q13 | 6 | 0.62975 | 0.7851 | 2692.7442 |
| 3X4 | 17 | 0.35488 | 0.01802 | 388.0052 | Q14 | 7 | 0.18788 | 0.9482 | 149.9070 |
| 8+9 | 19 | 0.04474 | 0.01935 | 5.3447 | Q15 | 8 | 0.00083 | 0.9857 | 0.0028 |
| 49+58 | 20 | 0.16637 | 0.02131 | 60.9282 | Q17 | 9 | -0.15002 | 0.8918 | 94.3325 |
| 18+26 | 24 | 0.08816 | 0.00901 | 95.7658 | Q16 | 10 | 0.04265 | 0.9412 | 7.4657 |
| 21+24 | 26 | 0.05958 | 0.01484 | 15.1130 | Q23 | 11 | 0.05055 | 0.7473 | 10.4962 |
| (E) | 28 | 0.02912 | 0.01128 | 5.6676 | Q26 | 12 | 0.07829 | 0.6404 | 25.2694 |
| (F) | 30 | 0.04228 | 0.02399 | 3.1058 | Q27 | 13 | 0.08286 | 0.6828 | 28.3238 |
| | | | | | Q29 | 15 | -0.00322 | 0.6090 | 0.0424 |
| | | | | | 2+7 | 16 | - .01996 | 0.9839 | 1.6321 |
| | | | | | 5+6 | 18 | 0.01318 | 0.9347 | 0.7116 |
| | | | | | 61+62 | 21 | 0.04814 | 0.8779 | 9.5150 |
| | | | | | 14+15 | 22 | 0.09430 | 0.9781 | 36.7613 |
| | | | | | 14+17 | 23 | 0.00807 | 0.9797 | 0.2670 |
| | | | | | 20+27 | 25 | 0.004 3 | 0.2715 | 0.0878 |
| | | | | | 22+25 | 27 | 0.14460 | 0.4003 | 87.4990 |
| | | | | | (P) | 29 | 0.07141 | 0.9038 | 21.0001 |
| | | | | | (I) | 31 | 0.15527 | 0.9303 | 101.2106 |
| | | | | | 30+31 | 32 | 0.00100 | 0.9800 | 0.0041 |

STEP NUMBER 11
VARIABLE ENTERED 4

MULTIPLE R 0.4004
STD. ERROR OF EST. 0.2018

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 11 | 31.869 | 2.897 | 71.102 |
| RESIDUAL | 4097 | 166.916 | 0.041 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.03541 ) | | | | | | | |
| Q10 | 1 | -0.05036 | 0.01796 | 7.8654 | Q32 | 2 | 0.06535 | 0.9776 | 17.5693 |
| Q55 | 3 | -0.03695 | 0.01577 | 5.4852 | Q13 | 6 | 0.62974 | 0.7850 | 2691.8759 |
| Q56 | 4 | 0.02261 | 0.01785 | 1.6045 | Q14 | 7 | 0.18735 | 0.9471 | 149.0032 |
| Q28 | 14 | 0.02159 | 0.01183 | 3.3280 | Q15 | 8 | 0.00002 | 0.9841 | 0.0000 |
| 3X4 | 17 | 0.35363 | 0.01804 | 384.1633 | Q17 | 9 | -0.15019 | 0.8917 | 94.5234 |
| 8+9 | 19 | 0.04511 | 0.01935 | 5.4321 | Q16 | 10 | 0.04279 | 0.9412 | 7.5125 |
| 49+58 | 20 | 0.16809 | 0.02136 | 61.9528 | Q23 | 11 | 0.05061 | 0.7473 | 10.5172 |
| 18+26 | 24 | 0.08855 | 0.00901 | 95.4895 | Q26 | 12 | 0.07852 | 0.6403 | 25.4081 |
| 21+24 | 26 | 0.05953 | 0.01484 | 15.0930 | Q27 | 13 | 0.08301 | 0.6828 | 28.4198 |
| (E) | 28 | 0.02801 | 0.01131 | 6.1331 | Q29 | 15 | -0.00681 | 0.5900 | 0.1901 |
| (F) | 30 | 0.04426 | 0.02404 | 3.3895 | 2+7 | 16 | -0.02024 | 0.9837 | 1.6702 |
| | | | | | 5+6 | 18 | 0.01397 | 0.9332 | 0.7997 |
| | | | | | 61+62 | 21 | 0.04919 | 0.8757 | 9.9363 |
| | | | | | 14+15 | 22 | 0.09345 | 0.9757 | 36.0855 |
| | | | | | 14+17 | 23 | 0.00753 | 0.9700 | 0.2325 |
| | | | | | 20+27 | 25 | 0.00493 | 0.2714 | 0.0994 |
| | | | | | 22+25 | 27 | 0.14453 | 0.4003 | 87.3865 |
| | | | | | (P) | 29 | 0.07271 | 0.9007 | 21.7693 |
| | | | | | (I) | 31 | 0.15570 | 0.9299 | 101.7669 |
| | | | | | 30+31 | 32 | 0.00125 | 0.9798 | 0.0064 |

Table 5-7. (Continued)

STEP NUMBER 12
VARIABLE ENTERED 18

MULTIPLE R 0.4006
STD. ERROR OF EST. 0.2018

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 12 | 31.897 | 2.658 | 65.240 |
| RESIDUAL | 4096 | 166.884 | 0.041 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.04634 ) | | |
| 010 | 1 | -0.04929 | 0.01800 | 7.5038 |
| 055 | 3 | -0.03743 | 0.01578 | 5.6231 |
| 056 | 4 | 0.02324 | 0.01795 | 1.6924 |
| 028 | 14 | 0.02124 | 0.01184 | 3.2187 |
| 3X4 | 17 | 0.35336 | 0.01805 | 383.4586 |
| 5*6 | 18 | 0.01596 | 0.01785 | 3.7997 |
| 8*9 | 19 | 0.04550 | 0.01936 | 5.5235 |
| 49*58 | 20 | 0.16600 | 0.02148 | 59.7854 |
| 18*26 | 24 | 0.08852 | 0.00901 | 95.4258 |
| 21*24 | 26 | 0.05884 | 0.01486 | 15.6725 |
| (E) | 28 | 0.02685 | 0.01138 | 5.5637 |
| (F) | 30 | 0.04299 | 0.02409 | 3.1853 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 032 | 2 | 0.06535 | 0.9776 | 17.5648 |
| 013 | 6 | 0.62976 | 0.7858 | 2691.5396 |
| 014 | 7 | 0.18738 | 0.9471 | 149.8148 |
| 015 | 8 | -0.00833 | 0.9835 | 0.0004 |
| 017 | 9 | -0.15040 | 0.8916 | 94.7798 |
| 016 | 10 | 0.04238 | 0.9463 | 7.3668 |
| 023 | 11 | 0.04996 | 0.7454 | 10.2483 |
| 026 | 12 | 0.07845 | 0.6403 | 25.3571 |
| 027 | 13 | 0.08323 | 0.6826 | 28.5652 |
| 029 | 15 | -0.00609 | 0.5884 | 0.1517 |
| 2*7 | 16 | -0.02163 | 0.9753 | 1.9171 |
| 61*62 | 21 | 0.04056 | 0.8735 | 9.6889 |
| 14*15 | 22 | 0.09321 | 0.9752 | 35.9874 |
| 14*17 | 23 | 0.00740 | 0.9699 | 0.2241 |
| 20*27 | 25 | 0.00542 | 0.2711 | 0.1295 |
| 22*25 | 27 | 0.14458 | 0.6003 | 87.4221 |
| (P) | 29 | 0.07257 | 0.9886 | 21.5821 |
| (I) | 31 | 0.15613 | 0.9293 | 182.3165 |
| 30*31 | 32 | 0.00083 | 0.9789 | 0.0020 |

STEP NUMBER 13
VARIABLE ENTERED 23

MULTIPLE R 0.4006
STD. ERROR OF EST. 0.2019

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 13 | 31.906 | 2.454 | 60.228 |
| RESIDUAL | 4095 | 166.874 | 0.041 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.04987 ) | | |
| 010 | 1 | -0.04922 | 0.01800 | 7.4782 |
| 055 | 3 | -0.03778 | 0.01580 | 5.7151 |
| 056 | 4 | 0.02300 | 0.01787 | 1.6957 |
| 028 | 14 | 0.02111 | 0.01185 | 3.1762 |
| 3X4 | 17 | 0.35352 | 0.01805 | 383.5969 |
| 5*6 | 18 | 0.01588 | 0.01785 | 3.7312 |
| 8*9 | 19 | 0.04531 | 0.01936 | 5.4768 |
| 49*58 | 20 | 0.16558 | 0.02150 | 59.2944 |
| 14*17 | 23 | 0.00861 | 0.01819 | 0.2241 |
| 18*26 | 24 | 0.08908 | 0.00909 | 95.9818 |
| 21*24 | 26 | 0.05872 | 0.01487 | 15.6026 |
| (E) | 28 | 0.02668 | 0.01139 | 5.4856 |
| (F) | 30 | 0.04273 | 0.02409 | 3.1458 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 032 | 2 | 0.06502 | 0.9765 | 17.7108 |
| 013 | 6 | 0.62976 | 0.7850 | 2690.9076 |
| 014 | 7 | 0.23718 | 0.9518 | 244.0413 |
| 015 | 8 | -0.00108 | 0.9735 | 0.0048 |
| 017 | 9 | -0.23718 | 0.3856 | 244.0473 |
| 016 | 10 | 0.04233 | 0.9402 | 7.3476 |
| 023 | 11 | 0.05054 | 0.7424 | 10.4837 |
| 026 | 12 | 0.07821 | 0.6391 | 25.1947 |
| 027 | 13 | 0.08296 | 0.6808 | 29.3729 |
| 029 | 15 | -0.00611 | 0.5884 | 0.1528 |
| 2*7 | 16 | -0.02219 | 0.9708 | 2.0163 |
| 61*62 | 21 | 0.04386 | 0.8724 | 9.7958 |
| 14*15 | 22 | 0.09[illegible] | 0.8203 | 40.0951 |
| 20*27 | 25 | 0.00[illegible] | 0.2709 | 0.1191 |
| 22*25 | 27 | 0.14[illegible] | 0.3991 | 88.1536 |
| (P) | 29 | 0.07299 | 0.6988 | 21.9250 |
| (I) | 31 | 0.15970 | 0.8665 | 107.1461 |
| 30*31 | 32 | 0.00078 | 0.9789 | 0.0025 |

Table 5-7. (Continued)

STEP NUMBER 14
VARIABLE ENTERED 15

MULTIPLE R 0.4007
STD. ERROR OF EST. 0.2019

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 14 | 31.912 | 2.279 | 55.925 |
| RESIDUAL | 4094 | 166.868 | 0.041 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.04754 ) | | |
| Q10 | 1 | -0.04645 | 0.01935 | 5.7650 |
| 3X5 | 3 | -0.03809 | 0.01582 | 5.7933 |
| Q56 | 4 | 0.02424 | 0.01815 | 1.7834 |
| Q28 | 14 | 0.02035 | 0.01200 | 2.8762 |
| Q29 | 15 | -0.00613 | 0.01569 | 3.1528 |
| 3X4 | 17 | 0.35350 | 0.01805 | 383.4937 |
| 5+6 | 18 | 0.01551 | 0.01788 | 3.7527 |
| 8+9 | 19 | 0.04531 | 0.01937 | 5.4760 |
| 49+58 | 20 | 0.16520 | 0.02153 | 58.8893 |
| 14+17 | 23 | 0.00863 | 0.01819 | 3.2251 |
| 18+26 | 24 | 0.08928 | 0.00911 | 95.1024 |
| 21+24 | 26 | 0.05956 | 0.01487 | 15.5053 |
| (E) | 28 | 0.02654 | 0.01140 | 5.4196 |
| (F) | 30 | 0.04233 | 0.02412 | 3.3796 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.06565 | 0.9765 | 17.7160 |
| Q13 | 6 | 0.62975 | 0.7849 | 2689.9976 |
| Q14 | 7 | 0.23711 | 0.5615 | 243.8245 |
| Q15 | 8 | -0.00106 | 0.9735 | 0.0046 |
| Q17 | 9 | -0.23711 | 0.3854 | 243.8245 |
| Q16 | 10 | 0.04196 | 0.9337 | 7.2203 |
| Q23 | 11 | 0.05077 | 0.7416 | 10.5763 |
| Q26 | 12 | 0.07823 | 0.6391 | 25.2060 |
| Q27 | 13 | 0.08294 | 0.6808 | 28.3533 |
| 2+7 | 16 | -0.02210 | 0.9705 | 1.9992 |
| 61+62 | 21 | 0.04911 | 0.8713 | 9.8949 |
| 14+15 | 22 | 0.09838 | 0.8202 | 40.0053 |
| 20+27 | 25 | 0.00567 | 0.2709 | 0.1314 |
| 22+25 | 27 | 0.14520 | 0.3991 | 88.1517 |
| (P) | 29 | 0.07316 | 0.8983 | 22.0231 |
| (I) | 31 | 0.15959 | 0.8658 | 106.9718 |
| 30+31 | 32 | 0.00086 | 0.9787 | 0.0030 |

F-LEVEL INSUFFICIENT FOR FUPTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDEN VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 3X4 17 | | 0.3115 | 0.0970 | 0.0970 | 441.3582 | 1 |
| 2 | 18+26 24 | | 0.3629 | 0.1317 | 0.0346 | 163.6951 | 2 |
| 3 | 49+58 20 | | 0.3871 | 0.1498 | 0.0182 | 87.7851 | 3 |
| 4 | 21+24 26 | | 0.3913 | 0.1531 | 0.0033 | 15.8722 | 4 |
| 5 | (E) 28 | | 0.3937 | 0.1550 | 0.0019 | 9.0155 | 5 |
| 6 | Q10 1 | | 0.3960 | 0.1569 | 0.0019 | 9.1652 | 6 |
| 7 | Q28 14 | | 0.3971 | 0.1577 | 0.0009 | 4.2376 | 7 |
| 8 | (F) 30 | | 0.3983 | 0.1584 | 0.0007 | 3.4241 | 8 |
| 9 | Q55 3 | | 0.3985 | 0.1589 | 0.0005 | 2.1937 | 9 |
| 10 | 8+9 19 | | 0.4003 | 0.1600 | 0.0011 | 5.3447 | 10 |
| 11 | Q56 4 | | 0.4004 | 0.1603 | 0.0003 | 1.6045 | 11 |
| 12 | 5+6 18 | | 0.4005 | 0.1605 | 0.0002 | 0.7997 | 12 |
| 13 | 14+17 23 | | 0.4005 | 0.1605 | 0.0000 | 0.2241 | 13 |
| 14 | Q29 15 | | 0.4007 | 0.1605 | 0.0000 | 0.1528 | 14 |

## Table 5-8. Inadequacy Index

SUB-PROBLM 13
DEPENDENT VARIABLE I
MAXIMUM NUMBER OF STEPS 64
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 17

MULTIPLE R 0.1215
STD. ERROR OF EST. 0.1059

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 0.691 | 0.691 | 61.556 |
| RESIDUAL | 4107 | 46.095 | 0.011 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.40404 ) | | |
| 3X4 17 | 0.07172 | 0.00914 | 61.5551 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.03965 | 0.9964 | 6.3997 |
| Q32 | 2 | 0.65441 | 0.9980 | 3075.5350 |
| Q55 | 3 | -0.07831 | 0.9666 | 25.3320 |
| Q56 | 4 | 0.02911 | 0.9905 | 3.4833 |
| Q12 | 5 | 0.14743 | 0.9030 | 91.2317 |
| Q13 | 6 | 0.31775 | 0.8378 | 461.1254 |
| Q14 | 7 | 0.09042 | 0.9964 | 33.8458 |
| Q15 | 8 | -0.03024 | 0.9996 | 3.7590 |
| Q17 | 9 | 0.22356 | 0.9912 | 216.0064 |
| Q16 | 10 | 0.05871 | 0.9994 | 14.1998 |
| Q23 | 11 | 0.03117 | 0.9950 | 3.9929 |
| Q26 | 12 | -0.02923 | 0.9937 | 3.5118 |
| Q27 | 13 | -0.00015 | 0.9926 | 0.0001 |
| Q28 | 14 | -0.19687 | 0.9998 | 165.5521 |
| Q29 | 15 | 0.02940 | 0.9966 | 3.5527 |
| 2+7 | 16 | -0.01721 | 0.9938 | 1.2168 |
| [illegible]6 | 18 | -0.02215 | 0.9999 | 2.0150 |
| 6+9 | 19 | -0.09073 | 0.9619 | 34.9788 |
| 49+58 | 20 | 0.03875 | 0.9974 | 6.1744 |
| 61+62 | 21 | 0.06704 | 0.9931 | 18.5351 |
| 14+15 | 22 | 0.02165 | 1.0000 | 1.9255 |
| 14+17 | 23 | 0.23928 | 0.9976 | 249.3737 |
| 18+26 | 24 | 0.02051 | 0.9816 | 1.7273 |
| 20+27 | 25 | 0.02861 | 0.9872 | 3.3638 |
| 21+24 | 26 | -0.05222 | 0.9909 | 11.2280 |
| 22+25 | 27 | 0.06735 | 0.9851 | 18.7091 |
| (E) | 28 | 0.10250 | 0.9943 | 43.6009 |
| (P) | 29 | 0.10205 | 0.9975 | 43.2121 |
| (F) | 30 | 0.00543 | 0.9985 | 0.1209 |
| 30+31 | 32 | -0.09237 | 0.9992 | 35.3320 |

STEP NUMBER 2
VARIABLE ENTERED 28

MULTIPLE R 0.1585
STD. ERROR OF EST. 0.1054

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 1.175 | 0.588 | 52.898 |
| RESIDUAL | 4106 | 45.611 | 0.011 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.39371 ) | | |
| 3X4 17 | 0.06717 | 0.00912 | 54.2631 |
| (E) 28 | 0.03510 | 0.00532 | 43.6339 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.03819 | 0.9962 | 5.9949 |
| Q32 | 2 | 0.65068 | 0.9872 | 3014.1697 |
| Q55 | 3 | -0.04772 | 0.8638 | 9.3687 |
| Q56 | 4 | 0.02207 | 0.9856 | 2.0002 |
| Q12 | 5 | 0.13732 | 0.8911 | 78.8935 |
| Q13 | 6 | 0.30869 | 0.8238 | 432.3524 |

Table 5-8. (Continued)

| | | | | |
|---|---|---|---|---|
| Q14 | 7 | 0.08082 | 0.9881 | 26.9868 |
| Q15 | 8 | -0.03851 | 0.9936 | 6.0953 |
| Q17 | 9 | 0.23474 | 0.9835 | 239.3860 |
| Q16 | 10 | 0.05416 | 0.9971 | 12.0760 |
| Q23 | 11 | 0.00562 | 0.9322 | 0.1297 |
| Q26 | 12 | -0.04240 | 0.9786 | 7.3946 |
| Q27 | 13 | -0.01312 | 0.9771 | 0.7070 |
| Q28 | 14 | -0.19714 | 0.9998 | 165.9889 |
| Q29 | 15 | 0.02938 | 0.9966 | 3.5454 |
| 2+7 | 16 | -0.01160 | 0.9907 | 0.5528 |
| 5+6 | 18 | -0.03704 | 0.9803 | 5.6400 |
| 8+9 | 19 | -0.07209 | 0.9236 | 21.4429 |
| 49+58 | 20 | 0.01508 | 0.9419 | 0.9334 |
| 61+62 | 21 | 0.04046 | 0.9171 | 6.7308 |
| 14+15 | 22 | 0.01016 | 0.9872 | 0.4236 |
| 14+17 | 23 | 0.24083 | 0.9975 | 252.7493 |
| 18+26 | 24 | -0.00133 | 0.9372 | 0.0073 |
| 20+27 | 25 | 0.00949 | 0.9520 | 0.3694 |
| 21+24 | 26 | -0.05686 | 0.9891 | 13.3158 |
| 22+25 | 27 | 0.05751 | 0.9748 | 13.6235 |
| (P) | 29 | 0.07707 | 0.9211 | 24.5301 |
| (F) | 30 | 0.00270 | 0.9977 | 0.0300 |
| 30+31 | 32 | -0.09037 | 0.9986 | 33.8016 |

STEP NUMBER 3
VARIABLE ENTERED 29

MULTIPLE R 0.1758
STD. ERROR OF EST. 0.1051

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 1.446 | 0.482 | 43.644 |
| RESIDUAL | 4105 | 45.340 | 0.011 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.38811 ) | | |
| 3X4 | 17 | 0.06583 | 0.00910 | 52.3522 |
| (E) | 28 | 0.02754 | 0.00552 | 24.9171 |
| (P) | 29 | 0.03171 | 0.00640 | 24.5331 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 2 | 0.04151 | 0.9945 | 7.0841 |
| Q32 | 2 | 0.64821 | 0.9783 | 2976.3164 |
| Q55 | 3 | -0.04434 | 0.8619 | 8.0855 |
| Q56 | 4 | 0.02776 | 0.9805 | 3.1640 |
| Q12 | 5 | 0.13148 | 0.8843 | 72.1907 |
| Q13 | 6 | 0.30394 | 0.8173 | 417.7257 |
| Q14 | 7 | 0.07906 | 0.9874 | 25.8101 |
| Q15 | 8 | -0.03437 | 0.9905 | 4.8527 |
| Q17 | 9 | 0.24317 | 0.9759 | 257.9385 |
| Q16 | 10 | 0.05376 | 0.9971 | 11.8951 |
| Q23 | 11 | 0.00183 | 0.9299 | 0.0137 |
| Q26 | 12 | -0.04428 | 0.9781 | 8.0642 |
| Q27 | 13 | -0.01526 | 0.9764 | 0.9555 |
| Q28 | 14 | -0.19905 | 0.9995 | 169.3188 |
| Q29 | 15 | 0.03073 | 0.9963 | 3.8707 |
| 2+7 | 16 | -0.01096 | 0.9907 | 0.4932 |
| 5+6 | 18 | -0.03945 | 0.9795 | 6.3984 |
| 8+9 | 19 | -0.06585 | 0.9166 | 17.8709 |
| 49+58 | 20 | 0.00925 | 0.9364 | 0.3515 |
| 61+62 | 21 | 0.03506 | 0.9123 | 5.0517 |
| 14+15 | 22 | 0.01261 | 0.9862 | 0.6526 |
| 14+17 | 23 | 0.24597 | 0.9948 | 264.2848 |
| 18+26 | 24 | -0.00491 | 0.9352 | 0.0990 |
| 20+27 | 25 | 0.00647 | 0.9507 | 0.1828 |
| 21+24 | 26 | -0.05867 | 0.9887 | 14.1754 |
| 22+25 | 27 | 0.05528 | 0.9715 | 11.6820 |
| (F) | 30 | 0.00127 | 0.9974 | 0.0066 |
| 30+31 | 32 | -0.09283 | 0.9978 | 35.6701 |

Table 5-8. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 19

MULTIPLE R 0.1874
STD. ERROR OF EST. 0.1049

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 1.643 | 0.411 | 37.335 |
| RESIDUAL | 4104 | 45.143 | 0.011 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.40593 ) | | | | | | | |
| 3X4 | 17 | 0.05872 | 0.00923 | 40.4432 | Q10 | 1 | 0.03046 | 0.9637 | 3.8091 |
| 8+9 | 19 | -0.03565 | 0.00843 | 17.8739 | Q32 | 2 | 0.64695 | 0.9752 | 2953.3952 |
| (E) | 28 | 0.02353 | 0.00559 | 17.7323 | Q55 | 3 | -0.01226 | 0.6341 | 0.6165 |
| (P) | 29 | 0.02936 | 0.00641 | 20.9547 | Q56 | 4 | 0.01669 | 0.9514 | 1.1437 |
| | | | | | Q12 | 5 | 0.13396 | 0.8834 | 74.9747 |
| | | | | | Q13 | 6 | 0.30370 | 0.8171 | 416.8771 |
| | | | | | Q14 | 7 | 0.08262 | 0.9849 | 28.2029 |
| | | | | | Q15 | 8 | -0.03492 | 0.9905 | 5.0097 |
| | | | | | Q17 | 9 | 0.24617 | 0.9747 | 264.6708 |
| | | | | | Q16 | 10 | 0.06251 | 0.9818 | 16.0956 |
| | | | | | Q23 | 11 | -0.00525 | 0.9193 | 0.1133 |
| | | | | | Q26 | 12 | -0.04298 | 0.977[illegible] | 7.5924 |
| | | | | | Q27 | 13 | -0.01487 | 0.9764 | 0.9080 |
| | | | | | Q28 | 14 | -0.18993 | 0.9565 | 153.5515 |
| | | | | | Q29 | 15 | 0.02014 | 0.9690 | 1.6644 |
| | | | | | 2+7 | 16 | -0.00938 | 0.9901 | 0.3607 |
| | | | | | 5+6 | 18 | -0.03723 | 0.9783 | 5.6549 |
| | | | | | 49+58 | 20 | 0.00944 | 0.9364 | 0.3657 |
| | | | | | 61+62 | 21 | 0.02373 | 0.8832 | 2.3127 |
| | | | | | 14+15 | 22 | 0.01393 | 0.9858 | 0.7958 |
| | | | | | 14+17 | 23 | 0.25100 | 0.9911 | 275.8637 |
| | | | | | 18+26 | 24 | -0.00903 | 0.9316 | 0.3349 |
| | | | | | 20+27 | 25 | 0.00295 | 0.9477 | 0.0357 |
| | | | | | 21+24 | 26 | -0.06050 | 0.9881 | 15.0750 |
| | | | | | 22+25 | 27 | 0.05029 | 0.9693 | 10.4022 |
| | | | | | (F) | 30 | 0.01204 | 0.9716 | 3.5950 |
| | | | | | 30+31 | 32 | -0.09384 | 0.9977 | 36.4515 |

STEP NUMBER 5
VARIABLE ENTERED 18

MULTIPLE R 0.1909
STD. ERROR OF EST. 0.1048

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 1.705 | 0.341 | 31.041 |
| RESIDUAL | 4103 | 45.081 | 0.011 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.42315 ) | | | | | | | |
| 3X4 | 17 | 0.05883 | 0.00923 | 40.6435 | Q10 | 1 | 0.02520 | 0.9422 | 2.6063 |
| 5+6 | 18 | -0.02160 | 0.00905 | 5.6949 | Q32 | 2 | 0.64736 | 0.9752 | 2959.1215 |
| 8+9 | 19 | -0.03494 | 0.00843 | 17.1627 | Q55 | 3 | -0.01033 | 0.6324 | 0.4376 |
| (E) | 28 | 0.02528 | 0.00563 | 20.1524 | Q56 | 4 | 0.01154 | 0.9323 | 0.5461 |
| (P) | 29 | 0.02986 | 0.00641 | 21.6734 | Q12 | 5 | 0.13570 | 0.8819 | 76.9516 |
| | | | | | Q13 | 6 | 0.30481 | 0.8167 | 420.1421 |
| | | | | | Q14 | 7 | 0.08328 | 0.9847 | 28.6510 |
| | | | | | Q15 | 8 | -0.03405 | 0.9890 | 4.7622 |
| | | | | | Q17 | 9 | 0.24662 | 0.9746 | 265.6446 |
| | | | | | Q16 | 10 | 0.06484 | 0.9785 | 17.3166 |
| | | | | | Q23 | 11 | -0.00312 | 0.9162 | 0.0398 |
| | | | | | Q26 | 12 | -0.04216 | 0.9772 | 7.3055 |
| | | | | | Q27 | 13 | -0.01467 | 0.9763 | 0.8833 |
| | | | | | Q28 | 14 | -0.18842 | 0.9541 | 150.9958 |
| | | | | | Q29 | 15 | 0.01473 | 0.9472 | 0.8906 |
| | | | | | [illegible]7 | 16 | -0.00568 | 0.9801 | 0.1322 |
| | | | | | 49+58 | 20 | 0.01449 | 0.9202 | 0.8609 |
| | | | | | 61+62 | 21 | 0.02589 | 0.8804 | 2.7507 |
| | | | | | 14+15 | 22 | 0.01496 | 0.9851 | 0.9182 |
| | | | | | 14+17 | 23 | 0.25182 | 0.9908 | 277.7247 |
| | | | | | 18+26 | 24 | -0.00821 | 0.9311 | 0.2765 |
| | | | | | 20+27 | 25 | 0.00295 | 0.9477 | 0.0357 |
| | | | | | 21+24 | 26 | -0.05831 | 0.9841 | 13.9961 |
| | | | | | 22+25 | 27 | 0.05230 | 0.9668 | 11.2508 |
| | | | | | (F) | 30 | 0.01472 | 0.9667 | 0.8887 |
| | | | | | 30+31 | 32 | -0.09230 | 0.9956 | 35.2480 |

Table 5-8. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 1

MULTIPLE R 0.1925
STD. ERROR OF EST. 0.1048

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSIO' | 6 | 1.734 | 0.289 | 26.312 |
| RESIDUAL | 4102 | 45.052 | 0.011 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.41037 ) | | |
| Q10 | 1 | 0.01093 | 0.00677 | 2.6053 |
| 3X4 | 17 | 0.05841 | 0.00923 | 40.0355 |
| 5+6 | 18 | -0.01960 | 0.00915 | 4.6911 |
| 8+9 | 19 | -0.03255 | 0.00856 | 14.4554 |
| (E) | 28 | 0.02515 | 0.00563 | 19.9657 |
| (P) | 29 | 0.03040 | 0.00642 | 22.4238 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.64716 | 0.9747 | 2955.3382 |
| Q55 | 3 | -0.00838 | 0.6285 | 0.2879 |
| Q56 | 4 | -0.00801 | 0.4906 | 0.2631 |
| Q12 | 5 | 0.13714 | 0.8798 | 78.6059 |
| Q13 | 6 | 0.30543 | 0.8164 | 421.9348 |
| Q14 | 7 | 0.08373 | 0.9844 | 28.9534 |
| Q15 | 8 | -0.03356 | 0.9895 | 4.6240 |
| Q17 | 9 | 0.24627 | 0.9743 | 264.7725 |
| Q16 | 10 | 0.06699 | 0.9727 | 18.4866 |
| Q23 | 11 | -0.00297 | 0.9162 | 0.0362 |
| Q26 | 12 | -0.04245 | 0.9771 | 7.4017 |
| Q27 | 13 | -0.01509 | 0.9761 | 0.9347 |
| Q28 | 14 | -0.18747 | 0.9518 | 149.3777 |
| Q29 | 15 | 0.00025 | 0.6324 | 0.0003 |
| 2+7 | 16 | -0.00568 | 0.9801 | 0.1324 |
| 49+58 | 20 | 0.01705 | 0.9113 | 1.1928 |
| 61+62 | 21 | 0.02611 | 0.8803 | 2.7977 |
| 14+15 | 22 | 0.01558 | 0.9845 | 0.9962 |
| 14+17 | 23 | 0.25179 | 0.9908 | 277.5981 |
| 18+26 | 24 | -0.00796 | 0.9310 | 0.2597 |
| 20+27 | 25 | 0.00295 | 0.9477 | 0.0357 |
| 21+24 | 26 | -0.05789 | 0.9838 | 13.7918 |
| 22+25 | 27 | 0.05323 | 0.9656 | 11.6520 |
| (F) | 30 | 0.01569 | 0.9654 | 1.0098 |
| 30+31 | 32 | -0.09154 | 0.9945 | 34.6551 |

STEP NUMBER 7
VARIABLE ENTERED 20

MULTIPLE R 0.1932
STD. ERROR OF EST. 0.1048

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 1.747 | 0.250 | 22.725 |
| RESIDUAL | 4101 | 45.039 | 0.011 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.40774 ) | | |
| Q10 | 1 | 0.01166 | 0.00680 | 2.9390 |
| 3X4 | 17 | 0.05911 | 0.00925 | 40.8142 |
| 5+6 | 18 | -0.02057 | 0.00922 | 4.9876 |
| 8+9 | 19 | -0.03237 | 0.00856 | 14.2924 |
| 49+58 | 20 | 0.01214 | 0.01112 | 1.1928 |
| (E) | 28 | 0.02395 | 0.00574 | 17.4276 |
| (P) | 29 | 0.02993 | 0.00644 | 21.6272 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.64763 | 0.9745 | 2961.9099 |
| Q55 | 3 | -0.00872 | 0.6282 | 0.3116 |
| Q56 | 4 | -0.00701 | 0.4888 | 0.2016 |
| Q12 | 5 | 0.13610 | 0.8677 | 77.3759 |
| Q13 | 6 | 0.30554 | 0.8056 | 422.1597 |
| Q14 | 7 | 0.08310 | 0.9827 | 28.5079 |
| Q15 | 8 | -0.03331 | 0.9893 | 4.5553 |
| Q17 | 9 | 0.24600 | 0.9739 | 264.0875 |
| Q16 | 10 | 0.06589 | 0.9670 | 17.8760 |
| Q23 | 11 | -0.00272 | 0.9160 | 0.0302 |
| Q26 | 12 | -0.04331 | 0.9749 | 7.7040 |
| Q27 | 13 | -0.01599 | 0.9735 | 1.0462 |
| Q28 | 14 | -0.18925 | 0.9467 | 152.2915 |
| Q29 | 15 | 0.00143 | 0.6294 | 0.0085 |
| 2+7 | 16 | -0.00607 | 0.9796 | 0.1509 |
| 61+62 | 21 | 0.02566 | 0.8797 | 2.7009 |
| 14+15 | 22 | 0.01543 | 0.9844 | 0.9760 |
| 14+17 | 23 | 0.25132 | 0.9888 | 276.4123 |
| 18+26 | 24 | -0.00805 | 0.9310 | 0.2638 |
| 20+27 | 25 | 0.00287 | 0.9476 | 0.0337 |
| 21+24 | 26 | -0.05867 | 0.9821 | 14.1613 |
| 22+25 | 27 | 0.05242 | 0.9630 | 11.2984 |
| (F) | 30 | 0.01572 | 0.9654 | 1.0137 |
| 30+31 | 32 | -0.09227 | 0.9930 | 35.2082 |

Table 5-8. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 30

MULTIPLE R 0.1939
STD. ERROR OF EST. 0.1048

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 1.758 | 0.220 | 20.011 |
| RESIDUAL | 4100 | 45.028 | 0.011 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.40742 ) | | | | | | | |
| Q10 | 1 | 0.01192 | 0.00681 | 3.0650 | Q32 | 2 | 0.64753 | 0.9741 | 2959.6123 |
| 3X4 | 17 | 0.05922 | 0.00925 | 40.9543 | Q55 | 3 | -0.00950 | 0.6267 | 0.3697 |
| 5+6 | 18 | -0.02111 | 0.00923 | 5.2536 | Q56 | 4 | -0.00603 | 0.4869 | 0.1491 |
| 8+9 | 19 | -0.03368 | 0.00866 | 15.1231 | Q12 | 5 | 0.13578 | 0.8673 | 76.9917 |
| 49+58 | 20 | 0.01216 | 0.01112 | 1.1957 | Q13 | 6 | 0.30547 | 0.8056 | 421.8559 |
| (E) | 23 | 0.02373 | 0.00574 | 17.0771 | Q14 | 7 | 0.08290 | 0.9825 | 28.3683 |
| (P) | 29 | 0.02974 | 0.00644 | 21.3611 | Q15 | 8 | -0.03269 | 0.9875 | 4.3839 |
| (F) | 30 | 0.01255 | 0.01247 | 1.0137 | Q17 | 9 | 0.24578 | 0.9735 | 263.5276 |
| | | | | | Q16 | 10 | 0.06558 | 0.9666 | 17.7057 |
| | | | | | Q23 | 11 | -0.00263 | 0.9160 | 0.0284 |
| | | | | | Q26 | 12 | -0.04311 | 0.9747 | 7.6313 |
| | | | | | Q27 | 13 | -0.01579 | 0.9734 | 1.0222 |
| | | | | | Q28 | 14 | -0.18921 | 0.9667 | 152.1978 |
| | | | | | Q29 | 15 | 0.00230 | 0.6274 | 0.0216 |
| | | | | | 2+7 | 16 | -0.00658 | 0.9786 | 0.1776 |
| | | | | | 61+62 | 21 | 0.02558 | 0.8796 | 2.6843 |
| | | | | | 14+15 | 22 | 0.01586 | 0.9837 | 1.0308 |
| | | | | | 14+17 | 23 | 0.25105 | 0.9883 | 275.7135 |
| | | | | | 18+26 | 24 | -0.00811 | 0.9310 | 0.2694 |
| | | | | | 20+27 | 25 | 0.00279 | 0.9476 | 0.0320 |
| | | | | | 21+24 | 26 | -0.05885 | 0.9820 | 14.2454 |
| | | | | | 22+25 | 27 | 0.05234 | 0.9630 | 11.2621 |
| | | | | | 30+31 | 32 | -0.09243 | 0.9929 | 35.3170 |

STEP NUMBER 9
VARIABLE ENTERED 3

MULTIPLE R 0.1941
STD. ERROR OF EST. 0.1048

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 1.762 | 0.196 | 17.826 |
| RESIDUAL | 4099 | 45.024 | 0.011 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.40844 ) | | | | | | | |
| Q10 | 1 | 0.01161 | 0.00683 | 2.8926 | Q32 | 2 | 0.64790 | 0.9737 | 2964.7938 |
| Q55 | 3 | -0.00497 | 0.00817 | 3.3697 | Q56 | 4 | -0.00653 | 0.4856 | 0.1746 |
| 3X4 | 17 | 0.05877 | 0.00928 | 40.0631 | Q12 | 5 | 0.13549 | 0.8654 | 76.6417 |
| 5+6 | 18 | -0.02097 | 0.00924 | 5.1537 | Q13 | 6 | 0.30555 | 0.8018 | 421.9892 |
| 8+9 | 19 | -0.03070 | 0.00994 | 9.5332 | Q14 | 7 | 0.08344 | 0.9804 | 28.7298 |
| 49+58 | 20 | 0.01229 | 0.01112 | 1.2225 | Q15 | 8 | -0.03259 | 0.9874 | 4.3569 |
| (E) | 20 | 0.02278 | 0.00595 | 14.6719 | Q17 | 7 | 0.24611 | 0.9729 | 264.2166 |
| (P) | 29 | 0.02970 | 0.00644 | 21.2780 | Q16 | 10 | 0.06561 | 0.9664 | 17.7173 |
| (F) | 30 | 0.01292 | 0.01249 | 1.3716 | Q23 | 11 | -0.00269 | 0.9159 | 0.0297 |
| | | | | | Q26 | 12 | -0.04340 | 0.9739 | 7.7321 |
| | | | | | Q27 | 13 | -0.01601 | 0.9729 | 1.0512 |
| | | | | | Q28 | 14 | -0.18907 | 0.9463 | 151.9176 |
| | | | | | Q29 | 15 | 0.00172 | 0.6251 | 0.0122 |
| | | | | | 2+7 | 16 | -0.00621 | 0.9770 | 0.1579 |
| | | | | | 61+62 | 21 | 0.02526 | 0.8786 | 2.6172 |
| | | | | | 14+15 | 22 | 0.01617 | 0.9827 | 1.0714 |
| | | | | | 14+17 | 23 | 0.25187 | 0.9857 | 277.5748 |
| | | | | | 18+26 | 24 | -0.00853 | 0.9292 | 0.2982 |
| | | | | | 20+27 | 25 | 0.00242 | 0.9461 | 0.0239 |
| | | | | | 21+24 | 26 | -0.05932 | 0.9802 | 14.4694 |
| | | | | | 22+25 | 27 | 0.05206 | 0.9619 | 11.1355 |
| | | | | | 30+31 | 32 | -0.09257 | 0.9927 | 35.4239 |

Table 5-8. (Continued)

STEP NUMBER 10
VARIABLE ENTERED 4

MULTIPLE R 0.1942
STD. ERROR OF EST. 0.1048

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 1.764 | 0.176 | 16.058 |
| RESIDUAL | 4098 | 45.022 | 0.011 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.40950 ) | | |
| Q10 | 1 | 0.01428 | 0.00934 | 2.3352 |
| Q55 | 3 | -0.00514 | 0.00818 | 0.3950 |
| Q56 | 4 | -0.00388 | 0.00928 | 0.1746 |
| 3X4 | 17 | 0.05897 | 0.00930 | 40.2220 |
| 5+6 | 18 | -0.02113 | 0.00925 | 5.2196 |
| 8+9 | 19 | -0.03082 | 0.00995 | 9.5944 |
| 49+58 | 20 | 0.01202 | 0.01114 | 1.1647 |
| (E) | 28 | 0.02300 | 0.00597 | 14.8370 |
| (P) | 29 | 0.02954 | 0.00645 | 20.9637 |
| (F) | 30 | 0.01261 | 0.01251 | 1.0137 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.64794 | 0.9732 | 2964.6860 |
| Q12 | 5 | 0.13563 | 0.8652 | 75.7835 |
| Q13 | 6 | 0.30561 | 0.8018 | 422.0617 |
| Q14 | 7 | 0.08364 | 0.9797 | 28.8625 |
| Q15 | 8 | -0.03235 | 0.9858 | 4.2921 |
| Q17 | 9 | 0.24622 | 0.9727 | 264.4144 |
| Q16 | 10 | 0.06555 | 0.9665 | 17.6774 |
| Q23 | 11 | -0.00277 | 0.9158 | 0.0314 |
| Q26 | 12 | -0.04362 | 0.9730 | 7.8095 |
| Q27 | 13 | -0.01620 | 0.9721 | 1.0749 |
| Q28 | 14 | -0.18958 | 0.9442 | 152.7389 |
| Q29 | 15 | 0.00294 | 0.6051 | 0.0354 |
| 2+7 | 16 | -0.00611 | 0.9768 | 0.1529 |
| 61+62 | 21 | 0.02498 | 0.8765 | 2.5579 |
| 14+15 | 22 | 0.01648 | 0.9806 | 1.1136 |
| 14+17 | 23 | 0.25216 | 0.9349 | 278.1850 |
| 18+26 | 24 | -0.00875 | 0.9282 | 0.3136 |
| 20+27 | 25 | 0.00218 | 0.9448 | 0.0194 |
| 21+24 | 26 | -0.05934 | 0.9802 | 14.4791 |
| 22+25 | 27 | 0.05205 | 0.9619 | 11.1301 |
| 30+31 | 32 | -0.09263 | 0.9927 | 35.4566 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 3X4 17 | | 0.1215 | 0.0148 | 0.0148 | 61.5561 | 1 |
| 2 | (E) 28 | | 0.1585 | 0.0251 | 0.0104 | 43.6009 | 2 |
| 3 | (P) 29 | | 0.1758 | 0.0309 | 0.0058 | 24.5301 | 3 |
| 4 | 8+9 19 | | 0.1874 | 0.0351 | 0.0042 | 17.8709 | 4 |
| 5 | 5+6 18 | | 0.1909 | 0.0364 | 0.0013 | 5.6949 | 5 |
| 6 | Q10 1 | | 0.1925 | 0.0371 | 0.0006 | 2.6063 | 6 |
| 7 | 49+58 20 | | 0.1932 | 0.0373 | 0.0003 | 1.1928 | 7 |
| 8 | (F) 30 | | 0.1939 | 0.0376 | 0.0002 | 1.0137 | 8 |
| 9 | Q55 3 | | 0.1941 | 0.0377 | 0.0001 | 0.3697 | 9 |
| 10 | Q56 4 | | 0.1942 | 0.0377 | 0.0000 | 0.1746 | 10 |

FINISH CARD ENCOUNTERED
PROGRAM TERMINATED

## Table 5-9. Desired Acquisition Time for Information

SUB-PROBLM 7
DEPENDENT VARIABLE Q13
MAXIMUM NUMBER OF STEPS 64
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 17

MULTIPLE R 0.4027
STD. ERROR OF EST. 0.3344

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 88.897 | 88.897 | 795.051 |
| RESIDUAL | 4107 | 459.216 | 0.112 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.18287 ) | | |
| 3X4 17 | 0.81353 | 0.02885 | 795.0539 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02049 | 0.9964 | 1.7252 |
| Q32 | 2 | 0.06806 | 0.9980 | 19.1054 |
| Q55 | 3 | -0.10259 | 0.9666 | 43.6706 |
| Q56 | 4 | -0.00818 | 0.9905 | 0.2748 |
| Q12 | 5 | 0.65176 | 0.9030 | 3032.3045 |
| Q14 | 7 | 0.17299 | 0.9984 | 126.6452 |
| Q15 | 8 | -0.02391 | 0.9996 | 2.3489 |
| Q17 | 9 | -0.16476 | 0.9912 | 114.5749 |
| Q16 | 10 | 0.05466 | 0.9996 | 12.3026 |
| Q23 | 11 | 0.13334 | 0.9950 | 74.3246 |
| Q26 | 12 | 0.14379 | 0.9937 | 86.6808 |
| Q27 | 13 | 0.14771 | 0.9926 | 91.5883 |
| Q28 | 14 | 0.02049 | 0.9998 | 1.7242 |
| Q29 | 15 | -0.02053 | 0.9986 | 1.7314 |
| 2*7 | 16 | -0.07614 | 0.9938 | 23.9427 |
| 5*6 | 18 | 0.04184 | 0.9999 | 7.1997 |
| 8*9 | 19 | -0.04706 | 0.9619 | 9.1121 |
| 49*58 | 20 | 0.14996 | 0.9974 | 94.4541 |
| 61*62 | 21 | 0.09396 | 0.9931 | 36.5758 |
| 14*15 | 22 | 0.06846 | 1.0000 | 19.3323 |
| 14*17 | 23 | -0.01676 | 0.9976 | 1.1534 |
| 18*26 | 24 | 0.18468 | 0.9816 | 144.9826 |
| 20*27 | 25 | 0.16067 | 0.9872 | 108.8013 |
| 21*24 | 26 | 0.09824 | 0.9909 | 40.0120 |
| 22*25 | 27 | 0.15986 | 0.9851 | 107.6784 |
| (E) | 28 | 0.12954 | 0.9943 | 70.0777 |
| (P) | 29 | 0.12047 | 0.9975 | 60.4721 |
| (F) | 30 | 0.01169 | 0.9985 | 0.5615 |
| (I) | 31 | 0.31775 | 0.9852 | 461.1254 |
| 30*31 | 32 | -0.03000 | 0.9992 | 3.6989 |

STEP NUMBER 2
VARIABLE ENTERED 25

MULTIPLE R 0.4287
STD. ERROR OF EST. 0.3301

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 100.751 | 50.376 | 462.360 |
| RESIDUAL | 4106 | 447.362 | 0.109 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.08937 ) | | |
| 3X4 17 | 0.77966 | 0.02867 | 739.7759 |
| 20*27 25 | 0.14834 | 0.01428 | 108.8013 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02256 | 0.9963 | 2.0897 |
| Q32 | 2 | 0.05478 | 0.9902 | 12.3565 |
| Q55 | 3 | -0.08481 | 0.9524 | 29.7404 |
| Q56 | 4 | -0.00763 | 0.9905 | 0.2390 |
| Q12 | 5 | 0.64201 | 0.8769 | 2878.4433 |
| Q14 | 7 | 0.14923 | 0.9682 | 93.4996 |

Table 5-9. (Continued)

| | | | | |
|---|---|---|---|---|
| Q15 | 8 | -0.01832 | 0.9983 | 1.3789 |
| Q17 | 9 | -0.12350 | 0.9006 | 63.5816 |
| Q16 | 10 | 0.05762 | 0.9992 | 13.6750 |
| Q23 | 11 | 0.07569 | 0.8320 | 23.4501 |
| Q26 | 12 | 0.07233 | 0.7316 | 21.6006 |
| Q27 | 13 | 0.06750 | 0.6545 | 18.6789 |
| Q28 | 14 | 0.01804 | 0.9996 | 1.3362 |
| Q29 | 15 | -0.02662 | 0.9953 | 2.9107 |
| 2+7 | 16 | -0.07751 | 0.9938 | 24.8088 |
| 5+6 | 18 | 0.03825 | 0.9992 | 6.0143 |
| 8+9 | 19 | -0.03234 | 0.9532 | 4.2983 |
| 49+58 | 20 | 0.14370 | 0.9947 | 86.5519 |
| 61+62 | 21 | 0.07315 | 0.9737 | 22.0818 |
| 14+15 | 22 | 0.05986 | 0.9965 | 14.7599 |
| 14+17 | 23 | 0.00361 | 0.9817 | 0.0535 |
| 18+26 | 24 | 0.09250 | 0.2705 | 35.4275 |
| 21+24 | 26 | 0.05819 | 0.9203 | 13.9489 |
| 22+25 | 27 | 0.11485 | 0.8787 | 54.8695 |
| (E) | 28 | 0.10236 | 0.9589 | 43.4694 |
| (P) | 29 | 0.10831 | 0.9900 | 48.7301 |
| (F) | 30 | 0.01162 | 0.9985 | 0.5546 |
| (I) | 31 | 0.31741 | 0.9844 | 459.9004 |
| 30+31 | 32 | -0.02239 | 0.9967 | 2.0586 |

STEP NUMBER 3
VARIABLE ENTERED 20

MULTIPLE R 0.4480
STD. ERROR OF EST. 0.3267

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 109.989 | 36.663 | 343.513 |
| RESIDUAL | 4105 | 438.125 | 0.107 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.00775 ) | | |
| 3X4 17 | 0.79462 | 0.02842 | 781.9359 |
| 49+58 20 | 0.30855 | 0.03317 | 86.5519 |
| 20+27 25 | 0.14213 | 0.01415 | 100.8636 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.00665 | 0.9839 | 0.1816 |
| Q32 | 2 | 0.05403 | 0.9901 | 12.0148 |
| Q55 | 3 | -0.07903 | 0.9503 | 25.7948 |
| Q56 | 4 | 0.00828 | 0.9786 | 0.2813 |
| Q12 | 5 | 0.63427 | 0.8578 | 2762.3748 |
| Q14 | 7 | 0.14212 | 0.9646 | 84.6023 |
| Q15 | 8 | -0.01950 | 0.9983 | 1.5613 |
| Q17 | 9 | -0.12599 | 0.9006 | 66.1932 |
| Q16 | 10 | 0.04397 | 0.9893 | 7.9483 |
| Q23 | 11 | 0.07089 | 0.8307 | 20.7281 |
| Q26 | 12 | 0.06459 | 0.7290 | 17.1932 |
| Q27 | 13 | 0.05939 | 0.6521 | 14.5250 |
| Q28 | 14 | 0.00690 | 0.9935 | 0.1955 |
| Q29 | 15 | -0.00845 | 0.9792 | 0.2928 |
| 2+7 | 16 | -0.08128 | 0.9934 | 27.2930 |
| 5+6 | 18 | 0.01554 | 0.9735 | 0.9911 |
| 8+9 | 19 | -0.02598 | 0.9512 | 2.7713 |
| 61+62 | 21 | 0.06026 | 0.9647 | 14.9567 |
| 14+15 | 22 | 0.05527 | 0.9952 | 12.5739 |
| 14+17 | 23 | -0.00318 | 0.9795 | 0.0416 |
| 18+26 | 24 | 0.08852 | 0.2702 | 32.4103 |
| 21+24 | 26 | 0.05175 | 0.9181 | 11.0190 |
| 22+25 | 27 | 0.10557 | 0.8739 | 46.2590 |
| (E) | 28 | 0.07190 | 0.9079 | 21.3279 |
| (P) | 29 | 0.09099 | 0.9726 | 34.2581 |
| (F) | 30 | 0.00902 | 0.9981 | 0.3326 |
| (I) | 31 | 0.31553 | 0.9831 | 453.7818 |
| 30+31 | 32 | -0.02909 | 0.9948 | 3.4770 |

Table 5-9. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 27

MULTIPLE R 0.4578
STD. ERROR OF EST. 0.3249

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 114.872 | 28.718 | 272.040 |
| RESIDUAL | 4104 | 433.241 | 0.106 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | -0.06389 ) | | |
| 3X4 17 | 0.77646 | 0.02839 | 749.1631 |
| 49+58 20 | 0.29186 | 0.03308 | 77.8632 |
| 20+27 25 | 0.10914 | 0.01489 | 53.7573 |
| 22+25 27 | 0.15612 | 0.02295 | 45.2590 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.00335 | 0.9829 | 0.0461 |
| Q32 | 2 | 0.04830 | 0.9869 | 9.5929 |
| Q55 | 3 | -0.07531 | 0.9482 | 23.4041 |
| Q56 | 4 | 0.00968 | 0.9784 | 0.3842 |
| Q12 | 5 | 0.62898 | 0.8310 | 2685.7027 |
| Q14 | 7 | 0.13239 | 0.9537 | 73.1957 |
| Q15 | 8 | -0.02229 | 0.9976 | 2.0401 |
| Q17 | 9 | -0.11356 | 0.8846 | 53.6036 |
| Q16 | 10 | 0.04454 | 0.9893 | 8.1545 |
| Q23 | 11 | 0.05597 | 0.8120 | 12.8956 |
| Q26 | 12 | 0.05790 | 0.7257 | 13.7990 |
| Q27 | 13 | 0.05397 | 0.6501 | 11.9858 |
| Q28 | 14 | 0.01080 | 0.9921 | 0.4783 |
| Q29 | 15 | -0.00590 | 0.9786 | 0.1428 |
| 2+7 | 16 | -0.08153 | 0.9934 | 27.4563 |
| 5+6 | 18 | 0.01051 | 0.9712 | 0.4531 |
| 8+9 | 19 | -0.02192 | 0.9497 | 1.9726 |
| 61+62 | 21 | 0.05626 | 0.9631 | 13.0275 |
| 14+15 | 22 | 0.04795 | 0.9899 | 9.4558 |
| 14+17 | 23 | 0.00025 | 0.9785 | 0.0003 |
| 18+26 | 24 | 0.07451 | 0.2646 | 22.9031 |
| 21+24 | 26 | -0.03809 | 0.4237 | 5.9610 |
| (E) | 28 | 0.06951 | 0.9073 | 19.9193 |
| (P) | 29 | 0.08635 | 0.9702 | 30.8258 |
| (F) | 30 | 0.00857 | 0.9981 | 0.3016 |
| (I) | 31 | 0.31160 | 0.9797 | 441.2285 |
| 30+31 | 32 | -0.03582 | 0.9910 | 5.2725 |

STEP NUMBER 5
VARIABLE ENTERED 3

MULTIPLE R 0.4627
STD. ERROR OF EST. 0.3240

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 117.330 | 23.466 | 223.501 |
| RESIDUAL | 4103 | 430.784 | 0.105 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | -0.01287 ) | | |
| Q55 3 | -0.09933 | 0.02053 | 23.4041 |
| 3X4 17 | 0.75313 | 0.02872 | 687.7646 |
| 49+58 20 | 0.28492 | 0.03302 | 74.4710 |
| 20+27 25 | 0.10193 | 0.01492 | 45.6754 |
| 22+25 27 | 0.15171 | 0.02291 | 43.8515 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.01596 | 0.9565 | 1.0452 |
| Q32 | 2 | 0.04573 | 0.9856 | 8.5967 |
| Q56 | 4 | -0.00487 | 0.9425 | 0.0970 |
| Q12 | 5 | 0.62926 | 0.8366 | 2688.9980 |
| Q14 | 7 | 0.13750 | 0.9503 | 79.0513 |
| Q15 | 8 | -0.02394 | 0.9972 | 2.3515 |
| Q17 | 9 | -0.11164 | 0.8837 | 51.7695 |
| Q16 | 10 | 0.04922 | 0.9858 | 9.9604 |
| Q23 | 11 | 0.04952 | 0.8054 | 10.0829 |
| Q26 | 12 | 0.05932 | 0.7255 | 14.4865 |
| Q27 | 13 | 0.05575 | 0.6498 | 12.7873 |
| Q28 | 14 | 0.02085 | 0.9753 | 1.7867 |
| Q29 | 15 | -0.01898 | 0.9505 | 1.4780 |
| 2+7 | 16 | -0.07666 | 0.9885 | 24.2508 |
| 5+6 | 18 | 0.01243 | 0.9706 | 0.6342 |
| 8+9 | 19 | 0.02190 | 0.6770 | 1.9676 |
| 61+62 | 21 | 0.04345 | 0.9315 | 7.7588 |
| 14+15 | 22 | 0.04907 | 0.9897 | 9.8991 |
| 14+17 | 23 | 0.00497 | 0.9747 | 0.1012 |
| 18+26 | 24 | 0.07097 | 0.2639 | 20.7660 |
| 21+24 | 26 | -0.03752 | 0.4236 | 5.7822 |
| (E) | 28 | 0.04880 | 0.8210 | 9.7904 |
| (P) | 29 | 0.07835 | 0.9571 | 25.3352 |
| (F) | 30 | 0.01738 | 0.9849 | 1.2396 |
| (I) | 31 | 0.30787 | 0.9746 | 429.5148 |
| 30+31 | 32 | -0.03648 | 0.9910 | 5.4661 |

Table 5-9. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 10

MULTIPLE R 0.4647
STD. ERROR OF EST. 0.3237

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 118.373 | 19.729 | 188.318 |
| RESIDUAL | 4102 | 429.740 | 0.105 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.04265 ) | | |
| Q55 | 3 | -0.10316 | 0.02055 | 25.2129 |
| Q16 | 10 | 0.05704 | 0.01807 | 9.9634 |
| 3X4 | 17 | 0.75373 | 0.02869 | 690.3279 |
| 49+58 | 20 | 0.27422 | 0.03315 | 68.4087 |
| 20+27 | 25 | 0.10245 | 0.01490 | 47.2476 |
| 22+25 | 27 | 0.15176 | 0.02289 | 43.9753 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.01182 | 0.9496 | 0.5734 |
| Q32 | 2 | 0.04545 | 0.9855 | 8.4882 |
| Q56 | 4 | -0.00148 | 0.9340 | 0.0090 |
| Q12 | 5 | 0.62829 | 0.8342 | 2674.6835 |
| Q14 | 7 | 0.13665 | 0.9499 | 78.0379 |
| Q15 | 8 | -0.02352 | 0.9971 | 2.2708 |
| Q17 | 9 | -0.11202 | 0.8837 | 52.1200 |
| Q23 | 11 | 0.05152 | 0.8042 | 10.9154 |
| Q26 | 12 | 0.09918 | 0.7255 | 14.4151 |
| Q27 | 13 | 0.05484 | 0.6496 | 12.3687 |
| Q28 | 14 | 0.01238 | 0.9449 | 0.6281 |
| Q29 | 15 | -0.01208 | 0.9311 | 0.5985 |
| 2+7 | 16 | -0.07636 | 0.9884 | 24.0537 |
| 5+6 | 18 | 0.00987 | 0.9679 | 0.3998 |
| 8+9 | 19 | 0.01715 | 0.6704 | 1.2059 |
| 61+62 | 21 | 0.04950 | 0.9300 | 8.5091 |
| 14+15 | 22 | 0.04896 | 0.9897 | 9.8534 |
| 14+17 | 23 | 0.00409 | 0.9744 | 0.0687 |
| 18+26 | 24 | 0.07342 | 0.2633 | 22.2260 |
| 21+24 | 26 | -0.03752 | 0.4236 | 5.7800 |
| (E) | 28 | 0.04645 | 0.8190 | 8.8662 |
| (F) | 29 | 0.07769 | 0.9568 | 24.9007 |
| (F) | 30 | 0.01544 | 0.9834 | 0.9778 |
| (I) | 31 | 0.30582 | 0.9711 | 423.1303 |
| 30+31 | 32 | -0.03398 | 0.9882 | 4.7399 |

STEP NUMBER 7
VARIABLE ENTERED 22

MULTIPLE R 0.4667
STD. ERROR OF EST. 0.3233

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 119.403 | 17.058 | 163.171 |
| RESIDUAL | 4101 | 428.710 | 0.105 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.06066 ) | | |
| Q55 | 3 | -0.10398 | 0.02052 | 25.6667 |
| Q16 | 10 | 0.05684 | 0.01805 | 9.9143 |
| 3X4 | 17 | 0.75416 | 0.02866 | 692.5934 |
| 49+58 | 20 | 0.27102 | 0.03313 | 65.9022 |
| 14+15 | 22 | 0.06883 | 0.02193 | 9.8531 |
| 20+27 | 25 | 0.10098 | 0.01490 | 45.9912 |
| 22+25 | 27 | 0.14647 | 0.02292 | 40.8312 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.01083 | 0.9492 | 0.4810 |
| Q32 | 2 | 0.04661 | 0.9850 | 8.9253 |
| Q56 | 4 | -0.00281 | 0.9373 | 0.0325 |
| Q12 | 5 | 0.62720 | 0.8271 | 2658.7308 |
| Q14 | 7 | 0.13505 | 0.5943 | 76.1720 |
| Q15 | 8 | -0.13505 | 0.2400 | 76.1712 |
| Q17 | 9 | -0.11225 | 0.8837 | 52.3207 |
| Q23 | 11 | 0.04776 | 0.7989 | 9.3744 |
| Q26 | 12 | 0.05843 | 0.7253 | 14.0476 |
| Q27 | 13 | 0.05368 | 0.6492 | 11.8476 |
| Q28 | 14 | 0.01037 | 0.9433 | 0.4412 |
| Q29 | 15 | -0.01130 | 0.9308 | 0.5237 |
| 2+7 | 16 | -0.07867 | 0.9866 | 25.5314 |
| 5+6 | 18 | 0.00833 | 0.9669 | 0.2842 |
| 8+9 | 19 | 0.01705 | 0.6704 | 1.1923 |
| 61+62 | 21 | 0.04433 | 0.9294 | 8.0713 |
| 14+17 | 23 | -0.01714 | 0.8156 | 1.2054 |
| 18+26 | 24 | 0.07350 | 0.2633 | 22.2710 |
| 21+24 | 26 | -0.03755 | 0.4236 | 5.7881 |
| (E) | 28 | 0.04154 | 0.8098 | 7.0870 |
| (F) | 29 | 0.07831 | 0.9567 | 25.2999 |
| (F) | 30 | 0.01648 | 0.9829 | 1.1139 |
| (I) | 31 | 0.30548 | 0.9708 | 421.9778 |
| 30+31 | 32 | -0.03024 | 0.9821 | 3.7538 |

Table 5-9. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 28

MULTIPLE R 0.4682
STD. ERROR OF EST. 0.3231

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 120.143 | 15.018 | 143.873 |
| RESIDUAL | 4130 | 427.971 | 0.104 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.06959 ) | | | | | | | |
| 255 3 | -0.00596 | 0.02160 | 15.0395 | Q10 | 1 | -0.01065 | 0.9491 | 0.4652 |
| Q16 10 | 0.05444 | 0.01806 | 9.0864 | Q32 | 2 | 0.04331 | 0.9781 | 7.7036 |
| 3X4 17 | 0.75295 | 0.02864 | 691.2133 | Q56 | 4 | -0.00675 | 0.9353 | 0.0923 |
| 49+58 20 | 0.25128 | 0.03393 | 54.9514 | Q12 | 5 | 0.62671 | 0.8262 | 2691.2496 |
| 14+15 22 | 0.06261 | 0.02204 | 9.0732 | Q14 | 7 | 0.13493 | 0.5941 | 75.5229 |
| 20+27 25 | 0.19544 | 0.01503 | 43.3277 | Q15 | 8 | -0.13450 | 0.2400 | 75.5221 |
| 22+25 27 | 0.14423 | 0.02291 | 43.9412 | Q17 | 9 | -0.11133 | 0.8832 | 51.4441 |
| (E) 28 | 0.04827 | 0.01806 | 7.0870 | Q23 | 11 | 0.04149 | 0.7779 | 7.0688 |
| | | | | Q26 | 12 | 0.05764 | 0.7258 | 13.6695 |
| | | | | Q27 | 13 | 0.05345 | 0.6491 | 11.7424 |
| | | | | Q28 | 14 | 0.01843 | 0.9633 | 0.4459 |
| | | | | Q29 | 15 | -0.01850 | 0.9305 | 0.4519 |
| | | | | 2*7 | 16 | -0.07681 | 0.9842 | 24.3256 |
| | | | | 5*6 | 18 | 0.00370 | 0.9548 | 0.0561 |
| | | | | 8*9 | 19 | 0.01805 | 0.6700 | 1.3327 |
| | | | | 61*62 | 21 | 0.03679 | 0.8922 | 5.5566 |
| | | | | 14*17 | 23 | -0.01667 | 0.8155 | 1.1393 |
| | | | | 18*26 | 24 | 0.07032 | 0.2615 | 20.3672 |
| | | | | 21*24 | 26 | -0.03515 | 0.4221 | 5.0707 |
| | | | | (P) | 29 | 0.07093 | 0.9097 | 20.7268 |
| | | | | (F) | 30 | 0.01392 | 0.9791 | 0.7963 |
| | | | | (I) | 31 | 0.30359 | 0.9662 | 416.1609 |
| | | | | 30*31 | 32 | -0.02940 | 0.9817 | 3.5464 |

STEP NUMBER 9
VARIABLE ENTERED 19

MULTIPLE R 0.4685
STD. ERROR OF EST. 0.3231

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 120.282 | 13.365 | 128.045 |
| RESIDUAL | 4099 | 427.832 | 0.104 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.07893 ) | | | | | | | |
| 255 3 | -0.10971 | 0.02510 | 19.1094 | Q10 | 1 | -0.00886 | 0.9393 | 0.3221 |
| Q16 10 | 0.05235 | 0.01815 | 8.3174 | Q32 | 2 | 0.04453 | 0.9743 | 8.1405 |
| 3X4 17 | 0.75654 | 0.02881 | 689.6237 | Q56 | 4 | -0.00313 | 0.9276 | 0.0401 |
| 8*9 19 | 0.03937 | 0.01839 | 1.3327 | Q12 | 5 | 0.62665 | 0.8244 | 2649.8150 |
| 49+58 20 | 0.25238 | 0.03394 | 55.2932 | Q14 | 7 | 0.13412 | 0.5938 | 75.0715 |
| 14+15 22 | 0.06249 | 0.02203 | 9.3622 | Q15 | 8 | -0.13412 | 0.2398 | 75.0707 |
| 20+27 25 | 0.19541 | 0.01503 | 43.6134 | Q17 | 9 | -0.11157 | 0.8830 | 41.6575 |
| 22+25 27 | 0.14603 | 0.02291 | 43.9657 | Q23 | 11 | 0.04312 | 0.7717 | 7.6354 |
| (E) 28 | 0.04955 | 0.01806 | 7.2252 | Q26 | 12 | 0.05672 | 0.7227 | 13.2286 |
| | | | | Q27 | 13 | 0.05275 | 0.6480 | 11.4364 |
| | | | | Q28 | 14 | 0.00780 | 0.9217 | 0.2490 |
| | | | | Q29 | 15 | -0.00911 | 0.9247 | 0.3399 |
| | | | | 2*7 | 16 | -0.07680 | 0.9842 | 24.3151 |
| | | | | 5*6 | 18 | 0.00370 | 0.9548 | 0.0560 |
| | | | | 61*62 | 21 | 0.03960 | 0.8759 | 6.4379 |
| | | | | 14*17 | 23 | -0.01711 | 0.8151 | 1.1997 |
| | | | | 18*26 | 24 | 0.07049 | 0.2614 | 20.4621 |
| | | | | 21*24 | 26 | -0.03572 | 0.4217 | 5.2357 |
| | | | | (P) | 29 | 0.07241 | 0.9051 | 21.5976 |
| | | | | (F) | 30 | 0.01207 | 0.9680 | 0.5970 |
| | | | | (I) | 31 | 0.30528 | 0.9627 | 421.1573 |
| | | | | 30*31 | 32 | -0.02937 | 0.9817 | 3.5380 |

Table 5-9. (Continued)

STEP NUMBER 10
VARIABLE ENTERED 1

MULTIPLE R 0.4685
STD. ERROR OF EST. 0.3231

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 120.316 | 12.032 | 115.254 |
| RESIDUAL | 4098 | 427.799 | 0.104 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.06856 ) | | |
| Q10 | 1 | -0.01187 | 0.02091 | 0.3221 |
| Q55 | 3 | -0.10187 | 0.02518 | 16.3652 |
| Q16 | 10 | 0.05158 | 0.01820 | 8.0278 |
| 3X4 | 17 | 0.75684 | 0.02882 | 689.8058 |
| 8+9 | 19 | 0.03331 | 0.03054 | 1.1834 |
| 49+58 | 20 | 0.25030 | 0.03414 | 53.7424 |
| 14+15 | 22 | 0.06224 | 0.02204 | 7.9748 |
| 20+27 | 25 | 0.09587 | 0.01573 | 43.6681 |
| 22+25 | 27 | 0.14609 | 0.02293 | 43.5939 |
| (E) | 28 | 0.04848 | 0.01806 | 7.2037 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.04471 | 0.9739 | 8.2075 |
| Q56 | 4 | 0.00410 | 0.9882 | 0.0687 |
| Q12 | 5 | 0.62678 | 0.8232 | 2650.9089 |
| Q14 | 7 | 0.13422 | 0.5937 | 75.1595 |
| Q15 | 8 | -0.13422 | 0.2398 | 75.1587 |
| Q17 | 9 | -0.11141 | 0.8826 | 51.4950 |
| Q23 | 11 | 0.04301 | 0.7716 | 7.5943 |
| Q26 | 12 | 0.05688 | 0.7225 | 13.2978 |
| Q27 | 13 | 0.05304 | 0.6475 | 11.5576 |
| Q28 | 14 | 0.00749 | 0.9206 | 0.2297 |
| Q29 | 15 | -0.00492 | 0.6212 | 0.0990 |
| 2+7 | 16 | -0.07686 | 0.9842 | 24.3459 |
| 5+6 | 18 | 0.00258 | 0.9390 | 0.0273 |
| 61+62 | 21 | 0.03944 | 0.8755 | 6.3833 |
| 14+17 | 23 | -0.01691 | 0.8146 | 1.1715 |
| 18+26 | 24 | 0.07029 | 0.2613 | 20.3425 |
| 21+24 | 26 | -0.03565 | 0.4217 | 5.2150 |
| (P) | 29 | 0.07207 | 0.9031 | 21.3919 |
| (F) | 30 | 0.01170 | 0.9662 | 0.5612 |
| (I) | 31 | 0.30578 | 0.9616 | 422.5835 |
| 30+31 | 32 | -0.02975 | 0.9801 | 3.6293 |

STEP NUMBER 11
VARIABLE ENTERED 4

MULTIPLE R 0.4685
STD. ERROR OF EST. 0.3231

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 11 | 120.323 | 10.938 | 104.759 |
| RESIDUAL | 4097 | 427.791 | 0.104 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.07031 ) | | |
| Q10 | 1 | -0.01707 | 0.02082 | 0.3536 |
| Q55 | 3 | -0.10149 | 0.02523 | 16.1839 |
| Q56 | 4 | 0.00748 | 0.02852 | 0.0687 |
| Q16 | 10 | 0.05165 | 0.01821 | 8.0451 |
| 3X4 | 17 | 0.75644 | 0.02886 | 685.9730 |
| 8+9 | 19 | 0.03354 | 0.03056 | 1.2044 |
| 49+58 | 20 | 0.25090 | 0.03422 | 53.7461 |
| 14+15 | 22 | 0.06196 | 0.02207 | 7.8830 |
| 20+27 | 25 | 0.09603 | 0.01505 | 40.7275 |
| 22+25 | 27 | 0.14608 | 0.02293 | 43.5724 |
| (E) | 28 | 0.04816 | 0.01811 | 7.0761 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.04484 | 0.9732 | 8.2513 |
| Q12 | 5 | 0.62678 | 0.8231 | 2650.2706 |
| Q14 | 7 | 0.13422 | 0.5937 | 75.1443 |
| Q15 | 8 | -0.13422 | 0.2398 | 75.1435 |
| Q17 | 9 | -0.11145 | .8826 | 51.5126 |
| Q23 | 11 | 0.04304 | 0.7716 | 7.6022 |
| Q26 | 12 | 0.05695 | 0.7223 | 13.3277 |
| Q27 | 13 | 0.05307 | 0.6474 | 11.5695 |
| Q28 | 14 | 0.00769 | 0.9184 | 0.2425 |
| Q29 | 15 | -0.00577 | 0.6000 | 0.1364 |
| 2+7 | 16 | -0.07689 | 0.9841 | 24.3623 |
| 5+6 | 18 | 0.00277 | 0.9370 | 0.0315 |
| 61+62 | 21 | 0.03971 | 0.8732 | 6.4686 |
| 14+17 | 23 | -0.01693 | 0.8146 | 1.1744 |
| 18+26 | 24 | 0.07032 | 0.2613 | 20.3561 |
| 21+24 | 26 | -0.03564 | 0.4217 | 5.2095 |
| (P) | 29 | 0.07245 | 0.8999 | 21.6134 |
| (F) | 30 | 0.01199 | 0.9624 | 0.5885 |
| (I) | 31 | 0.30514 | 0.9615 | 422.8624 |
| 30+31 | 32 | -0.02971 | 0.9800 | 3.6186 |

Table 5-9. (Continued)

STEP NUMBER 12
VARIABLE ENTERED 18

MULTIPLE R 0.4685
STD. ERROR OF EST. 0.3232

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 12 | 120.326 | 10.027 | 96.009 |
| RESIDUAL | 4096 | 427.787 | 0.104 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.07372 ) | | | | | | | |
| Q10 | 1 | -0.01675 | 0.02888 | 0.3352 | Q32 | 2 | 0.04483 | 0.9732 | 8.2480 |
| Q55 | 3 | -0.10165 | 0.02525 | 16.2133 | Q12 | 5 | 0.62680 | 0.8230 | 2649.9472 |
| Q56 | 4 | 0.00771 | 0.02855 | 0.0729 | Q14 | 7 | 0.13426 | 0.5936 | 75.1728 |
| Q16 | 10 | 0.05153 | 0.01822 | 7.9953 | Q15 | 8 | -0.13426 | 0.2398 | 75.1720 |
| 3X4 | 17 | 0.75634 | 0.02887 | 685.3778 | Q17 | 9 | -0.11149 | 0.8825 | 51.5374 |
| 5+6 | 18 | 0.00506 | 0.02852 | 0.0315 | Q23 | 11 | 0.04295 | 0.7690 | 7.5692 |
| 8+9 | 19 | 0.03361 | 0.03057 | 1.2094 | Q26 | 12 | 0.05691 | 0.7220 | 13.3050 |
| 49+58 | 20 | 0.25024 | 0.03443 | 52.8292 | Q27 | 13 | 0.05307 | 0.6474 | 11.5677 |
| 14+15 | 22 | 0.06188 | 0.02208 | 7.8553 | Q28 | 14 | 0.00762 | 0.9178 | 0.2380 |
| 20+27 | 25 | 0.09637 | 0.01505 | 40.7413 | Q29 | 15 | -0.00563 | 0.5982 | 0.1296 |
| 22+25 | 27 | 0.14590 | 0.02296 | 40.3974 | 2+7 | 16 | -0.07750 | 0.9754 | 24.7444 |
| (E) | 28 | 0.04779 | 0.01823 | 6.8717 | 61+62 | 21 | 0.03962 | 0.8709 | 6.4378 |
| | | | | | 14+17 | 23 | -0.01694 | 0.8146 | 1.1754 |
| | | | | | 18+26 | 24 | 0.07027 | 0.2609 | 20.3199 |
| | | | | | 21+24 | 26 | -0.03577 | 0.4210 | 5.2477 |
| | | | | | (P) | 29 | 0.07242 | 0.8997 | 21.5911 |
| | | | | | (E) | 30 | 0.01184 | 0.9590 | 0.5744 |
| | | | | | (I) | 31 | 0.30618 | 0.9600 | 423.5984 |
| | | | | | 30+31 | 32 | -0.02983 | 0.9786 | 3.6478 |

LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDEN VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 3X4 | 17 | 0.4027 | 0.1622 | 0.1622 | 795.0509 | 1 |
| 2 | 20+27 | 25 | 0.4287 | 0.1838 | 0.0216 | 108.8013 | 2 |
| 3 | 49+58 | 20 | 0.4483 | 0.2007 | 0.0169 | 86.5519 | 3 |
| 4 | 22+25 | 27 | 0.4575 | 0.2096 | 0.0087 | 46.2590 | 4 |
| 5 | Q55 | 3 | 0.4627 | 0.2141 | 0.0045 | 23.4041 | 5 |
| 6 | Q16 | 10 | 0.4647 | 0.2160 | 0.0019 | 9.9604 | 6 |
| 7 | 14+15 | 22 | 0.4667 | 0.2178 | 0.0019 | 9.8531 | 7 |
| 8 | (E) | 28 | 0.4682 | 0.2192 | 0.0013 | 7.0870 | 8 |
| 9 | 8+9 | 19 | 0.4685 | 0.2194 | 0.0003 | 1.3327 | 9 |
| 10 | Q10 | 1 | 0.4685 | 0.2195 | 0.0001 | 0.3221 | 10 |
| 11 | Q56 | 4 | 0.4685 | 0.2195 | 0.0000 | 0.0687 | 11 |
| 12 | 5+6 | 18 | 0.4685 | 0 2195 | 0.0000 | 0.0315 | 12 |

## Table 5-10. Location of First Source of Information

Location of First Source for Information

SUB-PROBLM 5
DEPENDENT VARIABLE Q14
MAXIMUM NUMBER OF STEPS 64
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 25

MULTIPLE R 0.1771
STD. ERROR OF EST. 0.2304

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 7.065 | 7.065 | 133.053 |
| RESIDUAL | 4107 | 219.082 | 0.053 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.18363 ) | | | | | | | |
| 20+27 25 | 0.11424 | 0.00990 | 133.0528 | Q10 | 1 | -0.02743 | 0.9997 | 3.0914 |
| | | | | Q32 | 2 | 0.03682 | 0.9914 | 5.5749 |
| | | | | Q55 | 3 | 0.04771 | 0.9806 | 9.3674 |
| | | | | Q56 | 4 | 0.00068 | 1.0000 | 0.0019 |
| | | | | Q12 | 5 | 0.20032 | 0.9617 | 171.6630 |
| | | | | Q13 | 6 | 0.14512 | 0.9632 | 88.3358 |
| | | | | Q15 | 8 | 0.14490 | 0.9985 | 88.0532 |
| | | | | Q17 | 9 | -0.03016 | 0.9041 | 3.7392 |
| | | | | Q16 | 10 | 0.02978 | 0.9997 | 3.6447 |
| | | | | Q23 | 11 | 0.06632 | 0.8326 | 18.1374 |
| | | | | Q26 | 12 | 0.08450 | 0.7321 | 29.5281 |
| | | | | Q27 | 13 | 0.09682 | 0.6549 | 38.8536 |
| | | | | Q28 | 14 | 0.08028 | 0.9998 | 26.6326 |
| | | | | Q29 | 15 | -0.04205 | 0.9982 | 7.2732 |
| | | | | 2+7 | 16 | 0.09201 | 0.9999 | 35.0588 |
| | | | | 3X4 | 17 | 0.01992 | 0.9872 | 1.6256 |
| | | | | 5+6 | 18 | 0.02850 | 0.9993 | 3.3370 |
| | | | | P+, | 19 | 0.03886 | 0.9868 | 6.2103 |
| | | | | 49+58 | 20 | 0.06037 | 0.9979 | 15.0168 |
| | | | | 61+62 | 21 | 0.04830 | 0.9781 | 9.6010 |
| | | | | 14+15 | 22 | 0.61457 | 0.9965 | 2492.1062 |
| | | | | 14+17 | 23 | 0.63764 | 0.9829 | 2813.2071 |
| | | | | 18+26 | 24 | 0.05455 | 0.2721 | 12.2528 |
| | | | | 21+24 | 26 | 0.05319 | 0.9245 | 11.6512 |
| | | | | 22+25 | 27 | 0.11164 | 0.8858 | 51.8163 |
| | | | | (E) | 28 | 0.07243 | 0.9618 | 21.6513 |
| | | | | (P) | 29 | 0.03968 | 0.9916 | 6.4736 |
| | | | | (F) | 30 | 0.02519 | 1.0000 | 2.6071 |
| | | | | (I) | 31 | 0.08852 | 0.9982 | 32.4310 |
| | | | | 30+31 | 32 | -0.07859 | 0.9979 | 25.5194 |

STEP NUMBER 2
VARIABLE ENTERED 8

MULTIPLE R 0.2274
STD. ERROR OF EST. 0.2280

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 11.644 | 5.822 | 111.963 |
| RESIDUAL | 4106 | 213.504 | 0.052 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.14253 ) | | | | | | | |
| Q15 8 | 0.09970 | 0.00967 | 88.0532 | Q10 | 1 | -0.02495 | 0.9993 | 2.5568 |
| 20+27 25 | 0.11777 | 0.00981 | 144.1824 | Q32 | 2 | 0.04397 | 0.9893 | 7.9507 |
| | | | | Q55 | 3 | 0.05104 | 0.9803 | 10.7213 |
| | | | | Q56 | 4 | -0.00264 | 0.9994 | 0.0286 |
| | | | | Q12 | 5 | 0.20230 | 0.9617 | 175.1606 |
| | | | | Q13 | 6 | 0.15005 | 0.9627 | 94.5574 |

Table 5-10. (Continued)

| | | | | |
|---|---|---|---|---|
| Q17 | 9 | -0.03196 | 0.9040 | 4.1976 |
| Q16 | 10 | 0.03144 | 0.9996 | 4.0617 |
| Q23 | 11 | 0.05662 | 0.8283 | 13.2013 |
| Q26 | 12 | 0.08875 | 0.7317 | 32.5934 |
| Q27 | 13 | 0.10095 | 0.6546 | 42.2627 |
| Q28 | 14 | 0.08068 | 0.9998 | 26.8978 |
| Q29 | 15 | -0.04181 | 0.9982 | 7.1884 |
| 2+7 | 16 | 0.09325 | 0.9999 | 36.0065 |
| 3X4 | 17 | 0.02237 | 0.9869 | 2.0554 |
| 5+6 | 18 | 0.02389 | 0.9982 | 2.3433 |
| 8+9 | 19 | 0.04195 | 0.9865 | 7.2354 |
| 49+58 | 20 | 0.05989 | 0.9979 | 14.7756 |
| 61+62 | 21 | 0.04799 | 0.9781 | 9.4761 |
| 14+15 | 22 | 1.00000 | 0.2430 | ********** |
| 14+17 | 23 | 0.63268 | 0.9723 | 2739.8525 |
| 18+26 | 24 | 0.05815 | 0.2719 | 13.9255 |
| 21+24 | 26 | 0.04859 | 0.9233 | 9.7136 |
| 22+25 | 27 | 0.10932 | 0.8853 | 49.6519 |
| (E) | 28 | 0.06097 | 0.9548 | 15.3184 |
| (P) | 29 | 0.04443 | 0.9907 | 8.1204 |
| (F) | 30 | 0.03107 | 0.9985 | 3.9657 |
| (I) | 31 | 0.09403 | 0.9973 | 36.6165 |
| 30+31 | 32 | -0.07337 | 0.9962 | 22.2202 |

STEP NUMBER 3
VARIABLE ENTERED 27

MULTIPLE R 0.2511
STD. ERROR OF EST. 0.2267

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 14.195 | 4.732 | 92.077 |
| RESIDUAL | 4105 | 210.952 | 0.051 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.08747 ) | | |
| Q15 8 | 0.08906 | 0.00961 | 85.8612 |
| 20+27 25 | 0.09305 | 0.01036 | 80.6398 |
| 22+25 27 | 0.11212 | 0.01591 | 49.6519 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02143 | 0.9982 | 1.8852 |
| Q32 | 2 | 0.03747 | 0.9855 | 5.7707 |
| Q55 | 3 | 0.05772 | 0.9771 | 13.7183 |
| Q56 | 4 | -0.00129 | 0.9993 | 0.0068 |
| Q12 | 5 | 0.18651 | 0.9293 | 147.9083 |
| Q13 | 6 | 0.13682 | 0.9436 | 78.2885 |
| Q17 | 9 | -0.01721 | 0.8870 | 1.2158 |
| Q16 | 10 | 0.03135 | 0.9996 | 4.0376 |
| Q23 | 11 | 0.04061 | 0.8089 | 6.7789 |
| Q26 | 12 | 0.08134 | 0.7276 | 27.3359 |
| Q27 | 13 | 0.09496 | 0.6521 | 37.3456 |
| Q28 | 14 | 0.08468 | 0.9988 | 29.6405 |
| Q29 | 15 | -0.03894 | 0.9974 | .2325 |
| 2+7 | 16 | 0.09308 | 0.9998 | 1 .8705 |
| 3X4 | 17 | 0.01264 | 0.9789 | 0.6555 |
| 5+6 | 18 | 0.01756 | 0.9947 | 1 .2660 |
| 8+9 | 19 | 0.04869 | 0.9831 | 9.7531 |
| 49+58 | 20 | 0.05284 | 0.9932 | 11.4902 |
| 61+62 | 21 | 0.04243 | 0.9753 | 7.4018 |
| 14+15 | 22 | 1.00000 | 0.2401 | ********** |
| 14+17 | 23 | 0.64068 | 0.9712 | 2057.4160 |
| 18+26 | 24 | 0.04223 | 0.2656 | 7.3318 |
| 21+24 | 26 | -0.04732 | 0.4234 | 9.2115 |
| (E) | 28 | 0.05637 | 0.9528 | 13.0836 |
| (P) | 29 | 0.03788 | 0.9868 | 5.8959 |
| (F) | 30 | 0.03088 | 0.9985 | 3.9171 |
| (I) | 31 | 0.08689 | 0.9921 | 31.2233 |
| 30+31 | 32 | -0.08150 | 0.9915 | 27.4420 |

Table 5-10. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 16

MULTIPLE R 0.2668
STD. ERROR OF EST. 0.2257

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 16.023 | 4.006 | 78.612 |
| RESIDUAL | 4104 | 209.124 | 0.051 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.03313 ) | | |
| Q15 | 8 | 0.08917 | 0.00957 | 86.8018 |
| 2+7 | 16 | 0.11837 | 0.01976 | 35.9735 |
| 20+27 | 25 | 0.09255 | 0.01032 | 43.4398 |
| 22+25 | 27 | 0.11149 | 0.01584 | 49.5121 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02017 | 0.9980 | 1.6701 |
| Q32 | 2 | 0.03617 | 0.9853 | 5.3761 |
| Q55 | 3 | 0.05291 | 0.9741 | 11.5176 |
| Q56 | 4 | -0.00068 | 0.9992 | 0.0019 |
| Q12 | 5 | 0.18703 | 0.9293 | 148.7260 |
| Q13 | 6 | 0.14147 | 0.9419 | 83.7957 |
| Q17 | 9 | -0.01862 | 0.8868 | 1.4224 |
| Q16 | 10 | 0.03183 | 0.9996 | 4.1602 |
| Q23 | 11 | 0.04560 | 0.8068 | 8.5492 |
| Q26 | 12 | 0.07898 | 0.7270 | 25.7545 |
| Q27 | 13 | 0.09179 | 0.6511 | 34.8608 |
| Q28 | 14 | 0.08105 | 0.9969 | 27.1324 |
| Q29 | 15 | -0.03836 | 0.9973 | 6.0468 |
| 3X4 | 17 | 0.00545 | 0.9730 | 0.1217 |
| 5+6 | 18 | 0.00909 | 0.9863 | 0.3387 |
| 8+9 | 19 | 0.04692 | 0.9827 | 9.0541 |
| 49+58 | 20 | 0.05164 | 0.9929 | 10.9702 |
| 61+62 | 21 | 0.04830 | 0.9718 | 9.5960 |
| 14+15 | 22 | 1.00000 | 0.2360 | ********** |
| 14+17 | 23 | 0.63840 | 0.9662 | 2822.6005 |
| 18+26 | 24 | 0.04300 | 0.2656 | 7.6013 |
| 21+24 | 26 | -0.04526 | 0.4231 | 8.4231 |
| (E) | 28 | 0.06164 | 0.3502 | 15.6486 |
| (P) | 29 | 0.04005 | 0.9863 | 6.5919 |
| (F) | 30 | 0.02751 | 0.9971 | 3.1085 |
| (I) | 31 | 0.08807 | 0.7920 | 32.0732 |
| 30+31 | 32 | -0.07947 | 0.9909 | 26.0740 |

STEP NUMBER 5
VARIABLE ENTERED 28

MULTIPLE R 0.2733
STD. ERROR OF EST. 0.2253

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 16.818 | 3.364 | 66.244 |
| RESIDUAL | 4103 | 208.330 | 0.051 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.02485 ) | | |
| Q15 | 8 | 0.08599 | 0.00959 | 80.4292 |
| 2+7 | 16 | 0.12249 | 0.01976 | 38.4442 |
| 20+27 | 25 | 0.08535 | 0.01046 | 66.5839 |
| 22+25 | 27 | 0.10860 | 0.01583 | 47.0458 |
| (E) | 28 | 0.04599 | 0.01165 | 15.6486 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02133 | 0.9977 | 1.8675 |
| Q32 | 2 | 0.03058 | 0.9766 | 3.8392 |
| Q55 | 3 | 0.07601 | 0.8797 | 23.8340 |
| Q56 | 4 | -0.00540 | 0.9934 | 0.1194 |
| Q12 | 5 | 0.18251 | 0.9216 | 141.3479 |
| Q13 | 6 | 0.13574 | 0.9304 | 76.9967 |
| Q17 | 9 | -0.01675 | 0.8859 | 1.1517 |
| Q16 | 10 | 0.02879 | 0.9971 | 3.4033 |
| Q23 | 11 | 0.03491 | 0.7794 | 5.0057 |
| Q26 | 12 | 0.07714 | 0.7262 | 24.5577 |
| Q27 | 13 | 0.09069 | 0.6508 | 34.0152 |
| Q28 | 14 | 0.08172 | 0.9968 | 27.5774 |
| Q29 | 15 | -0.03838 | 0.9973 | 6.0526 |
| 3X4 | 17 | 0.00195 | 0.9699 | 0.0156 |
| 5+6 | 18 | 0.00054 | 0.9673 | 0.0012 |
| 8+9 | 19 | 0.05974 | 0.9477 | 14.6929 |
| 49+58 | 20 | 0.03880 | 0.9424 | 6.1854 |
| 61+62 | 21 | 0.03369 | 0.9079 | 4.6604 |
| 14+15 | 22 | 1.00000 | 0.2371 | ********** |
| 14+17 | 23 | 0.63869 | 0.9659 | 2826.1728 |
| 18+26 | 24 | 0.03704 | 0.2629 | 5.6354 |
| 21+24 | 26 | -0.04152 | 0.4214 | 7.0824 |
| (P) | 29 | 0.02443 | 0.9151 | 2.4502 |
| (F) | 30 | 0.02572 | 0.9962 | 2.7162 |
| (I) | 31 | 0.08224 | 0.9812 | 27.9330 |
| 30+31 | 32 | -0.07873 | 0.9907 | 25.5849 |

Table 5-10. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 3

MULTIPLE R 0.2829
STD. ERROR OF EST. 0.2247

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 18.021 | 3.004 | 59.483 |
| RESIDUAL | 4102 | 207.126 | 0.050 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.01119 ) | | | | | | | |
| Q55 | 3 | 0.07219 | 0.01479 | 23.8360 | Q10 | 1 | -0.00868 | 0.9674 | 0.3090 |
| Q15 | 8 | 0.08557 | 0.00956 | 80.0934 | Q32 | 2 | 0.03174 | 0.9764 | 4.1354 |
| 2+7 | 16 | 0.11859 | 0.01972 | 36.1727 | Q56 | 4 | 0.00877 | 0.9598 | 0.3155 |
| 20+27 | 25 | 0.08849 | 0.01045 | 71.5929 | Q12 | 5 | 0.18693 | 0.9194 | 148.4921 |
| 22+25 | 27 | 0.11211 | 0.01581 | 50.3078 | Q13 | 6 | 0.14510 | 0.9198 | 88.1968 |
| (E) | 28 | 0.06453 | 0.01226 | 27.9754 | Q17 | 9 | -0.01901 | 0.8852 | 1.4828 |
| | | | | | Q16 | 10 | 0.02305 | 0.9911 | 2.1796 |
| | | | | | Q23 | 11 | 0.03760 | 0.7785 | 5.8056 |
| | | | | | Q26 | 12 | 0.07584 | 0.7259 | 23.7240 |
| | | | | | Q27 | 13 | 0.08941 | 0.6505 | 33.0475 |
| | | | | | Q28 | 14 | 0.07277 | 0.9804 | 21.8345 |
| | | | | | Q29 | 15 | -0.02531 | 0.9656 | 2.6289 |
| | | | | | 3X4 | 17 | 0.01445 | 0.9446 | 0.8567 |
| | | | | | 5+6 | 18 | -0.00401 | 0.9639 | 0.0661 |
| | | | | | 8+9 | 19 | 0.02327 | 0.6849 | 2.2210 |
| | | | | | 49+58 | 20 | 0.03589 | 0.9409 | 5.2893 |
| | | | | | 61+62 | 21 | 0.04316 | 0.8950 | 7.6538 |
| | | | | | 14+15 | 22 | 1.00000 | 0.2357 | ********** |
| | | | | | 14+17 | 23 | 0.63671 | 0.9609 | 2796.1364 |
| | | | | | 18+26 | 24 | 0.03960 | 0.2626 | 6.4406 |
| | | | | | 21+24 | 26 | -0.04092 | 0.4214 | 6.8770 |
| | | | | | (P) | 29 | 0.02793 | 0.9133 | 3.2014 |
| | | | | | (F) | 30 | 0.01585 | 0.9788 | 1.0309 |
| | | | | | (I) | 31 | 0.08731 | 0.9775 | 31.5030 |
| | | | | | 30+31 | 32 | -0.07757 | 0.9903 | 24.8246 |

STEP NUMBER 7
VARIABLE ENTERED 20

MULTIPLE R 0.2850
STD. ERROR OF EST. 0.2246

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 18.288 | 2.613 | 51.794 |
| RESIDUAL | 4101 | 206.860 | 0.050 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.02170 ) | | | | | | | |
| Q55 | 3 | 0.07083 | 0.01479 | 22.9237 | Q10 | 1 | -0.00461 | 0.9567 | 0.0872 |
| Q15 | 8 | 0.08587 | 0.00956 | 80.7240 | Q32 | 2 | 0.03242 | 0.9761 | 4.3131 |
| 2+7 | 16 | 0.11739 | 0.01971 | 35.4532 | Q56 | 4 | 0.01357 | 0.9435 | 0.7546 |
| 49+58 | 20 | 0.05392 | 0.02344 | 5.2893 | Q12 | 5 | 0.18443 | 0.9107 | 144.3656 |
| 20+27 | 25 | 0.08891 | 0.01045 | 72.4357 | Q13 | 6 | 0.14266 | 0.9131 | 85.1733 |
| 22+25 | 27 | 0.10988 | 0.01583 | 48.1932 | Q17 | 9 | -0.02002 | 0.8845 | 1.6446 |
| (E) | 28 | 0.05800 | 0.01252 | 21.4531 | Q16 | 10 | 0.01993 | 0.9832 | 1.6300 |
| | | | | | Q23 | 11 | 0.03810 | 0.7784 | 5.9616 |
| | | | | | Q26 | 12 | 0.07432 | 0.7244 | 22.7698 |
| | | | | | Q27 | 13 | 0.08778 | 0.6489 | 31.8358 |
| | | | | | Q28 | 14 | 0.07016 | 0.9741 | 20.2842 |
| | | | | | Q29 | 15 | -0.02095 | 0.9501 | 1.7997 |
| | | | | | 3X4 | 17 | 0.01717 | 0.9394 | 1.2085 |
| | | | | | 5+6 | 18 | -0.00864 | 0.9484 | 0.3060 |
| | | | | | 8+9 | 19 | 0.02583 | 0.6864 | 2.3001 |
| | | | | | 61+62 | 21 | 0.04183 | 0.8937 | 7.1871 |
| | | | | | 14+15 | 22 | 1.00000 | 0.2354 | ********** |
| | | | | | 14+17 | 23 | 0.63616 | 0.9590 | 2787.2143 |
| | | | | | 18+26 | 24 | 0.03967 | 0.2626 | 6.4639 |
| | | | | | 21+24 | 26 | -0.04119 | 0.4214 | 6.9686 |
| | | | | | (P) | 29 | 0.02540 | 0.9085 | 2.6476 |
| | | | | | (F) | 30 | 0.01554 | 0.9787 | 0.9907 |
| | | | | | (I) | 31 | 0.08719 | 0.9775 | 31.4085 |
| | | | | | 30+31 | 32 | -0.07927 | 0.9884 | 25.9243 |

Table 5-10. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 19

MULTIPLE R 0.2859
STD. ERROR OF EST. 0.2246

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 18.404 | 2.300 | 45.622 |
| RESIDUAL | 4100 | 206.744 | 0.050 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.03086 ) | | | | | | | |
| Q55 3 | 0.05694 | 0.01740 | 10.7128 | Q10 | 1 | -0.00197 | 0.9447 | 0.0160 |
| Q15 8 | 0.08597 | 0.00956 | 80.9292 | Q32 | 2 | 0.03401 | 0.9721 | 4.7408 |
| 2+7 16 | 0.11773 | 0.01971 | 35.6714 | Q56 | 4 | 0.01608 | 0.9336 | 1.0604 |
| 8+9 19 | 0.03168 | 0.02089 | 2.3031 | Q12 | 5 | 0.18409 | 0.9104 | 143.7849 |
| 49+58 20 | 0.05431 | 0.02344 | 5.3677 | Q13 | 6 | 0.14323 | 0.9127 | 85.8529 |
| 20+27 25 | 0.08937 | 0.01045 | 73.1427 | Q17 | 9 | -0.02044 | 0.8843 | 1.7141 |
| 22+25 27 | 0.11061 | 0.01583 | 45.8137 | Q16 | 10 | 0.01767 | 0.9734 | 1.2797 |
| (E) 28 | 0.05836 | 0.01252 | 21.7296 | Q23 | 11 | 0.04028 | 0.7727 | 6.6626 |
| | | | | Q26 | 12 | 0.07317 | 0.7223 | 22.0635 |
| | | | | Q27 | 13 | 0.08691 | 0.6478 | 31.2004 |
| | | | | Q28 | 14 | 0.05722 | 0.9480 | 18.6029 |
| | | | | Q29 | 15 | -0.01882 | 0.9418 | 1.4521 |
| | | | | 3X4 | 17 | 0.01988 | 0.9282 | 1.6198 |
| | | | | 5+6 | 18 | -0.00875 | 0.9483 | 0.3138 |
| | | | | 61+62 | 21 | 0.04571 | 0.8753 | 8.5824 |
| | | | | 14+15 | 22 | 1.00000 | 0.2353 | ********** |
| | | | | 14+17 | 23 | 0.63592 | 0.9582 | 2783.0011 |
| | | | | 18+26 | 24 | 0.04016 | 0.2625 | 6.6223 |
| | | | | 21+24 | 26 | -0.04193 | 0.4210 | 7.2189 |
| | | | | (P) | 29 | 0.02720 | 0.9037 | 3.0356 |
| | | | | (F) | 30 | 0.01299 | 0.9666 | 0.6922 |
| | | | | (I) | 31 | 0.08893 | 0.9734 | 32.6766 |
| | | | | 30+31 | 32 | -0.07903 | 0.9883 | 25.7608 |

STEP NUMBER 9
VARIABLE ENTERED 17

MULTIPLE R 0.2865
STD. ERROR OF EST. 0.2245

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 18.486 | 2.054 | 40.739 |
| RESIDUAL | 4099 | 206.662 | 0.050 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.03424 ) | | | | | | | |
| Q55 3 | 0.05870 | 0.01745 | 11.3178 | Q10 | 1 | -0.00228 | 0.9445 | 0.0213 |
| Q15 8 | 0.08625 | 0.00956 | 81.4240 | Q32 | 2 | 0.03378 | 0.9719 | 4.6828 |
| 2+7 16 | 0.11547 | 0.01979 | 34.0466 | Q56 | 4 | 0.01513 | 0.9314 | 0.9387 |
| 3X4 17 | 0.02559 | 0.02011 | 1.6198 | Q12 | 5 | 0.18648 | 0.8323 | 147.6438 |
| 8+9 19 | 0.03460 | 0.02101 | 2.7112 | Q13 | 6 | 0.14685 | 0.7787 | 90.3238 |
| 49+58 20 | 0.05657 | 0.02351 | 5.7920 | Q17 | 9 | -0.01962 | 0.8827 | 1.5788 |
| 20+27 25 | 0.08868 | 0.01046 | 71.8396 | Q16 | 10 | 0.01759 | 0.9734 | 1.2688 |
| 22+25 27 | 0.10894 | 0.01589 | 47.0251 | Q23 | 11 | 0.04044 | 0.7727 | 6.7141 |
| (E) 28 | 0.05837 | 0.01252 | 21.5044 | Q26 | 12 | 0.07268 | 0.7218 | 21.7651 |
| | | | | Q27 | 13 | 0.08644 | 0.6474 | 30.8492 |
| | | | | Q28 | 14 | 0.06665 | 0.9471 | 18.2873 |
| | | | | Q29 | 15 | -0.01903 | 0.9417 | 1.4844 |
| | | | | 5+6 | 18 | -0.00888 | 0.9483 | 0.3234 |
| | | | | 61+62 | 21 | 0.04525 | 0.8748 | 8.4069 |
| | | | | 14+15 | 22 | 1.00000 | 0.2352 | ********** |
| | | | | 14+17 | 23 | 0.63656 | 0.9578 | 2791.7865 |
| | | | | 18+26 | 24 | 0.03920 | 0.2618 | 6.3067 |
| | | | | 21+24 | 26 | -0.04214 | 0.4210 | 7.2916 |
| | | | | (P) | 29 | 0.02698 | 0.9036 | 2.9850 |
| | | | | (F) | 30 | 0.01323 | 0.9665 | 0.7174 |
| | | | | (I) | 31 | 0.08748 | 0.9650 | 31.6004 |
| | | | | 30+31 | 32 | -0.07968 | 0.9874 | 26.1859 |

Table 5-10. (Continued)

STEP NUMBER 10
VARIABLE ENTERED 10

MULTIPLE R 0.2870
STD. ERROR OF EST. 0.2245

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 18.550 | 1.855 | 36.794 |
| RESIDUAL | 4098 | 206.598 | 0.050 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.04089 ) | | | | | | | |
| Q55 | 3 | 0.05849 | 0.01745 | 11.2364 | Q10 | 1 | -0.00097 | 0.9392 | 0.0038 |
| Q15 | 8 | 0.08638 | 0.00956 | 81.6678 | Q32 | 2 | 0.03364 | 0.9719 | 4.6421 |
| Q16 | 10 | 0.01421 | 0.01262 | 1.2688 | Q56 | 4 | 0.01626 | 0.9278 | 1.0831 |
| 2+7 | 16 | 0.11560 | 0.01979 | 34.1230 | Q12 | 5 | 0.18590 | 0.8305 | 146.6511 |
| 3X4 | 17 | 0.02551 | 0.02011 | 1.6089 | Q13 | 6 | 0.14624 | 0.7772 | 89.5338 |
| 8+9 | 19 | 0.03223 | 0.02112 | 2.3296 | Q17 | 9 | -0.01972 | 0.8826 | 1.5941 |
| 49+58 | 20 | 0.05416 | 0.02360 | 5.2643 | Q23 | 11 | 0.04118 | 0.7715 | 6.9580 |
| 20+27 | 25 | 0.08887 | 0.01046 | 72.1356 | Q26 | 12 | 0.07274 | 0.7218 | 21.7947 |
| 22+25 | 27 | 0.13892 | 0.01589 | 47.0138 | Q27 | 13 | 0.08619 | 0.6472 | 30.6652 |
| (E) | 28 | 0.05732 | 0.01254 | 23.9039 | Q28 | 14 | 0.06466 | 0.9219 | 17.2009 |
| | | | | | Q29 | 15 | -0.01683 | 0.9248 | 1.1603 |
| | | | | | 5+6 | 18 | -0.00974 | 0.9461 | 0.3886 |
| | | | | | 61+62 | 21 | 0.04596 | 0.8735 | 8.6716 |
| | | | | | 14+15 | 22 | 1.00000 | 0.2351 | ********** |
| | | | | | 14+17 | 23 | 0.63646 | 0.9576 | 2789.6518 |
| | | | | | 18+26 | 24 | 0.04014 | 0.2612 | 6.6102 |
| | | | | | 21+24 | 26 | -0.04214 | 0.4210 | 7.2872 |
| | | | | | (P) | 29 | 0.02679 | 0.9035 | 2.9426 |
| | | | | | (F) | 30 | 0.01277 | 0.9658 | 0.6687 |
| | | | | | (I) | 31 | 0.08656 | 0.9612 | 30.9302 |
| | | | | | 30+31 | 32 | -0.07890 | 0.9848 | 25.6613 |

STEP NUMBER 11
VARIABLE ENTERED 4

MULTIPLE R 0.2875
STD. ERROR OF EST. 0.2245

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 11 | 18.604 | 1.691 | 33.548 |
| RESIDUAL | 4097 | 206.543 | 0.050 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.05347 ) | | | | | | | |
| Q55 | 3 | 0.06027 | 0.01753 | 11.8151 | Q10 | 1 | -0.01675 | 0.4944 | 1.1497 |
| Q56 | 4 | 0.01496 | 0.01438 | 1.0831 | Q32 | 2 | 0.03373 | 0.9718 | 4.6659 |
| Q15 | 5 | 0.08521 | 0.00956 | 81.3338 | Q12 | 5 | 0.18618 | 0.8304 | 147.0796 |
| Q16 | 10 | 0.01503 | 0.01264 | 1.4131 | Q13 | 6 | 0.14628 | 0.7772 | 89.5665 |
| 2+7 | 16 | 0.11554 | 0.01979 | 34.0898 | Q17 | 9 | -0.02005 | 0.8823 | 1.6468 |
| 3X4 | 17 | 0.02440 | 0.02013 | 1.4791 | Q23 | 11 | 0.04140 | 0.7714 | 7.0311 |
| 8+9 | 19 | 0.03422 | 0.02120 | 2.6054 | Q26 | 12 | 0.07274 | 0.7218 | 21.7879 |
| 49+58 | 20 | 0.05718 | 0.02378 | 5.7816 | Q27 | 13 | 0.08596 | 0.6471 | 30.4941 |
| 20+27 | 25 | 0.08912 | 0.01047 | 72.4970 | Q28 | 14 | 0.06573 | 0.9188 | 17.7744 |
| 22+25 | 27 | 0.10932 | 0.01589 | 47.3336 | Q29 | 15 | -0.02096 | 0.6901 | 3.4387 |
| (E) | 28 | 0.05673 | 0.01255 | 23.6252 | 5+6 | 18 | -0.00781 | 0.9320 | 0.2497 |
| | | | | | 61+62 | 21 | 0.04685 | 0.8713 | 9.0088 |
| | | | | | 14+15 | 22 | 1.00000 | 0.2351 | ********** |
| | | | | | 14+17 | 23 | 0.63634 | 0.9570 | 2787.1514 |
| | | | | | 18+26 | 24 | 0.04051 | 0.2611 | 6.7327 |
| | | | | | 21+24 | 26 | -0.04218 | 0.4210 | 7.3008 |
| | | | | | (P) | 29 | 0.02811 | 0.8982 | 3.2394 |
| | | | | | (F) | 30 | 0.01404 | 0.9603 | 0.8074 |
| | | | | | (I) | 31 | 0.08630 | 0.9609 | 30.7374 |
| | | | | | 30+31 | 32 | -0.07837 | 0.9835 | 25.3143 |

Table 5-10. (Continued)

STEP NUMBER 12
VARIABLE ENTERED 1

MULTIPLE R 0.2879
STD. ERROR OF EST. 0.2245

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 12 | 18.662 | 1.555 | 30.850 |
| RESIDUAL | 4096 | 206.485 | 0.050 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.04690 ) | | | | | | | |
| Q10 | 1 | -0.02147 | 0.02003 | 1.1497 | Q32 | 2 | 0.03429 | 0.9708 | 4.8204 |
| Q55 | 3 | 0.05990 | 0.01754 | 11.6673 | Q12 | 5 | 0.18569 | 0.8291 | 146.2432 |
| Q56 | 4 | 0.02958 | 0.01981 | 2.2290 | Q13 | 6 | 0.14609 | 0.7770 | 89.3029 |
| Q15 | 8 | 0.08575 | 0.00957 | 80.2938 | Q17 | 9 | -0.01986 | 0.8822 | 1.6158 |
| Q16 | 10 | 0.01442 | 0.01265 | 1.2959 | Q23 | 11 | 0.04130 | 0.7713 | 6.9959 |
| 2*7 | 16 | 0.11529 | 0.01979 | 33.9375 | Q26 | 12 | 0.07312 | 0.7215 | 22.0103 |
| 3X4 | 17 | 0.02394 | 0.02014 | 1.4133 | Q27 | 13 | 0.08642 | 0.6467 | 33.8123 |
| 8*9 | 19 | 0.03297 | 0.02123 | 2.4116 | Q28 | 14 | 0.06585 | 0.9187 | 17.8345 |
| 49*58 | 20 | 0.05636 | 0.02379 | 5.6098 | Q29 | 15 | -0.02457 | 0.6001 | 2.4744 |
| 20*27 | 25 | 0.08945 | 0.01047 | 72.9856 | 5*6 | 18 | -0.00885 | 0.9285 | 0.3210 |
| 22*25 | 27 | 0.10875 | 0.01590 | 45.7951 | 61*62 | 21 | 0.04720 | 0.8709 | 9.1430 |
| (E) | 28 | 0.05601 | 0.01257 | 19.8540 | 14*15 | 22 | 1.00000 | 0.2350 | ********** |
| | | | | | 14*17 | 23 | 0.63639 | 0.9570 | 2787.2869 |
| | | | | | 18*23 | 24 | 0.04028 | 0.2610 | 6.6548 |
| | | | | | 21*24 | 26 | -0.04204 | 0.4209 | 7.2494 |
| | | | | | (P) | 29 | 0.02822 | 0.8982 | 3.2641 |
| | | | | | (F) | 30 | 0.01425 | 0.9602 | 0.8319 |
| | | | | | (I) | 31 | 0.08685 | 0.9601 | 31.1261 |
| | | | | | 30*31 | 32 | -0.07874 | 0.9831 | 25.5500 |

STEP NUMBER 13
VARIABLE ENTERED 30

MULTIPLE R 0.2882
STD. ERROR OF EST. 0.2245

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 13 | 18.704 | 1.439 | 28.539 |
| RESIDUAL | 4095 | 206.443 | 0.050 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.04813 ) | | | | | | | |
| Q10 | 1 | -0.02170 | 0.02003 | 1.1762 | Q32 | 2 | 0.03409 | 0.9706 | 4.7630 |
| Q55 | 3 | 0.05916 | 0.01756 | 11.3558 | Q12 | 5 | 0.18538 | 0.8284 | 145.7036 |
| Q56 | 4 | 0.03072 | 0.01985 | 2.3951 | Q13 | 6 | 0.14594 | 0.7769 | 89.0909 |
| Q15 | 8 | 0.08609 | 0.00958 | 80.8136 | Q17 | 9 | -0.02015 | 0.8818 | 1.6623 |
| Q16 | 10 | 0.01417 | 0.01256 | 1.2527 | Q23 | 11 | 0.04131 | 0.7713 | 6.9978 |
| 2*7 | 16 | 0.11463 | 0.01980 | 33.4999 | Q26 | 12 | 0.07342 | 0.7212 | 22.1885 |
| 3X4 | 17 | 0.02408 | 0.02014 | 1.4330 | Q27 | 13 | 0.08677 | 0.6464 | 31.0543 |
| 8*9 | 19 | 0.03103 | 0.02134 | 2.1135 | Q28 | 14 | 0.06600 | 0.9187 | 17.9100 |
| 49*58 | 20 | 0.05640 | 0.02379 | 5.6180 | Q29 | 15 | -0.02398 | 0.5990 | 2.3566 |
| 20*27 | 25 | 0.08946 | 0.01047 | 72.9830 | 5*6 | 18 | -0.00968 | 0.9255 | 0.3833 |
| 22*25 | 27 | 0.10860 | 0.01590 | 45.6639 | 61*62 | 21 | 0.04707 | 0.8709 | 9.0908 |
| (E) | 28 | 0.05518 | 0.01260 | 19.1738 | 14*15 | 22 | 1.00000 | 0.2349 | ********** |
| (F) | 30 | 0.02443 | 0.02679 | 3.8319 | 14*17 | 23 | 0.63630 | 0.9564 | 2785.2289 |
| | | | | | 18*26 | 24 | 0.04026 | 0.2610 | 6.6480 |
| | | | | | 21*24 | 26 | -0.04226 | 0.4208 | 7.3265 |
| | | | | | (P) | 29 | 0.02789 | 0.8977 | 3.1875 |
| | | | | | (I) | 31 | 0.08669 | 0.9599 | 31.0024 |
| | | | | | 30*31 | 32 | -0.07893 | 0.9830 | 25.6447 |

Table 5-10. (Continued)

STEP NUMBER 14
VARIABLE ENTERED 18

MULTIPLE R 0.2884
STD. ERROR OF EST. 0.2245

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 14 | 18.723 | 1.337 | 26.524 |
| RESIDUAL | 4094 | 206.424 | 0.050 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.10040 ) | | | | | | | |
| Q10 | 1 | -0.02247 | 0.02007 | 1.2541 | Q32 | 2 | 0.03408 | 0.9706 | 4.7603 |
| Q55 | 3 | 0.05947 | 0.01756 | 11.4567 | Q12 | 5 | 0.18557 | 0.8282 | 145.9700 |
| Q56 | 4 | 0.03018 | 0.01987 | 2.3072 | Q13 | 6 | 0.14606 | 0.7758 | 89.2181 |
| Q15 | 8 | 0.08624 | 0.00958 | 81.0251 | Q17 | 9 | -0.02006 | 0.8818 | 1.6481 |
| Q16 | 10 | 0.01445 | 0.01267 | 1.3020 | Q23 | 11 | 0.04198 | 0.7684 | 7.2273 |
| 2*7 | 16 | 0.11577 | 0.01989 | 33.9721 | Q24 | 12 | 0.07361 | 0.7210 | 22.2586 |
| 3X4 | 17 | 0.02423 | 0.02014 | 1.4457 | Q27 | 13 | 0.08675 | 0.6464 | 31.0357 |
| 5*6 | 18 | -0.01234 | 0.01994 | 3.3333 | Q28 | 14 | 0.06625 | 0.9181 | 18.0460 |
| 8*9 | 19 | 0.03077 | 0.02135 | 2.0772 | Q29 | 15 | -0.02454 | 0.5972 | 2.4671 |
| 49*58 | 20 | 0.05797 | 0.02393 | 5.8677 | 61*62 | 21 | 0.04769 | 0.8681 | 9.3297 |
| 20*27 | 25 | 0.08937 | 0.01047 | 72.8237 | 14*15 | 22 | 1.00000 | 0.2349 | ********** |
| 22*25 | 27 | 0.10932 | 0.01591 | 45.9291 | 14*17 | 23 | 0.63633 | 0.9564 | 2785.0598 |
| (E) | 28 | 0.05639 | 0.01269 | 19.5426 | 18*26 | 24 | 0.04064 | 0.2607 | 6.7729 |
| (F) | 30 | 0.02537 | 0.02683 | 0.8941 | 21*24 | 26 | -0.04191 | 0.4201 | 7.2003 |
| | | | | | (P) | 29 | 0.02802 | 0.8976 | 3.2153 |
| | | | | | (I) | 31 | 0.08639 | 0.9586 | 30.7785 |
| | | | | | 30*31 | 32 | -0.07862 | 0.9815 | 25.4542 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 20*27 25 | | 0.1771 | 0.0314 | 0.0314 | 133.0528 | 1 |
| 2 | Q15 8 | | 0.2274 | 0.0517 | 0.0203 | 88.0532 | 2 |
| 3 | 22*25 27 | | 0.2511 | 0.0630 | 0.0113 | 49.6519 | 3 |
| 4 | 2*7 16 | | 0.2668 | 0.0712 | 0.0081 | 35.8705 | 4 |
| 5 | (E) 28 | | 0.2733 | 0.0747 | 0.0035 | 15.6486 | 5 |
| 6 | Q55 3 | | 0.2829 | 0.0800 | 0.0053 | 23.8340 | 6 |
| 7 | 49*58 20 | | 0.2853 | 0.0812 | 0.0012 | 5.2893 | 7 |
| 8 | 8*9 19 | | 0.2859 | 0.0817 | 0.0005 | 2.3001 | 8 |
| 9 | 3X4 17 | | 0.2865 | 0.0821 | 0.0004 | 1.6198 | 9 |
| 10 | Q16 10 | | 0.2873 | 0.0824 | 0.0003 | 1.2688 | 10 |
| 11 | Q56 4 | | 0.2878 | 0.0826 | 0.0002 | 1.0831 | 11 |
| 12 | Q10 1 | | 0.2879 | 0.0829 | 0.0003 | 1.1497 | 12 |
| 13 | (F) 30 | | 0.2882 | 0.0831 | 0.0002 | 0.8319 | 13 |
| 14 | 5*6 18 | | 0.2884 | 0.0832 | 0.0001 | 0.3833 | 14 |

## Table 5-11. Desired Class of Information

```
SUB-PROBLM    1
DEPENDENT VARIABLE          Q16
MAXIMUM NUMBER OF STEPS      0.
F-LEVEL FOR INCLUSION       0.000000
F-LEVEL FOR DELETION        0.000000
TOLERANCE LEVEL             0.001000


STEP NUMBER    1
VARIABLE ENTERED   19

MULTIPLE R                  0.1130
STD. ERROR OF EST.          0.2797

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
REGRESSION        1          4.152          4.152        53.082
RESIDUAL       4107        321.215          0.078

                VARIABLES IN EQUATION                          .                    VARIABLES NOT IN EQUATION
                                                               .
VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE              .    VARIABLE      PARTIAL CORR.    TOLERANCE   F TO ENTER
                                                               .
                                                               .
(CONSTANT        0.52495 )                                     .
8+9   19         0.15684     0.02153     53.3824               .    Q10     1      -0.08662         0.9679      31.0628
                                                               .    Q32     2       0.01339         0.9919       0.7359
                                                               .    Q55     3      -0.00503         0.6875       0.1040
                                                               .    Q56     4      -0.07091         0.7638      20.7473
                                                               .    Q12     5       0.05786         0.9964      13.7930
                                                               .    Q13     6       0.0545C         0.9854      12.2697
                                                               .    Q14     7       0.0243?         0.9947       2.4782
                                                               .    Q15     8      -0.0070.         0.9998       0.2024
                                                               .    Q17     9       0.00547         0.9962       0.1228
                                                               .    Q23    11      -0.02522         0.9726       2.6136
                                                               .    Q26    12       0.00277         0.9996       0.0315
                                                               .    Q27    13       0.01603         0.9986       1.3559
                                                               .    Q28    14       0.1"o>5         0.9596     123.0259
                                                               .    Q29    15      -0.14675         0.9715      90.3755
                                                               .     2+7   16      -0.00601         0.9996       0.1484
                                                               .
                                                               .
                                                               .
                                                               .
                                                               .
                                                               .     3X4   17      -0.00242         0.9619       0.0240
                                                               .     5+6   18       0.06835         1.0000      19.2699
                                                               .    49+58  20       0.10522         0.9984      45.9706
                                                               .    61+62  21      -0.01685         0.9627       1.1678
                                                               .    14+15  22       0.00684         1.0000       0.1920
                                                               .    14+17  23       0.02078         0.9947       1.7743
                                                               .    18+26  24      -0.02432         0.9834       2.4338
                                                               .    20+27  25      -0.00351         0.9868       0.0507
                                                               .    21+24  26       0.00227         0.9972       0.0212
                                                               .    22+25  27       0.00728         0.9912       0.2178
                                                               .     (E)   28       0.07151         0.9559      21.1361
                                                               .     (P)   29       0.03581         0.9793       5.2738
                                                               .    (F)    30       0.03216         0.9761       4.2523
                                                               .     (I)   31       0.06882         0.9874      19.5366
                                                               .    30+31  32      -0.04688         0.9998       9.0440


STEP NUMBER    2
VARIABLE ENTERED   20

MULTIPLE R                  0.1539
STD. ERROR OF EST.          0.2781

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
REGRESSION        2          7.708          3.854        49.817
RESIDUAL       4106        317.658          0.077

                VARIABLES IN EQUATION                          .                    VARIABLES NOT IN EQUATION
                                                               .
VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE              .    VARIABLE      PARTIAL CORR.    TOLERANCE   F TO ENTER
                                                               .
                                                               .
(CONSTANT        0.47058 )                                     .
8+9   19         0.16266     0.02143     57.6226               .    Q10     1      -0.07469         0.9533      23.0274
49+58 20         0.19110     0.02818     45.9736               .    Q32     2       0.01264         0.9919       3.6555
                                                               .    Q55     3      -0.00254         0.6871       0.0265
                                                               .    Q56     4      -0.05862         0.9490      14.1557
                                                               .    Q12     5       0.04501         0.9801       8.3340
                                                               .    Q13     6       0.04325         0.9729       7.6918
```

Table 5-11. (Continued)

| | | | | | |
|---|---|---|---|---|---|
| . | Q14 | 7 | 0.01752 | 0.9950 | 1.2637 |
| . | Q15 | 8 | -0.00763 | 0.9998 | 0.2389 |
| . | Q17 | 9 | 0.00550 | 0.9962 | 0.1241 |
| . | Q23 | 11 | -0.03033 | 0.9785 | 3.7807 |
| . | Q26 | 12 | -0.00488 | 0.9963 | 0.0978 |
| . | Q27 | 13 | 0.00045 | 0.9933 | 0.2928 |
| . | Q28 | 14 | 0.16269 | 0.9519 | 111.6304 |
| . | Q29 | 15 | -0.13435 | 0.9533 | 75.4625 |
| . | 2*7 | 16 | -0.00785 | 0.9993 | 0.2531 |
| . | 3X4 | 17 | 0.00393 | 0.9584 | 0.3633 |
| . | 5*6 | 18 | 0.05237 | 0.9761 | 11.2884 |
| . | 61*62 | 21 | -0.02665 | 0.9350 | 2.9167 |
| . | 14*15 | 22 | 0.00277 | 0.9905 | 0.0316 |
| . | 14*17 | 23 | 0.01510 | 0.9926 | 1.0643 |
| . | 18*26 | 24 | -0.02977 | 0.9909 | 3.6414 |
| . | 20*27 | 25 | -0.00791 | 0.9951 | 0.2568 |
| . | 21*24 | 26 | -0.00341 | 0.9963 | 0.0477 |
| . | 22*25 | 27 | -0.00078 | 0.9854 | 0.0025 |
| . | (E) | 28 | 0.04909 | 0.9863 | 9.9176 |
| . | (P) | 29 | 0.02251 | 0.9629 | 2.3019 |
| . | (F) | 30 | 0.02946 | 0.9753 | 3.5662 |
| . | (I) | 31 | 0.06627 | 0.9867 | 18.1574 |
| . | 30*31 | 32 | -0.05137 | 0.9982 | 18.8628 |

STEP NUMBER 3
VARIABLE ENTERED 1

MULTIPLE R 0.1707
STD. ERROR OF EST. 0.2774

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 9.483 | 3.160 | 41.065 |
| RESIDUAL | 4105 | 315.856 | 0.077 | |

| VARIABLES IN EQUATION | | | | . | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | . | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.53939 ) | | | . | | | | | |
| Q10 1 | -0.08551 | 0.01782 | 23.0274 | . | Q32 | 2 | 0.01393 | 0.9916 | 0.7951 |
| 8*9 19 | 0.14334 | 0.02175 | 43.4442 | . | Q55 | 3 | -0.00873 | 0.6825 | 0.3129 |
| 49*58 20 | 0.17442 | 0.02832 | 37.9226 | . | Q56 | 4 | -0.00982 | 0.4971 | 0.3954 |
| | | | | . | Q12 | 5 | 0.04253 | 0.9789 | 7.4367 |
| | | | | . | Q13 | 6 | 0.04316 | 0.9729 | 7.6586 |
| | | | | . | Q14 | 7 | 0.01662 | 0.9949 | 1.1333 |
| | | | | . | Q15 | 8 | -0.00930 | 0.9993 | 0.3547 |
| | | | | . | Q17 | 9 | 0.00714 | 0.9938 | 0.2094 |
| | | | | . | Q23 | 11 | -0.03148 | 0.9703 | 4.0717 |
| | | | | . | Q26 | 12 | -0.00385 | 0.9961 | 0.0638 |
| | | | | . | Q27 | 13 | 0.01015 | 0.9928 | 0.4228 |
| | | | | . | Q28 | 14 | 0.15977 | 0.9498 | 137.4965 |
| | | | | . | Q29 | 15 | -0.11207 | 0.6325 | 52.1972 |
| | | | | . | 2*7 | 16 | -0.00856 | 0.9992 | 0.3034 |
| | | | | . | 3X4 | 17 | 0.00535 | 0.9581 | 0.1174 |
| | | | | . | 5*6 | 18 | 0.04281 | 0.9564 | 7.5351 |
| | | | | . | 61*62 | 21 | -0.02765 | 0.9369 | 3.1429 |
| | | | | . | 14*15 | 22 | 0.00099 | 0.9979 | 0.0361 |
| | | | | . | 14*17 | 23 | 0.01682 | 0.9926 | 1.1610 |
| | | | | . | 18*26 | 24 | -0.03063 | 0.9808 | 3.8533 |
| | | | | . | 20*27 | 25 | -0.00777 | 0.9851 | 0.2477 |
| | | | | . | 21*24 | 26 | -0.00490 | 0.9939 | 0.0987 |
| | | | | . | 22*25 | 27 | -0.00338 | 0.9842 | 0.0469 |
| | | | | . | (E) | 28 | 0.04988 | 0.9062 | 10.2382 |
| | | | | . | (P) | 29 | 0.01925 | 0.9610 | 1.5214 |
| | | | | . | (F) | 30 | 0.02597 | 0.9731 | 2.7702 |
| | | | | . | (I) | 31 | 0.06878 | 0.9858 | 19.5059 |
| | | | | . | 30*31 | 32 | -0.05420 | 0.9970 | 12.0930 |

Table 5-11. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 18

MULTIPLE R 0.1758
STD. ERROR OF EST. 0.2772

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 10.059 | 2.515 | 32.732 |
| RESIDUAL | 4104 | 315.307 | 0.077 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.49093 ) | | |
| Q10 | 1 | -0.07886 | 0.01797 | 19.2635 |
| 5*6 | 18 | 0.06646 | 0.02421 | 7.5351 |
| 8*9 | 19 | 0.14435 | 0.02173 | 44.1176 |
| 49*58 | 20 | 0.14302 | 0.02860 | 32.4734 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.01324 | 0.9913 | 0.7194 |
| Q55 | 3 | -0.00891 | 0.6825 | 0.3256 |
| Q56 | 4 | -0.00829 | 0.4965 | 0.2821 |
| Q12 | 5 | 0.04105 | 0.9776 | 5.9255 |
| Q13 | 6 | 0.04214 | 0.9723 | 7.2982 |
| Q14 | 7 | 0.01575 | 0.9945 | 1.0136 |
| Q15 | 8 | -0.01057 | 0.9984 | 0.4587 |
| Q17 | 9 | 0.00735 | 0.9937 | 0.2217 |
| Q23 | 11 | -0.03516 | 0.9637 | 5.0774 |
| Q26 | 12 | -0.00526 | 0.9931 | 0.1136 |
| Q27 | 13 | 0.00945 | 0.9925 | 0.3665 |
| Q28 | 14 | 0.15845 | 0.9485 | 135.6707 |
| Q29 | 15 | -0.10946 | 0.6295 | 49.7552 |
| 2*7 | 16 | -0.01248 | 0.9911 | 0.6395 |
| 3X4 | 17 | 0.00436 | 0.9576 | 0.0770 |
| 61*62 | 21 | -0.03105 | 0.9294 | 3.9595 |
| 14*15 | 22 | -0.00046 | 0.9968 | 0.0039 |
| 14*17 | 23 | 0.01641 | 0.9925 | 1.1051 |
| 18*26 | 24 | -0.03256 | 0.9790 | 4.3532 |
| 20*27 | 25 | -0.00868 | 0.9867 | 0.3089 |
| 21*24 | 26 | -0.00744 | 0.9905 | 0.2271 |
| 22*25 | 27 | -0.00553 | 0.9818 | 0.1257 |
| (E) | 28 | 0.04535 | 0.8945 | 8.4558 |
| (P) | 29 | 0.01745 | 0.9593 | 1.2495 |
| (F) | 30 | 0.02306 | 0.9683 | 2.1825 |
| (I) | 31 | 0.06978 | 0.9853 | 20.3785 |
| 30*31 | 32 | -0.05565 | 0.9959 | 12.7475 |

STEP NUMBER 5
VARIABLE ENTERED 3

MULTIPLE R 0.1760
STD. ERROR OF EST. 0.2772

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 10.084 | 2.017 | 26.246 |
| RESIDUAL | 4103 | 315.282 | 0.077 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.49277 ) | | |
| Q10 | 1 | -0.07969 | 0.01803 | 19.5373 |
| Q55 | 3 | -0.01182 | 0.02071 | 3.3256 |
| 5*6 | 18 | 0.06651 | 0.02421 | 7.5451 |
| 8*9 | 19 | 0.15239 | 0.02590 | 34.6153 |
| 49*58 | 20 | 0.16246 | 0.02862 | 32.2154 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.01319 | 0.9913 | 0.7152 |
| Q56 | 4 | -0.00904 | 0.4933 | 0.3350 |
| Q12 | 5 | 0.04041 | 0.9695 | 6.7092 |
| Q13 | 6 | 0.04138 | 0.9587 | 7.0346 |
| Q14 | 7 | 0.01589 | 0.9942 | 1.0361 |
| Q15 | 8 | -0.01065 | 0.9984 | 0.4657 |
| Q17 | 9 | 0.00784 | 0.9908 | 0.2525 |
| Q23 | 11 | -0.03586 | 0.9593 | 5.2770 |
| Q26 | 12 | -0.00584 | 0.9891 | 0.1399 |
| Q27 | 13 | 0.00894 | 0.9891 | 0.3280 |
| Q28 | 14 | 0.15859 | 0.9483 | 135.8366 |
| Q29 | 15 | -0.11023 | 0.6270 | 50.4589 |
| 2*7 | 16 | -0.01206 | 0.9886 | 0.5962 |
| 3X4 | 17 | 0.00356 | 0.9496 | 0.0520 |
| 61*62 | 21 | -0.03205 | 0.9208 | 4.2191 |
| 14*15 | 22 | -0.00046 | 0.9968 | 0.0009 |
| 14*17 | 23 | 0.01691 | 0.9896 | 1.1733 |
| 18*26 | 24 | -0.03363 | 0.9690 | 4.6433 |
| 20*27 | 25 | -0.00952 | 0.9766 | 0.3720 |
| 21*24 | 26 | -0.00793 | 0.9817 | 0.2577 |
| 22*25 | 27 | -0.00608 | 0.9782 | 0.1518 |
| (E) | 28 | 0.04461 | 0.8289 | 8.1781 |
| (P) | 29 | 0.01684 | 0.9541 | 1.1640 |
| (F) | 30 | 0.02338 | 0.9672 | 2.2439 |
| (I) | 31 | 0.06948 | 0.9837 | 19.8995 |
| 30*31 | 32 | -0.05570 | 0.9959 | 12.7670 |

Table 5-11. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 4

MULTIPLE R 0.1763
STD. ERROR OF EST. 0.2772

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 10.110 | 1.685 | 21.924 |
| RESIDUAL | 4102 | 315.257 | 0.07[illegible] | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.49675 ) | | | | | | | |
| Q10 | 1 | -0.06995 | 0.02467 | 8.0379 | Q32 | 2 | 0.01299 | 0.9908 | 0.6926 |
| Q55 | 3 | -0.01278 | 0.02078 | 0.3785 | Q12 | 5 | 0.04072 | 0.9686 | 6.8103 |
| Q56 | 4 | -0.01409 | 0.02434 | 0.3350 | Q13 | 6 | 0.04163 | 0.9580 | 7.1205 |
| 5+6 | 18 | 0.06601 | 0.02423 | 7.4222 | Q14 | 7 | 0.01620 | 0.9931 | 1.0771 |
| 8+9 | 19 | 0.15184 | 0.02592 | 34.3142 | Q15 | 8 | -0.01021 | 0.9958 | 0.4277 |
| 49+58 | 20 | 0.16160 | 0.02866 | 31.7871 | Q17 | 9 | 0.00792 | 0.9908 | 0.2573 |
| | | | | | Q23 | 11 | -0.03581 | 0.9593 | 5.2665 |
| | | | | | Q26 | 12 | -0.00602 | 0.9887 | 0.1486 |
| | | | | | Q27 | 13 | 0.00880 | 0.9888 | 0.3175 |
| | | | | | Q28 | 14 | 0.15836 | 0.9464 | 105.4839 |
| | | | | | Q29 | 15 | -0.11040 | 0.6069 | 50.6049 |
| | | | | | 2+7 | 16 | -0.01192 | 0.9884 | 0.5831 |
| | | | | | 3X4 | 17 | 0.00404 | 0.9470 | 0.0671 |
| | | | | | 61+62 | 21 | -0.03238 | 0.9198 | 4.3038 |
| | | | | | 14+15 | 22 | 0.00006 | 0.9935 | 0.0000 |
| | | | | | 14+17 | 23 | 0.01718 | 0.9888 | 1.2139 |
| | | | | | 18+26 | 24 | -0.03378 | 0.9688 | 4.6853 |
| | | | | | 20+27 | 25 | -0.00973 | 0.9761 | 0.3883 |
| | | | | | 21+24 | 26 | -0.00793 | 0.9877 | 0.2579 |
| | | | | | 22+25 | 27 | -0.00603 | 0.9782 | 0.1494 |
| | | | | | (E) | 28 | 0.04540 | 0.8244 | 8.4695 |
| | | | | | (P) | 29 | 0.01647 | 0.9524 | 1.1126 |
| | | | | | (F) | 30 | 0.02290 | 0.9639 | 2.1511 |
| | | | | | (I) | 31 | 0.06948 | 0.9837 | 19.8921 |
| | | | | | 30+31 | 32 | -0.05581 | 0.9958 | 12.8118 |

STEP NUMBER 7
VARIABLE ENTERED 17

MULTIPLE R 0.1763
STD. ERROR OF EST. 0.2773

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 10.115 | 1.445 | 18.797 |
| RESIDUAL | 4101 | 315.252 | 0.077 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.49551 ) | | | | | | | |
| Q10 | 1 | -0.06978 | 0.02468 | 7.9932 | Q32 | 2 | 0.01289 | 0.9900 | 0.6808 |
| Q55 | 3 | -0.01232 | 0.02086 | 0.3496 | Q12 | 5 | 0.04152 | 0.8751 | 7.0787 |
| Q56 | 4 | -0.01442 | 0.02438 | 0.3530 | Q13 | 6 | 0.04353 | 0.8107 | 7.7848 |
| 3X4 | 17 | 0.00627 | 0.02458 | 0.0671 | Q14 | 7 | 0.01603 | 0.9908 | 1.0537 |
| 5+6 | 18 | 0.06585 | 0.02424 | 7.3795 | Q15 | 8 | -0.01011 | 0.9951 | 0.4191 |
| 8+9 | 19 | 0.15259 | 0.02609 | 34.2172 | Q17 | 9 | 0.00826 | 0.9848 | 0.2796 |
| 49+58 | 20 | 0.16206 | 0.02872 | 31.9430 | Q23 | 11 | -0.03598 | 0.9581 | 5.3136 |
| | | | | | Q26 | 12 | -0.00635 | 0.9829 | 0.1652 |
| | | | | | Q27 | 13 | 0.00850 | 0.9824 | 0.2963 |
| | | | | | Q28 | 14 | 0.15832 | 0.9451 | 105.4035 |
| | | | | | Q29 | 15 | -0.11039 | 0.6069 | 50.5768 |
| | | | | | 2+7 | 16 | -0.01233 | 0.9807 | 0.6232 |
| | | | | | 61+62 | 21 | -0.03254 | 0.9186 | 4.3467 |
| | | | | | 14+15 | 22 | 0.00004 | 0.9935 | 0.0000 |
| | | | | | 14+17 | 23 | 0.01731 | 0.9879 | 1.2291 |
| | | | | | 18+26 | 24 | -0.03443 | 0.9572 | 4.8658 |
| | | | | | 20+27 | 25 | -0.01013 | 0.9683 | 0.4210 |
| | | | | | 21+24 | 26 | -0.00831 | 0.9805 | 0.2829 |
| | | | | | 22+25 | 27 | -0.00650 | 0.9671 | 0.1733 |
| | | | | | (E) | 28 | 0.04532 | 0.8240 | 8.4392 |
| | | | | | (P) | 29 | 0.01637 | 0.9517 | 1.0991 |
| | | | | | (F) | 30 | 0.02291 | 0.9639 | 2.1524 |
| | | | | | (I) | 31 | 0.06943 | 0.9736 | 19.8571 |
| | | | | | 30+31 | 32 | -0.05595 | 0.9950 | 12.8739 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

Table 5-11. (Continued)

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 8+9 | 19 | 0.1133 | 0.0128 | 0.0128 | 53.0824 | 1 |
| 2 | 49+58 | 20 | 0.1539 | 0.0237 | 0.0109 | 45.9706 | 2 |
| 3 | Q10 | 1 | 0.1707 | 0.0291 | 0.0054 | 23.0274 | 3 |
| 4 | 5+6 | 18 | 0.1755 | 0.0309 | 0.0018 | 7.5351 | 4 |
| 5 | Q59 | 3 | 0.1763 | 0.0310 | 0.0001 | 0.3256 | 5 |
| 6 | Q44 | 4 | 0.1763 | 0.0311 | 0.0001 | 0.3350 | 6 |
| 7 | ?X4 | 17 | 0.1763 | 0.0311 | 0.0000 | 0.0671 | 7 |

## Table 5-12. Acquisition from First Source

SUB-PROBLM 6
DEPENDENT VARIABLE 317
MAXIMUM NUMBER OF STEPS 32
F-LEVEL FOR INCLUSION 0.000100
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 25

MULTIPLE R 0.3097
STD. ERROR OF EST. 0.2687

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 31.452 | 31.452 | 435.563 |
| RESIDUAL | 4107 | 296.571 | 0.072 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.86502 ) | | |
| 20+27 25 | -0.24105 | 0.01155 | 435.5632 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.01373 | 0.9997 | 0.7744 |
| Q32 | 2 | -0.07508 | 0.9914 | 23.2711 |
| Q55 | 3 | 0.04498 | 0.9886 | 8.3234 |
| Q56 | 4 | 0.00565 | 1.0000 | 0.1219 |
| Q12 | 5 | -0.16881 | 0.9617 | 120.4368 |
| Q13 | 6 | -0.13777 | 0.9632 | 79.4415 |
| Q14 | 7 | -0.03016 | 0.9686 | 3.7392 |
| Q15 | 8 | 0.01007 | 0.9905 | 0.4161 |
| Q16 | 10 | 0.00936 | 0.9997 | 0.3599 |
| Q23 | 11 | -0.14875 | 0.8326 | 92.9028 |
| Q26 | 12 | -0.03246 | 0.7321 | 4.3311 |
| Q27 | 13 | -0.00677 | 0.6349 | 0.0935 |
| Q28 | 14 | -0.01741 | 0.9998 | 1.2443 |
| Q29 | 15 | 0.01845 | 0.9982 | 1.3979 |
| 2+7 | 16 | 0.01316 | 0.9999 | 0.7115 |
| 3X4 | 17 | -0.06221 | 0.9872 | 15.9507 |
| 5+6 | 18 | 0.00091 | 0.9993 | 0.0034 |
| 8+9 | 19 | 0.04272 | 0.9868 | 7.5068 |
| 49+58 | 20 | 0.01167 | 0.9979 | 0.5589 |
| 61+62 | 21 | -0.09330 | 0.9781 | 36.0527 |
| 14+15 | 22 | -0.00703 | 0.9965 | 0.2028 |
| 14+17 | 23 | 0.75075 | 0.9829 | 5303.4592 |
| 18+26 | 24 | -0.11275 | 0.2721 | 52.8725 |
| 21+24 | 26 | -0.03493 | 0.9245 | 5.0163 |
| 22+25 | 27 | -0.13708 | 0.8858 | 78.6342 |
| (E) | 28 | -0.03652 | 0.9618 | 5.4821 |
| (P) | 29 | -0.08883 | 0.9916 | 32.6601 |
| (F) | 30 | 0.02304 | 1.0000 | 2.1813 |
| (I) | 31 | 0.23423 | 0.9982 | 238.3393 |
| 30+31 | 32 | 0.07368 | 0.9979 | 22.4144 |

STEP NUMBER 2
VARIABLE ENTERED 27

MULTIPLE R 0.3360
STD. ERROR OF EST. 0.2662

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 37.025 | 18.513 | 261.215 |
| RESIDUAL | 4106 | 290.998 | 0.071 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.94746 ) | | |
| 20+27 25 | -0.20462 | 0.01216 | 283.2931 |
| 22+25 27 | -0.16565 | 0.01868 | 78.6342 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.00917 | 0.9985 | 0.3454 |
| Q32 | 2 | -0.06749 | 0.9877 | 18.7827 |
| Q55 | 3 | 0.03751 | 0.9774 | 5.7833 |
| Q56 | 4 | 0.00386 | 0.9998 | 0.0613 |
| Q12 | 5 | -0.14754 | 0.9293 | 91.3512 |
| Q13 | 6 | -0.12085 | 0.9443 | 65.8440 |

Table 5-12. (Continued)

| | | | | | |
|---|---|---|---|---|---|
| . | Q14 | 7 | -0.01510 | 0.9565 | 0.9358 |
| . | Q15 | 8 | 0.01351 | 0.9979 | 0.7493 |
| . | Q16 | 10 | 0.00977 | 0.9997 | 0.3920 |
| . | Q23 | 11 | -0.13037 | 0.8128 | 70.9763 |
| . | Q26 | 12 | -0.02263 | 0.7281 | 2.1036 |
| . | Q27 | 13 | 0.00364 | 0.6524 | 0.0544 |
| . | Q28 | 14 | -0.02193 | 0.9988 | 1.9758 |
| . | Q29 | 15 | 0.01467 | 0.9974 | 0.8833 |
| . | 2*7 | 16 | 0.01420 | 0.9998 | 0.8277 |
| . | 3X4 | 17 | -0.05058 | 0.9792 | 10.5282 |
| . | 5*6 | 18 | 0.00922 | 0.9957 | 0.3492 |
| . | 8*9 | 19 | 0.03506 | 0.9834 | 5.0534 |
| . | 49*58 | 20 | 0.02133 | 0.9932 | 1.8686 |
| . | 61*62 | 21 | -0.08686 | 0.9753 | 31.2036 |
| . | 14*15 | 22 | 0.00329 | 0.9909 | 0.0444 |
| . | 14*17 | 23 | 0.75388 | 0.9819 | 5404.7192 |
| . | 18*26 | 24 | -0.09391 | 0.2658 | 36.5215 |
| . | 21*24 | 26 | 0.09836 | 0.4237 | 40.1052 |
| . | (E) | 28 | -0.03031 | 0.9596 | 3.7752 |
| . | (P) | 29 | -0.08126 | 0.9877 | 27.2861 |
| . | (F) | 30 | 0.02361 | 1.0000 | 2.2887 |
| . | (I) | 31 | 0.24695 | 0.9932 | 266.5972 |
| . | 30*31 | 32 | 0.08385 | 0.9934 | 29.0681 |

STEP NUMBER 3
VARIABLE ENTERED 29

MULTIPLE R 0.3446
STD. ERROR OF EST. 0.2654

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 38.947 | 12.982 | 184.354 |
| RESIDUAL | 4105 | 289.076 | 0.070 | |

| VARIABLES IN EQUATION | | | | . | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | . | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.96172 ) | | | . | | | | | |
| 20*27 25 | -0.20044 | 0.01214 | 272.3736 | . | Q10 | 1 | 0.00658 | 0.9975 | 0.1778 |
| 21*25 27 | -0.15961 | 0.01866 | 73.1893 | . | Q32 | 2 | -0.05905 | 0.9756 | 14.3582 |
| (P) 29 | -0.08154 | 0.01561 | 27.2951 | . | Q55 | 3 | 0.02768 | 0.9622 | 3.1465 |
| | | | | . | Q56 | 4 | 0.00026 | 0.9978 | 0.0003 |
| | | | | . | Q12 | 5 | -0.14060 | 0.9201 | 82.7666 |
| | | | | . | Q13 | 6 | -0.11313 | 0.9333 | 53.2098 |
| | | | | . | Q14 | 7 | -0.01246 | 0.9555 | 0.6374 |
| | | | | . | Q15 | 8 | 0.01103 | 0.9970 | 0.4993 |
| | | | | . | Q16 | 10 | 0.01147 | 0.9993 | 0.5404 |
| | | | | . | Q23 | 11 | -0.12464 | 0.8075 | 64.7588 |
| | | | | . | Q26 | 12 | -0.02196 | 0.7280 | 1.9793 |
| | | | | . | Q27 | 13 | 0.00439 | 0.6524 | 0.0791 |
| | | | | . | Q28 | 14 | -0.02086 | 0.9986 | 1.7874 |
| | | | | . | Q29 | 15 | 0.01354 | 0.9972 | 0.7525 |
| | | | | . | 2*7 | 16 | 0.01251 | 0.9994 | 0.6423 |
| | | | | . | 3X4 | 17 | -0.04799 | 0.9781 | 9.4716 |
| | | | | . | 5*6 | 18 | 0.01431 | 0.9919 | 0.8402 |
| | | | | . | 8*9 | 19 | 0.02167 | 0.9664 | 2.4991 |
| | | | | . | 49*58 | 20 | 0.03196 | 0.9773 | 4.1975 |
| | | | | . | 61*62 | 21 | -0.07701 | 0.9581 | 24.4852 |
| | | | | . | 14*15 | 22 | 0.00262 | 0.9908 | 0.0281 |
| | | | | . | 14*17 | 23 | 0.75371 | 0.9803 | 5397.5839 |
| | | | | . | 18*26 | 24 | -0.09041 | 0.2652 | 33.8196 |
| | | | | . | 21*24 | 26 | 0.09470 | 0.4226 | 37.1381 |
| | | | | . | (E) | 28 | -0.00908 | 0.8919 | 0.3383 |
| | | | | . | (F) | 30 | 0.02562 | 0.9994 | 2.6967 |
| | | | | . | (I) | 31 | 0.25720 | 0.9833 | 290.7173 |
| | | | | . | 30*31 | 32 | 0.08591 | 0.9930 | 30.5184 |

Table 5-12. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 17

MULTIPLE R 0.3475
STD. ERROR OF EST. 0.2651

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 39.613 | 9.903 | 140.919 |
| RESIDUAL | 4104 | 288.411 | 0.070 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.96566 ) | | | | | | | |
| 3X4 17 | -0.07118 | 0.02313 | 9.4716 | Q10 | 1 | 0.00963 | 0.9935 | 0.3809 |
| 20+27 25 | -0.19764 | 0.01217 | 263.6975 | Q32 | 2 | -0.05791 | 0.9750 | 13.8959 |
| 22+25 27 | -0.15457 | 0.01871 | 68.2520 | Q55 | 3 | 0.02017 | 0.9367 | 1.6698 |
| (P) 29 | -0.07990 | 0.01560 | 25.2211 | Q56 | 4 | 0.00510 | 0.9878 | 0.1069 |
| | | | | Q12 | 5 | -0.13257 | 0.8455 | 73.4024 |
| | | | | Q13 | 6 | -0.10270 | 0.7970 | 43.7375 |
| | | | | Q14 | 7 | -0.01205 | 0.9554 | 0.5958 |
| | | | | Q15 | 8 | 0.01025 | 0.9967 | 0.4313 |
| | | | | Q16 | 10 | 0.01035 | 0.9987 | 0.4397 |
| | | | | Q23 | 11 | -0.12428 | 0.8074 | 64.3710 |
| | | | | Q26 | 12 | -0.02174 | 0.7278 | 1.8346 |
| | | | | Q27 | 13 | 0.00529 | 0.6521 | 0.1148 |
| | | | | Q28 | 14 | -0.02148 | 0.9984 | 1.8948 |
| | | | | Q29 | 15 | 0.01633 | 0.9940 | 1.0944 |
| | | | | 2+7 | 16 | 0.01635 | 0.9932 | 1.0965 |
| | | | | 5+6 | 18 | 0.01430 | 0.9919 | 0.8397 |
| | | | | 8+9 | 19 | 0.01643 | 0.9360 | 1.1081 |
| | | | | 49+58 | 20 | 0.02880 | 0.9728 | 3.4057 |
| | | | | 61+62 | 21 | -0.07441 | 0.9548 | 22.8420 |
| | | | | 14+15 | 22 | 0.00220 | 0.9908 | 0.0199 |
| | | | | 14+17 | 23 | 0.75345 | 0.9793 | 5387.9526 |
| | | | | 18+26 | 24 | -0.08774 | 0.2642 | 31.8281 |
| | | | | 21+24 | 26 | 0.09498 | 0.4226 | 37.3542 |
| | | | | (E) | 28 | -0.00701 | 0.8902 | 0.2019 |
| | | | | (F) | 30 | 0.02373 | 0.9978 | 2.3111 |
| | | | | (I) | 31 | 0.26432 | 0.9715 | 308.1855 |
| | | | | 30+31 | 32 | 0.08738 | 0.9922 | 31.9651 |

STEP NUMBER 5
VARIABLE ENTERED 20

MULTIPLE R 0.3486
STD. ERROR OF EST. 0.2650

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 39.852 | 7.970 | 113.482 |
| RESIDUAL | 4103 | 288.172 | 0.070 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.95433 ) | | | | | | | |
| 3X4 17 | -0.06827 | 0.02318 | 8.6775 | Q10 | 1 | 0.01275 | 0.9825 | 0.6666 |
| 49+58 20 | 0.05021 | 0.02721 | 3.4057 | Q32 | 2 | -0.05766 | 0.9749 | 13.6843 |
| 20+27 25 | -0.19801 | 0.01216 | 266.4751 | Q55 | 3 | 0.02100 | 0.9360 | 1.8102 |
| 22+25 27 | -0.15687 | 0.01875 | 70.0415 | Q56 | 4 | 0.00813 | 0.9772 | 0.2710 |
| (P) 29 | -0.08364 | 0.01573 | 28.2739 | Q12 | 5 | -0.13739 | 0.8319 | 78.9222 |
| | | | | Q13 | 6 | -0.10718 | 0.7845 | 47.6724 |
| | | | | Q14 | 7 | -0.01352 | 0.9530 | 0.7494 |
| | | | | Q15 | 8 | 0.01000 | 0.9966 | 0.4102 |
| | | | | Q16 | 10 | 0.00758 | 0.9892 | 0.2354 |
| | | | | Q23 | 11 | -0.12487 | 0.8071 | 64.9719 |
| | | | | Q26 | 12 | -0.02273 | 0.7257 | 2.1206 |
| | | | | Q27 | 13 | 0.00370 | 0.6501 | 0.0563 |
| | | | | Q28 | 14 | -0.02346 | 0.9921 | 2.3363 |
| | | | | Q29 | 15 | 0.02008 | 0.9786 | 1.6541 |
| | | | | 2+7 | 16 | 0.01567 | 0.9927 | 1.0081 |
| | | | | 5+6 | 18 | 0.01009 | 0.9695 | 0.4177 |
| | | | | 8+9 | 19 | 0.01723 | 0.9353 | 1.2185 |
| | | | | 61+62 | 21 | -0.07689 | 0.9491 | 24.3958 |
| | | | | 14+15 | 22 | 0.00128 | 0.9897 | 0.0067 |
| | | | | 14+17 | 23 | 0.75332 | 0.9764 | 5382.2394 |
| | | | | 18+26 | 24 | -0.08831 | 0.2641 | 32.2426 |
| | | | | 21+24 | 26 | 0.09507 | 0.4226 | 37.4121 |
| | | | | (E) | 28 | -0.01314 | 0.8535 | 0.7081 |
| | | | | (F) | 30 | 0.02330 | 0.9976 | 2.2277 |
| | | | | (I) | 31 | 0.26389 | 0.9711 | 307.0314 |
| | | | | 30+31 | 32 | 0.08639 | 0.9908 | 30.8466 |

Table 5-12. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 30

MULTIPLE R 0.3492
STD. ERROR OF EST. 0.2650

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 40.008 | 6.668 | 94.968 |
| RESIDUAL | 4102 | 288.015 | 0.070 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.94998 ) | | | | | | | |
| 3X4 17 | -0.06691 | 0.02319 | 8.3255 | Q10 | 1 | 0.01449 | 0.9773 | 0.8614 |
| 49+58 20 | 0.04958 | 0.02720 | 3.3220 | Q32 | 2 | -0.05791 | 0.9748 | 13.7994 |
| 20+27 25 | -0.19797 | 0.01216 | 264.9339 | Q55 | 3 | 0.01838 | 0.9229 | 1.3861 |
| 22+25 27 | -0.15679 | 0.01874 | 72.1692 | Q56 | 4 | 0.01859 | 0.9669 | 0.4597 |
| (P) 29 | -0.08418 | 0.01573 | 29.6339 | Q12 | 5 | -0.13827 | 0.8310 | 79.9354 |
| (F) 30 | 0.04629 | 0.04102 | 2.2277 | Q13 | 6 | -0.10737 | 0.7845 | 47.8282 |
| | | | | Q14 | 7 | -0.01408 | 0.9525 | 0.8133 |
| | | | | Q15 | 8 | 0.01090 | 0.9952 | 0.4876 |
| | | | | Q16 | 10 | 0.00650 | 0.9871 | 0.1735 |
| | | | | Q23 | 11 | -0.12657 | 0.8070 | 64.6377 |
| | | | | Q26 | 12 | -0.02256 | 0.7256 | 2.0878 |
| | | | | Q27 | 13 | 0.00399 | 0.6500 | 0.0652 |
| | | | | Q28 | 14 | -0.02466 | 0.9910 | 2.4963 |
| | | | | Q29 | 15 | 0.02252 | 0.9688 | 2.0808 |
| | | | | 2+7 | 16 | 0.01473 | 0.9910 | 0.8901 |
| | | | | 5+6 | 18 | 0.00835 | 0.9639 | 0.2860 |
| | | | | 8+9 | 19 | 0.01377 | 0.9124 | 0.7772 |
| | | | | 61+62 | 21 | -0.07656 | 0.9489 | 24.1798 |
| | | | | 14+15 | 22 | 0.00172 | 0.9894 | 0.0121 |
| | | | | 14+17 | 23 | 0.75317 | 0.9753 | 5375.8639 |
| | | | | 18+26 | 24 | -0.08832 | 0.2641 | 32.2411 |
| | | | | 21+24 | 26 | 0.09478 | 0.4225 | 37.1714 |
| | | | | (E) | 28 | -0.01357 | 0.8532 | 0.7549 |
| | | | | (I) | 31 | 0.26391 | 0.9711 | 307.0030 |
| | | | | 30+31 | 32 | 0.08620 | 0.9907 | 30.7001 |

STEP NUMBER 7
VARIABLE ENTERED 3

MULTIPLE R 0.3497
STD. ERROR OF EST. 0.2650

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 40.105 | 5.729 | 81.607 |
| RESIDUAL | 4101 | 287.918 | 0.070 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.93983 ) | | | | | | | |
| Q55 3 | 0.02004 | 0.01702 | 1.3851 | Q10 | 1 | 0.01767 | 0.9521 | 1.2808 |
| 3X4 17 | -0.06247 | 0.02349 | 7.0731 | Q32 | 2 | -0.06748 | 0.9742 | 13.5902 |
| 49+58 20 | 0.05056 | 0.02722 | 3.4528 | Q56 | 4 | 0.01428 | 0.9330 | 0.8367 |
| 20+27 25 | -0.19662 | 0.01222 | 259.3614 | Q12 | 5 | -0.13800 | 0.8308 | 79.5959 |
| 22+25 27 | -0.15621 | 0.01875 | 69.3844 | Q13 | 6 | -0.10639 | 0.7809 | 46.9434 |
| (P) 29 | -0.08195 | 0.01585 | 25.7451 | Q14 | 7 | -0.01523 | 0.9490 | 0.9507 |
| (F) 30 | 0.04194 | 0.03123 | 1.8034 | Q15 | 8 | 0.01128 | 0.9948 | 0.5218 |
| | | | | Q16 | 10 | 0.00549 | 0.9840 | 0.1237 |
| | | | | Q23 | 11 | -0.12351 | 0.8017 | 63.5085 |
| | | | | Q26 | 12 | -0.02289 | 0.7254 | 2.1502 |
| | | | | Q27 | 13 | 0.00356 | 0.6497 | 0.0521 |
| | | | | Q28 | 14 | -0.02720 | 0.9746 | 3.0496 |
| | | | | Q29 | 15 | 0.02581 | 0.9438 | 2.7335 |
| | | | | 2+7 | 16 | 0.01360 | 0.9870 | 0.7588 |
| | | | | 5+6 | 18 | 0.00796 | 0.9635 | 0.2598 |
| | | | | 8+9 | 19 | 0.00491 | 0.6651 | 0.0990 |
| | | | | 61+62 | 21 | -0.07454 | 0.9218 | 22.9069 |
| | | | | 14+15 | 22 | 0.00146 | 0.9892 | 0.0088 |
| | | | | 14+17 | 23 | 0.75340 | 0.9725 | 5382.1708 |
| | | | | 18+26 | 24 | -0.08759 | 0.2635 | 31.6886 |
| | | | | 21+24 | 26 | 0.09476 | 0.4225 | 37.1521 |
| | | | | (E) | 28 | -0.00853 | 0.7790 | 0.2980 |
| | | | | (I) | 31 | 0.26561 | 0.9674 | 311.2022 |
| | | | | 30+31 | 32 | 0.08634 | 0.9907 | 30.7929 |

Table 5-12. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 1

MULTIPLE R 0.3501
STD. ERROR OF EST. 0.2650

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 40.195 | 5.024 | 71.571 |
| RESIDUAL | 4 ·0 | 287.828 | 0.070 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.92438 ) | | |
| Q10 | 1 | 0.01927 | 0.01703 | 1.2838 |
| Q55 | 3 | 0.02317 | 0.01725 | 1.8054 |
| 3X4 | 17 | -0.06319 | 0.02350 | 7.2350 |
| 49+58 | 20 | 0.05399 | 0.02738 | 3.8972 |
| 20+27 | 25 | -0.19679 | 0.01222 | 259.4879 |
| 22+25 | 27 | -0.15545 | 0.01877 | 69.6158 |
| (P) | 29 | -0.08125 | 0.01586 | 25.2592 |
| (F) | 30 | 0.04387 | 0.03128 | 1.9670 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | -0.05806 | 0.9732 | 13.8632 |
| Q56 | 4 | 0.00291 | 0.4899 | 0.0346 |
| Q12 | 5 | -0.13739 | 0.8293 | 78.8604 |
| Q13 | 6 | -0.10620 | 0.7808 | 46.7805 |
| Q14 | 7 | -0.01511 | 0.9489 | 0.9356 |
| Q15 | 8 | 0.01171 | 0.9942 | 0.5617 |
| Q16 | 10 | 0.00898 | 0.9773 | 0.1997 |
| Q23 | 11 | -0.12950 | 0.8017 | 62.4412 |
| Q26 | 12 | -0.02306 | 0.7254 | 2.1815 |
| Q27 | 13 | 0.00318 | 0.6494 | 0.0414 |
| Q28 | 14 | -0.02620 | 0.9707 | 2.8160 |
| Q29 | 15 | 0.01911 | 0.6278 | 1.4981 |
| 2+7 | 16 | 0.01369 | 0.9870 | 0.7683 |
| 5+6 | 18 | 0.01029 | 0.9479 | 0.4339 |
| 8+9 | 19 | 0.00685 | 0.6574 | 0.1924 |
| 61+62 | 21 | -0.07457 | 0.9218 | 22.9208 |
| 14+15 | 22 | 0.00186 | 0.9987 | 0.0141 |
| 14+17 | 23 | 0.75339 | 0.9724 | 5388.5137 |
| 18+26 | 24 | -0.08728 | 0.2634 | 31.4648 |
| 21+24 | 26 | 0.09471 | 0.4225 | 37.1030 |
| (E) | 28 | -0.00854 | 0.7798 | 0.2992 |
| (I) | 31 | 0.26517 | 0.9659 | 310.0105 |
| 30+31 | 32 | 0.08696 | 0.9897 | 31.2349 |

STEP NUMBER 9
VARIABLE ENTERED 18

MULTIPLE R 0.3502
STD. ERROR OF EST. 0.2650

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 40.226 | 4.470 | 63.658 |
| RESIDUAL | 4099 | 287.797 | 0.070 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.91397 ) | | |
| Q10 | 1 | 0.02071 | 0.01717 | 1.4567 |
| Q55 | 3 | 0.02316 | 0.01725 | 1.8038 |
| 3X4 | 17 | -0.06350 | 0.02351 | 7.2955 |
| 5+6 | 18 | 0.01531 | 0.02325 | 3.4339 |
| 49+58 | 20 | 0.03150 | 0.02765 | 3.4598 |
| 20+27 | 25 | -0.19680 | 0.01222 | 259.4921 |
| 22+25 | 27 | -0.15597 | 0.01878 | 68.9477 |
| (P) | 29 | -0.08165 | 0.01587 | 25.4752 |
| (F) | 30 | 0.04250 | 0.03125 | 1.8377 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | -0.05814 | 0.9732 | 13.8977 |
| Q56 | 4 | 0.00323 | 0.4894 | 0.0426 |
| Q12 | 5 | -0.13758 | 0.8290 | 79.0600 |
| Q13 | 6 | -0.10628 | 0.7808 | 46.8146 |
| Q14 | 7 | -0.01520 | 0.9489 | 0.9468 |
| Q15 | 8 | 0.01136 | 0.9930 | 0.5291 |
| Q16 | 10 | 0.00658 | 0.9758 | 0.1776 |
| Q23 | 11 | -0.12461 | 0.7973 | 64.6397 |
| Q26 | 12 | -0.02329 | 0.7250 | 2.2250 |
| Q27 | 13 | 0.00316 | 0.6494 | 0.0408 |
| Q28 | 14 | -0.02655 | 0.9696 | 2.8909 |
| Q29 | 15 | 0.01983 | 0.6235 | 1.6123 |
| 2+7 | 16 | 0.01284 | 0.9765 | 0.6759 |
| 8+9 | 19 | 0.00702 | 0.6573 | 0.2017 |
| 61+62 | 21 | -0.07549 | 0.9172 | 23.4865 |
| 14+15 | 22 | 0.00153 | 0.9877 | 0.0096 |
| 14+17 | 23 | 0.75336 | 0.9722 | 5378.1978 |
| 18+26 | 24 | -0.08778 | 0.2630 | 31.8204 |
| 21+24 | 26 | 0.09443 | 0.4221 | 36.8728 |
| (E) | 28 | -0.00970 | 0.7701 | 0.3859 |
| (I) | 31 | 0.26562 | 0.9650 | 311.0830 |
| 30+31 | 32 | 0.08671 | 0.9888 | 31.0414 |

Table 5-12. (Continued)

STEP NUMBER 10
VARIABLE ENTERED 28

MULTIPLE R 0.3503
STD. ERROR OF EST. 0.2650

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 40.253 | 4.025 | 57.322 |
| RESIDUAL | 4098 | 287.770 | 0.070 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.91475 ) | | | | | | | |
| Q10 | 1 | 0.02087 | 0.01717 | 1.4752 | Q32 | 2 | -0.05767 | 0.9699 | 13.6714 |
| Q55 | 3 | 0.01988 | 0.01854 | 1.2145 | Q56 | 4 | 0.00414 | 0.4853 | 0.0731 |
| 3X4 | 17 | -0.06337 | 0.02351 | 7.2660 | Q12 | 5 | -0.13738 | 0.8285 | 78.8060 |
| 5+6 | 19 | 0.01687 | 0.02338 | 3.5230 | Q13 | 6 | -0.10603 | 0.7800 | 46.5569 |
| 49+58 | 23 | 0.05477 | 0.02814 | 3.7856 | Q14 | 7 | -0.01454 | 0.9443 | 0.8661 |
| 20+27 | 25 | -0.19579 | 0.01231 | 252.2352 | Q15 | 8 | 0.01232 | 0.9845 | 0.6216 |
| 22+25 | 27 | -0.15587 | 0.01879 | 68.9362 | Q16 | 10 | 0.00700 | 0.9741 | 0.2006 |
| (E) | 28 | -0.00963 | 0.01519 | 3.3859 | Q23 | 11 | -0.12461 | 0.7784 | 64.6197 |
| (P) | 29 | -0.07948 | 0.01625 | 23.9223 | Q26 | 12 | -0.02310 | 0.7247 | 2.1876 |
| (F) | 30 | 0.04344 | 0.03139 | 1.9153 | Q27 | 13 | 0.00326 | 0.6493 | 0.0435 |
| | | | | | Q28 | 14 | -0.02652 | 0.9696 | 2.8830 |
| | | | | | Q29 | 15 | 0.01966 | 0.6249 | 1.5842 |
| | | | | | 2+7 | 16 | 0.01235 | 0.9768 | 0.6249 |
| | | | | | 8+9 | 19 | 0.00696 | 0.6572 | 0.1982 |
| | | | | | 61+62 | 21 | -0.07495 | 0.8888 | 23.1478 |
| | | | | | 14+15 | 22 | 0.00262 | 0.9758 | 0.0280 |
| | | | | | 14+17 | 23 | 0.75438 | 0.9707 | 5410.8698 |
| | | | | | 18+26 | 24 | -0.08731 | 0.2617 | 31.4749 |
| | | | | | 21+24 | 26 | 0.09405 | 0.4209 | 36.3605 |
| | | | | | (I) | 31 | 0.26667 | 0.9616 | 313.6650 |
| | | | | | 30+31 | 32 | 0.08639 | 0.9872 | 30.8074 |

STEP NUMBER 11
VARIABLE ENTERED 10

MULTIPLE R 0.3504
STD. ERROR OF EST. 0.2650

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 11 | 40.267 | 3.661 | 52.119 |
| RESIDUAL | 4097 | 287.756 | 0.070 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.91111 ) | | | | | | | |
| Q10 | 1 | 0.02147 | 0.01723 | 1.5527 | Q32 | 2 | -0.05770 | 0.9698 | 13.6844 |
| Q55 | 3 | 0.01946 | 0.01807 | 1.1631 | Q56 | 4 | 0.00423 | 0.4852 | 0.0734 |
| Q16 | 10 | 0.03667 | 0.01489 | 5.2036 | Q12 | 5 | -0.13785 | 0.8267 | 79.3394 |
| 3X4 | 17 | -0.06331 | 0.02351 | 7.2330 | Q13 | 6 | -0.10646 | 0.7784 | 46.9567 |
| 5+6 | 18 | 0.01651 | 0.02340 | 3.4978 | Q14 | 7 | -0.01465 | 0.9437 | 0.8798 |
| 49+58 | 20 | 0.05383 | 0.02823 | 3.6359 | Q15 | 8 | 0.01242 | 0.9843 | 0.6317 |
| 20+27 | 25 | -0.19569 | 0.01233 | 251.8781 | Q23 | 11 | -0.12442 | 0.7765 | 64.4027 |
| 22+25 | 27 | -0.15591 | 0.01879 | 68.8734 | Q26 | 12 | -0.02313 | 0.7247 | 2.1921 |
| (E) | 28 | -0.00972 | 0.01520 | 3.4088 | Q27 | 13 | 0.00310 | 0.6490 | 0.0394 |
| (P) | 29 | -0.07948 | 0.01625 | 23.9184 | Q28 | 14 | -0.02812 | 0.9415 | 3.2417 |
| (F) | 30 | 0.04301 | 0.03141 | 1.8756 | Q29 | 15 | 0.02056 | 0.6173 | 1.7322 |
| | | | | | 2+7 | 16 | 0.01243 | 0.9767 | 0.6325 |
| | | | | | 8+9 | 19 | 0.00628 | 0.6520 | 0.1655 |
| | | | | | 61+62 | 21 | -0.07469 | 0.8863 | 22.9782 |
| | | | | | 14+15 | 22 | 0.00264 | 0.9758 | 0.0285 |
| | | | | | 14+17 | 23 | 0.75439 | 0.9704 | 5409.6644 |
| | | | | | 18+26 | 24 | -0.08707 | 0.2609 | 31.2873 |
| | | | | | 21+24 | 26 | 0.09405 | 0.4208 | 36.5502 |
| | | | | | (I) | 31 | 0.26676 | 0.9580 | 313.7932 |
| | | | | | 30+31 | 32 | 0.08692 | 0.9842 | 31.1805 |

Table 5-12. (Continued)

STEP NUMBER 12
VARIABLE ENTERED 19

MULTIPLE R 0.3504
STD. ERROR OF EST. 0.2650

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 12 | 40.279 | 3.357 | 47.780 |
| RESIDUAL | 4096 | 287.745 | 0.070 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.90767 ) | | |
| Q10 | 1 | 0.02218 | 0.01732 | 1.6435 |
| Q55 | 3 | 0.01536 | 0.02069 | 3.5515 |
| Q16 | 10 | 0.00612 | 0.01495 | 3.1679 |
| 3X4 | 17 | -0.06231 | 0.02364 | 5.9445 |
| 5*6 | 18 | 0.01668 | 0.02341 | 3.2081 |
| 8*9 | 19 | 0.01028 | 0.02527 | 3.1655 |
| 49*58 | 20 | 0.05419 | 0.02824 | 3.6013 |
| 20*27 | 25 | -0.19569 | 0.01253 | 251.4891 |
| 22*25 | 27 | -0.15574 | 0.01879 | 68.6710 |
| (E) | 28 | -0.00966 | 0.01521 | 3.4035 |
| (P) | 29 | -0.07897 | 0.01670 | 23.4696 |
| (F) | 30 | 0.04167 | 0.03156 | 1.7437 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | -0.05744 | 0.9669 | 13.5573 |
| Q56 | 4 | 0.00441 | 0.4048 | 0.0795 |
| Q12 | 5 | -0.13820 | 0.8250 | 79.0309 |
| Q13 | 6 | -0.10662 | 0.7781 | 47.6092 |
| Q14 | 7 | -0.07480 | 0.9432 | 8.8969 |
| Q15 | 8 | 0.01248 | 0.9842 | 0.6378 |
| Q23 | 11 | -0.12431 | 0.7717 | 64.2693 |
| Q26 | 12 | -0.02355 | 0.7221 | 2.2723 |
| Q27 | 13 | 0.00281 | 0.4476 | 0.0324 |
| Q28 | 14 | -0.02940 | 0.9206 | 3.5418 |
| Q29 | 15 | 0.62069 | 0.6171 | 1.7536 |
| 2*7 | 16 | 0.01245 | 0.9767 | 0.6352 |
| 61*62 | 21 | -0.07651 | 0.8703 | 22.8583 |
| 14*15 | 22 | 0.00262 | 0.9758 | 0.0281 |
| 14*17 | 23 | 0.75442 | 0.9700 | 5489.4345 |
| 18*26 | 24 | -0.04701 | 0.2609 | 31.2406 |
| 21*24 | 26 | 0.09391 | 0.4205 | 36.4336 |
| (I) | 31 | 0.26747 | 0.9553 | 315.5230 |
| 30*31 | 32 | 0.08696 | 0.9841 | 31.1996 |

STEP NUMBER 13
VARIABLE ENTERED 4

MULTIPLE R 0.3504
STD. ERROR OF EST. 0.2651

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 13 | 40.284 | 3.099 | 44.101 |
| RESIDUAL | 4095 | 287.739 | 0.070 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.90580 ) | | |
| Q10 | 1 | 0.01755 | 0.02367 | 3.5550 |
| Q55 | 3 | 0.01967 | 0.02072 | 3.5720 |
| Q56 | 4 | 0.00862 | 0.02348 | 3.0795 |
| Q16 | 10 | 0.00617 | 0.01495 | 3.1739 |
| 3X4 | 17 | -0.06267 | 0.02368 | 7.0831 |
| 5*6 | 18 | 0.01695 | 0.02343 | 3.5236 |
| 8*9 | 19 | 0.01047 | 0.02528 | 3.1715 |
| 49*58 | 20 | 0.05465 | 0.02829 | 3.7339 |
| 20*27 | 25 | -0.19546 | 0.01234 | 253.7178 |
| 22*25 | 27 | -0.15580 | 0.01880 | 63.6994 |
| (E) | 28 | -0.01006 | 0.01527 | 3.4336 |
| (P) | 29 | -0.07869 | 0.01633 | 23.2097 |
| (F) | 30 | 0.04221 | 0.03166 | 1.7730 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | -0.05736 | 0.9665 | 13.5156 |
| Q12 | 5 | -0.13842 | 0.8246 | 79.9718 |
| Q13 | 6 | -0.10668 | 0.7780 | 47.1232 |
| Q14 | 7 | -0.01495 | 0.9623 | 0.9147 |
| Q15 | 8 | 0.01232 | 0.9827 | 0.6213 |
| Q23 | 11 | -0.12431 | 0.7717 | 64.2569 |
| Q26 | 12 | -0.02349 | 0.7219 | 2.2598 |
| Q27 | 13 | 0.00284 | 0.6476 | 0.0331 |
| Q28 | 14 | -0.07923 | 0.9188 | 3.5013 |
| Q29 | 15 | 0.02023 | 0.5970 | 1.6756 |
| 2*7 | 16 | 0.01239 | 0.9764 | 0.6282 |
| 61*62 | 21 | -0.07638 | 0.8690 | 22.7767 |
| 14*15 | 22 | 0.00241 | 0.9737 | 0.0239 |
| 14*17 | 23 | 0.75454 | 0.9695 | 5412.1890 |
| 18*26 | 24 | -0.08699 | 0.2609 | 31.2186 |
| 21*24 | 26 | 0.09392 | 0.4209 | 36.4364 |
| (I) | 31 | 0.26750 | 0.9553 | 315.5366 |
| 30*31 | 32 | 0.08701 | 0.9840 | 31.2299 |

Table 5-12. (Continued)

STEP NUMBER 14
VARIABLE ENTERED 22

MULTIPLE R 0.3594
STD. ERROR OF EST. 0.2821

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 14 | 40.286 | 2.878 | 40.943 |
| RESIDUAL | 4034 | 287.737 | 0.071 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.90715 ) | | | | | | | |
| Q13 | 1 | 0.01730 | 0.02370 | 0.5044 | Q32 | 2 | -0.05732 | 0.9658 | 13.4918 |
| Q55 | 3 | 0.01555 | 0.02073 | 0.5623 | Q12 | 5 | -0.13920 | 0.8179 | 88.8776 |
| Q56 | 4 | 0.03445 | 0.02351 | 2.0753 | Q13 | 6 | -0.10691 | 0.7763 | 47.3218 |
| 3X4 | 17 | 0.00518 | 0.01495 | 0.1238 | C14 | 7 | -0.02252 | 0.5915 | 1.7486 |
| 3X4 | 17 | -0.06264 | 0.02369 | 6.9963 | Q15 | 8 | 0.02272 | 0.7389 | 1.7586 |
| 5+6 | 18 | 0.01667 | 0.02344 | 0.5134 | Q23 | 11 | -0.12472 | 0.7625 | 64.6777 |
| 8+9 | 19 | 0.01245 | 0.02528 | 0.1739 | Q26 | 12 | -0.02353 | 0.7218 | 2.2665 |
| 49+58 | 20 | 0.05461 | 0.02830 | 3.7253 | Q27 | 13 | 0.00278 | 0.6472 | 0.0317 |
| 14+15 | 22 | 0.03280 | 0.01813 | 3.2239 | C28 | 14 | -0.02936 | 0.9172 | 3.5316 |
| 20+27 | 25 | -0.19550 | 0.01235 | 253.6534 | Q29 | 15 | 0.02026 | 0.5969 | 1.6831 |
| 22+25 | 27 | -0.15421 | 0.01005 | 99.5139 | 2+7 | 16 | 0.01229 | 0.9743 | 0.6179 |
| (E) | 28 | -0.01925 | 0.01536 | 3.4533 | 61+62 | 21 | -0.07440 | 0.8689 | 22.7842 |
| (F) | 29 | -0.07861 | 0.01635 | 23.1337 | 14+17 | 23 | 0.02313 | 0.8126 | 2600.0923 |
| (F) | 30 | 0.04234 | 0.03166 | 1.7882 | 18+26 | 24 | -0.00697 | 0.2609 | 31.1979 |
| | | | | | 21+24 | 26 | 0.09391 | 0.4205 | 36.4197 |
| | | | | | (I) | 31 | 0.26749 | 0.9551 | 315.4387 |
| | | | | | 30+31 | 32 | 0.00745 | 0.9783 | 31.5410 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDEN VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 20+27 25 | | 0.3097 | 0.0959 | 0.0959 | 435.5632 | 1 |
| 2 | 22+25 27 | | 0.3363 | 0.1129 | 0.0170 | 78.6342 | 2 |
| 3 | (F) 29 | | 0.3445 | 0.1187 | 0.0059 | 27.2861 | 3 |
| 4 | 3X4 17 | | 0.3475 | 0.1208 | 0.0020 | 9.4716 | 4 |
| 5 | 49+58 20 | | 0.3485 | 0.1215 | 0.0007 | 3.4057 | 5 |
| 6 | (F) 30 | | 0.3492 | 0.1220 | 0.0005 | 2.2277 | 6 |
| 7 | 395 3 | | 0.3497 | 0.1223 | 0.0003 | 1.3861 | 7 |
| 8 | Q10 1 | | 0.3501 | 0.1225 | 0.0003 | 1.2808 | 8 |
| | 5+6 18 | | 0.3502 | 0.1226 | 0.0001 | 0.4339 | 9 |
| 10 | (E) 28 | | 0.3503 | 0.1227 | 0.0001 | 0.3859 | 10 |
| 11 | Q15 10 | | 0.3504 | 0.1228 | 0.0000 | 0.2006 | 11 |
| 12 | 8+9 19 | | 0.3504 | 0.1228 | 0.0000 | 0.1655 | 12 |
| 13 | Q56 4 | | 0.3504 | 0.1228 | 0.0000 | 0.0795 | 13 |
| 14 | 14+15 22 | | 0.3504 | 0.1228 | 0.0000 | 0.0239 | 14 |

**Table 5-13. Actual Layout of Transporting Medium plus Actual Composition of Transporting Medium**

```
SUB-PROBLEM    3
DEPENDENT VARIABLE          y(20+21)
MAXIMUM NUMBER OF STEPS        30
F-LEVEL FOR INCLUSION       0.010000
F-LEVEL FOR DELETION        0.009000
TOLERANCE LEVEL             0.001000


 STEP NUMBER    1
 VARIABLE ENTERED   11

 MULTIPLE R                 0.8488
 STD. ERROR OF EST.         0.1999

 ANALYSIS OF VARIANCE
                  DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
       REGRESSION    1           431.198        431.198   10.+3.685
       RESIDUAL   4188           187.337          0.045

                VARIABLES IN EQUATION                          VARIABLES NOT IN EQUATION

  VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE .  VARIABLE    PARTIAL CORR.    TOLERANCE   F TO ENTER

  (CONSTANT         0.07347 )                        .
  20+27 11          0.88520     0.00852  10793.6949  .  010    1       -0.02221        0.9997       2.0671
                                                     .  055    2       -0.06783        0.9886      19.3536
                                                     .  056    3       -0.00610        1.0000       0.0734
                                                     .  016    4       -0.00663        0.9998       0.1238
                                                     .  3X4    5        0.07861        0.9872      26.0362
                                                     .  5+6    6        0.05828        0.9996      14.2719
                                                     .  8+9    7       -0.06304        0.9865      17.1353
                                                     .  49+58  8        0.03350        0.9978       6.7338
                                                     .  14+17  9       -0.04151        0.9823       7.2271
                                                     .  21+24 12        0.13714        0.9246      88.2618
                                                     .  22+25 13        0.14061        0.8877      94.5537
                                                     .  E      14       0.09977        0.9608      42.1000
                                                     .  (F)    15      -0.003+9        1.0000       0.0454


 STEP NUMBER    2
 VARIABLE ENTERED   12

 MULTIPLE R                 0.8519
 STD. ERROR OF EST.         0.1980

 ANALYSIS OF VARIANCE
                  DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
       REGRESSION    2           434.344        217.172   5539.112
       RESIDUAL   4187           164.189          0.039

                VARIABLES IN EQUATION                          VARIABLES NOT IN EQUATION

  VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE .  VARIABLE    PARTIAL CORR.    TOLERANCE   F TO ENTER

  (CONSTANT         0.01092 )                        .
  20+27 11          0.86361     0.00878   9679.2322  .  010    1       -0.01952        0.9992       1.5949
  21+24 12          0.12742     0.01432     83.2610  .  055    2       -0.06336        0.9792      16.8747
                                                     .  056    3       -0.06277        0.9999       0.0321
                                                     .  016    4       -0.04756        0.9997       9.6897
                                                     .  3X4    5        0.07067        0.9832      21.0084
                                                     .  5+6    6        0.04990        0.9951      10.4531
                                                     .  8+9    7       -0.06102        0.9859      15.6431
                                                     .  49+58  8        0.02768        0.9958       3.2088
                                                     .  14+17  9       -0.04282        0.9823       7.6893
                                                     .  22+25 13        0.07142        0.4117      21.4627
                                                     .  E      14       0.10136        0.9608      43.4487
                                                     .  (F)    15      -0.00459        0.9999       0.3883
```

Table 5-13. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 14

MULTIPLE R 0.8535
STD. ERROR OF EST. 0.1970

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 436.033 | 145.344 | 3744.662 |
| RESIDUAL | 4186 | 162.474 | 0.039 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | -0.00248 ) | | |
| 20+27 11 | 0.85235 | 0.00890 | 9172.4774 |
| 21+24 12 | 0.12784 | 0.01415 | 81.6127 |
| E 14 | 0.06600 | 0.01001 | 43.4497 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02126 | 0.9990 | 1.8916 |
| Q55 | 2 | -0.03303 | 0.8801 | 4.5628 |
| Q56 | 3 | -0.01071 | 0.9939 | 0.4802 |
| Q16 | 4 | -0.05284 | 0.9974 | 11.7191 |
| 3X4 | 5 | 0.06534 | 0.9800 | 17.9430 |
| 5+6 | 6 | 0.03625 | 0.9756 | 5.5068 |
| 8+9 | 7 | -0.04243 | 0.9490 | 7.5461 |
| 49+58 | 8 | 0.00479 | 0.9444 | 0.0962 |
| 14+17 | 9 | -0.04502 | 0.9819 | 8.5005 |
| 22+25 | 13 | 0.06404 | 0.4092 | 17.2357 |
| (F) | 15 | -0.00703 | 0.9993 | 0.2068 |

STEP NUMBER 4
VARIABLE ENTERED 5

MULTIPLE R 0.8542
STD. ERROR OF EST. 0.1966

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 436.724 | 139.181 | 2824.350 |
| RESIDUAL | 4185 | 161.780 | 0.039 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | -0.00697 ) | | |
| 3X4 5 | 0.07193 | 0.01698 | 17.9430 |
| 20+27 11 | 0.84936 | 0.00891 | 9387.6194 |
| 21+24 12 | 0.12399 | 0.01415 | 76.7650 |
| E 14 | 0.06358 | 0.01001 | 40.3615 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02474 | 0.9963 | 2.5621 |
| Q55 | 2 | -0.02298 | 0.8580 | 2.2096 |
| Q56 | 3 | -0.01679 | 0.9856 | 1.1794 |
| Q16 | 4 | -0.05141 | 0.9968 | 11.0878 |
| 5+6 | 6 | 0.03665 | 0.9756 | 5.6281 |
| 8+9 | 7 | -0.03129 | 0.9185 | 4.1005 |
| 49+58 | 8 | 0.00948 | 0.9397 | 0.3760 |
| 14+17 | 9 | -0.04292 | 0.9808 | 7.7216 |
| 22+25 | 13 | 0.06047 | 0.4078 | 15.3537 |
| (F) | 15 | -0.00439 | 0.9977 | 0.0838 |

STEP NUMBER 5
VARIABLE ENTERED 4

MULTIPLE R 0.8546
STD. ERROR OF EST. 0.1964

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 437.152 | 87.430 | 2267.144 |
| RESIDUAL | 4184 | 161.352 | 0.039 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.01433 ) | | |
| Q16 4 | -0.03608 | 0.01084 | 11.3878 |
| 3X4 5 | 0.07058 | 0.01696 | 17.3392 |
| 20+27 11 | 0.84867 | 0.00890 | 9389.9031 |
| 21+24 12 | 0.12424 | 0.01414 | 77.2549 |
| E 14 | 0.06525 | 0.01001 | 42.5055 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.03018 | 0.9859 | 3.8131 |
| Q55 | 2 | -0.01928 | 0.8534 | 1.5553 |
| Q56 | 3 | -0.02155 | 0.9775 | 1.9437 |
| 5+6 | 6 | 0.03989 | 0.9720 | 6.6650 |
| 8+9 | 7 | -0.02535 | 0.9053 | 2.6896 |
| 49+58 | 8 | 0.01420 | 0.9320 | 0.8436 |
| 14+17 | 9 | -0.04170 | 0.9801 | 7.2867 |
| 22+25 | 13 | 0.06067 | 0.4078 | 15.4515 |
| (F) | 15 | -0.00219 | 0.9959 | 0.0200 |

Table 5-13. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 9

MULTIPLE R 0.8549
STD. ERROR OF EST. 0.1962

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 437.433 | 72.905 | 1893.340 |
| RESIDUAL | 4183 | 161.072 | 0.039 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.03842 ) | | | | | | | |
| Q16 | 4 | -0.03535 | 0.01083 | 10.6518 | Q10 | 1 | -0.03045 | 0.9859 | 3.8814 |
| 3X4 | 5 | 0.06905 | 0.01696 | 16.5762 | Q55 | 2 | -0.01632 | 0.8489 | 1.1141 |
| 14+17 | 9 | -0.04735 | 0.01743 | 7.2857 | Q56 | 3 | -0.02126 | 0.9774 | 1.8910 |
| 20+27 | 11 | 0.84558 | 0.00897 | 8893.4495 | 5+6 | 6 | 0.04058 | 0.9718 | 6.8988 |
| 21+24 | 12 | 0.12457 | 0.01413 | 77.7737 | 8+9 | 7 | -0.02388 | 0.9825 | 2.2284 |
| E | 14 | 0.06579 | 0.01000 | 43.2631 | 49+58 | 8 | 0.01605 | 0.9302 | 1.0779 |
| | | | | | 22+25 | 13 | 0.05850 | 0.4066 | 14.3632 |
| | | | | | (F) | 15 | -0.00007 | 0.9949 | 0.0032 |

STEP NUMBER 7
VARIABLE ENTERED 6

MULTIPLE R 0.8552
STD. ERROR OF EST. 0.1961

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 437.698 | 62.528 | 1626.137 |
| RESIDUAL | 4182 | 160.806 | 0.038 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.01999 ) | | | | | | | |
| Q16 | 4 | -0.03706 | 0.01084 | 11.6916 | Q10 | 1 | -0.02474 | 0.9643 | 2.5616 |
| 3X4 | 5 | 0.06918 | 0.01695 | 16.6639 | Q55 | 2 | -0.01871 | 0.8461 | 1.4644 |
| 5+6 | 6 | 0.04426 | 0.01685 | 6.8988 | Q56 | 3 | -0.01567 | 0.9577 | 1.0263 |
| 14+17 | 9 | -0.04777 | 0.01742 | 7.5234 | 8+9 | 7 | -0.02415 | 0.9819 | 2.4390 |
| 20+27 | 11 | 0.84598 | 0.00896 | 8903.7936 | 49+58 | 8 | 0.01102 | 0.9153 | 0.5078 |
| 21+24 | 12 | 0.12210 | 0.01415 | 74.5012 | 22+25 | 13 | 0.05812 | 0.4065 | 14.1723 |
| E | 14 | 0.06217 | 0.01009 | 37.9496 | (F) | 15 | -0.00375 | 0.9899 | 0.0588 |

STEP NUMBER 8
VARIABLE ENTERED 1

MULTIPLE R 0.8553
STD. ERROR OF EST. 0.1961

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 437.796 | 54.725 | 1423.721 |
| RESIDUAL | 4181 | 160.708 | 0.038 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.02765 ) | | | | | | | |
| Q10 | 1 | -0.01988 | 0.01242 | 2.5516 | Q55 | 2 | -0.02259 | 0.8279 | 2.1338 |
| Q16 | 4 | -0.03870 | 0.01089 | 12.6235 | Q56 | 3 | 0.00211 | 0.4959 | 0.3186 |
| 3X4 | 5 | 0.07053 | 0.01697 | 17.2839 | 8+9 | 7 | -0.02835 | 0.8801 | 3.3617 |
| 5+6 | 6 | 0.04023 | 0.01703 | 5.5773 | 49+58 | 8 | 0.00881 | 0.9078 | 0.3246 |
| 14+17 | 9 | -0.04737 | 0.01742 | 7.5567 | 22+25 | 13 | 0.05744 | 0.4062 | 13.8355 |
| 20+27 | 11 | 0.84612 | 0.00896 | 8914.2714 | (F) | 15 | -0.00526 | 0.9863 | 0.1155 |
| 21+24 | 12 | 0.12173 | 0.01415 | 74.1264 | | | | | |
| E | 14 | 0.06279 | 0.01010 | 38.6751 | | | | | |

Table 5-13. (Continued)

STEP NUMBER 9
VARIABLE ENTERED 7

MULTIPLE R 0.8554
STD. ERROR OF EST. 0.1968

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 437.926 | 48.658 | 1256.618 |
| RESIDUAL | 4180 | 160.579 | 0.038 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.04284 ) | | | | | | | |
| Q10 | 1 | -0.02347 | 0.01257 | 3.4863 | Q55 | 2 | -0.00905 | 0.6249 | 3.4353 |
| Q16 | 4 | -0.03662 | 0.01094 | 11.1992 | Q56 | 3 | 0.00026 | 0.4938 | 0.0003 |
| 3X4 | 5 | 0.06515 | 0.01721 | 14.3252 | 49+58 | 8 | 0.00782 | 0.9067 | 3.2555 |
| 5+6 | 6 | 0.04030 | 0.01733 | 5.4813 | 22+25 | 13 | 0.05649 | 0.4057 | 13.3778 |
| 8+9 | 7 | -0.02928 | 0.01597 | 3.3617 | (F) | 15 | -0.00113 | 0.9653 | 0.0054 |
| 14+17 | 9 | -0.04609 | 0.01744 | 6.9859 | | | | | |
| 20+27 | 11 | 0.84542 | 0.00897 | 8887.9892 | | | | | |
| 21+24 | 12 | 0.12126 | 0.01414 | 73.4937 | | | | | |
| E | 14 | 0.05916 | 0.01029 | 33.0782 | | | | | |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 20+27 11 | | 0.8489 | 0.7205 | 0.7205 | 10793.6847 | 1 |
| 2 | 21+24 12 | | 0.8519 | 0.7257 | 0.0053 | 80.2610 | 2 |
| 3 | E 14 | | 0.8535 | 0.7285 | 0.0028 | 43.4487 | 3 |
| 4 | 3X4 5 | | 0.8542 | 0.7297 | 0.0012 | 17.9430 | 4 |
| 5 | Q16 4 | | 0.8545 | 0.7304 | 0.0007 | 11.0878 | 5 |
| 6 | 14+17 9 | | 0.8549 | 0.7309 | 0.0005 | 7.2867 | 6 |
| 7 | 5+6 6 | | 0.8552 | 0.7313 | 0.0004 | 6.8988 | 7 |
| 8 | Q10 1 | | 0.8553 | 0.7315 | 0.0002 | 2.5616 | 8 |
| 9 | 8+9 7 | | 0.8554 | 0.7317 | 0.0002 | 3.3617 | 9 |

## Table 5-14. Desired Composition of Transporting Medium plus Desired Layout of Transporting Medium

```
SUB-PROBLEM   2
DEPENDENT VARIABLE          (220-227)
MAXIMUM NUMBER OF STEPS        50
F-LEVEL FOR INCLUS   1      0.010000
F-LEVEL FOR DELETIO-        0.005000
TOLERANCE LEVEL             0.001000


 STEP NUMBER    1
 VARIABLE ENTERED   13

 MULTIPLE R                 0.3351
 STD. ERROR OF EST.         0.3415

 ANALYSIS OF VARIANCE
                  DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
       REGRESSION  1         61.779          61.779       529.633
       RESIDUAL  4187         488.508          0.117

                VARIABLES IN EQUATION                    .                    VARIABLES NOT IN EQUATION
  VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE      .    VARIABLE    PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                         .
  (CONSTANT        0.32761 )                             .
  22+25 13         0.51520     0.02239     529.5329      .    Q10    1        0.02827       0.9994       3.3487
                                                         .    Q55    2       -0.11235       0.9896      53.5279
                                                         .    Q56    3        0.00950       0.9999       0.3779
                                                         .    Q16    4       -0.01671       1.0000       1.1701
                                                         .    3X4    5        0.07735       0.9853      25.2026
                                                         .    5+6    6        0.00318       0.9956       0.3425
                                                         .    8+9    7       -0.09098       0.9915      34.9454
                                                         .    49+58  8        0.02073       0.9934       1.8884
                                                         .    14+17  9       -0.11478       0.9963      55.8984
                                                         .    18+26 10        0.82845       0.8715    9151.6367
                                                         .    21+24 12        0.03487       0.4293       5.0959
                                                         .    E     14        0.17134       0.9874     126.6335
                                                         .    (F)   15       -0.00428       1.0000       0.0767


 STEP NUMBER    2
 VARIABLE ENTERED   14

 MULTIPLE R                 0.3719
 STD. ERROR OF EST.         0.3365

 ANALYSIS OF VARIANCE
                  DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
       REGRESSION  2         76.119          38.060       336.076
       RESIDUAL  4187         474.167          0.113

                VARIABLES IN EQUATION                    .                    VARIABLES NOT IN EQUATION
  VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE      .    VARIABLE    PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                         .
  (CONSTANT        0.28653 )                             .
  22+25 13         0.48714     0.02220     481.5659      .    Q10    1        0.02480       0.9989       2.5771
  E     14         0.18984     0.01687     125.5335      .    Q55    2       -0.06029       0.8830      15.2695
                                                         .    Q56    3       -0.00404       0.9938       0.0684
                                                         .    Q16    4       -0.02482       0.9980       2.5797
                                                         .    3X4    5        0.06741       0.9811      19.1366
                                                         .    5+6    6       -0.02049       0.9773       1.7581
                                                         .    8+9    7       -0.05826       0.9507      14.2551
                                                         .    49+58  8       -0.01844       0.9434       1.4242
                                                         .    14+17  9       -0.11666       0.9963      57.7556
                                                         .    18+26 10        0.82279       0.8389    8772.8622
                                                         .    21+24 12        0.04473       0.4281       8.3927
                                                         .    (F)   15       -0.00826       0.9995       0.2853
```

Table 5-14. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 5

MULTIPLE R 0.3771
STD. ERROR OF EST. 0.3358

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 78.274 | 26.091 | 231.386 |
| RESIDUAL | 4186 | 472.813 | 0.113 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.27834 ) | | | | | | |
| 3X4 | 5 | 0.12669 | 0.02898 | 19.1856 | Q10 1 | 0.02116 | 0.9958 | 1.8751 |
| 22+25 | 13 | 0.47636 | 0.02230 | 455.9135 | Q55 2 | -0.05020 | 0.8681 | 18.5734 |
| E | 14 | 0.18507 | 0.01687 | 123.3836 | Q56 3 | -0.01829 | 0.9854 | 0.4429 |
| | | | | | Q16 4 | -0.02316 | 0.9973 | 2.2451 |
| | | | | | 5+6 6 | -0.02068 | 0.9775 | 1.6874 |
| | | | | | 8+9 7 | -0.04698 | 0.9197 | 9.2554 |
| | | | | | 49+58 8 | -0.01349 | 0.9382 | 0.7617 |
| | | | | | 14+17 9 | -0.11442 | 0.9929 | 55.5214 |
| | | | | | 18+26 10 | 0.82192 | 0.8320 | 8713.9134 |
| | | | | | 21+24 12 | 0.04456 | 0.4281 | 0.3277 |
| | | | | | (F) 15 | -0.00553 | 0.9978 | 0.1281 |

STEP NUMBER 4
VARIABLE ENTERED 2

MULTIPLE R 0.3800
STD. ERROR OF EST. 0.3354

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 79.463 | 19.866 | 176.581 |
| RESIDUAL | 4185 | 470.823 | 0.113 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.31641 ) | | | | | | |
| Q55 | 2 | -0.07202 | 0.02215 | 13.5734 | Q10 1 | 0.01327 | 0.9700 | 0.7375 |
| 3X4 | 5 | 0.11133 | 0.02933 | 14.4853 | Q56 3 | -0.01908 | 0.9572 | 1.5238 |
| 22+25 | 13 | 0.47240 | 0.02230 | 448.8213 | Q16 4 | -0.01950 | 0.9918 | 1.5938 |
| E | 14 | 0.16639 | 0.01780 | 87.3692 | 5+6 6 | -0.01694 | 0.9733 | 1.2011 |
| | | | | | 8+9 7 | -0.02473 | 0.6772 | 2.5638 |
| | | | | | 49+58 8 | -0.01193 | 0.9377 | 0.5955 |
| | | | | | 14+17 9 | -0.11049 | 0.9869 | 52.1864 |
| | | | | | 18+26 10 | 0.82144 | 0.8296 | 8683.6188 |
| | | | | | 21+24 12 | 0.04397 | 0.4280 | 0.1059 |
| | | | | | (F) 15 | 0.00087 | 0.9817 | 0.0032 |

STEP NUMBER 5
VARIABLE ENTERED 7

MULTIPLE R 0.3807
STD. ERROR OF EST. 0.3354

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 79.751 | 15.950 | 141.830 |
| RESIDUAL | 4184 | 470.535 | 0.112 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.33081 ) | | | | | | |
| Q55 | 2 | -0.05081 | 0.02581 | 3.8754 | Q10 1 | 0.01079 | 0.9598 | 0.4872 |
| 3X4 | 5 | 0.10596 | 0.02952 | 12.8837 | Q56 3 | -0.02146 | 0.9491 | 1.9265 |
| 8+9 | 7 | -0.04985 | 0.03115 | 2.5638 | Q16 4 | -0.01719 | 0.9826 | 1.2369 |
| 22+25 | 13 | 0.47138 | 0.02230 | 445.6876 | 5+6 6 | -0.01687 | 0.9733 | 1.1910 |
| E | 14 | 0.16566 | 0.01780 | 85.5725 | 49+58 8 | -0.01245 | 0.9368 | 0.6487 |
| | | | | | 14+17 9 | -0.11042 | 0.9862 | 51.6314 |
| | | | | | 18+26 10 | 0.82132 | 0.8287 | 8670.7418 |
| | | | | | 21+24 12 | 0.04452 | 0.4278 | 0.3080 |
| | | | | | (F) 15 | 0.00364 | 0.9695 | 0.0556 |

Table 5-14. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 3

MULTIPLE R 0.3812
STD. ERROR OF EST. 0.3353

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 79.969 | 13.328 | 118.539 |
| RESIDUAL | 4183 | 470.319 | 0.112 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.35338 ) | | | | | | |
| 055 | 2 | -0.05441 | 0.02593 | 4.4814 | 010 1 | 0.03551 | 0.5004 | 5.2000 |
| 056 | 3 | -0.02925 | 0.02188 | 1.9255 | 016 4 | -0.01876 | 0.9777 | 1.4722 |
| 3X4 | 5 | 0.10816 | 0.02956 | 13.3930 | 5+6 6 | -0.02002 | 0.9548 | 1.6776 |
| 8+9 | 7 | -0.05395 | 0.03128 | 2.9532 | 49+58 8 | -0.01530 | 0.9217 | 0.9798 |
| 22+25 | 13 | 0.47019 | 0.02232 | 443.9760 | 14+17 9 | -0.11001 | 0.9057 | 51.2318 |
| E | 14 | 0.16597 | 0.01788 | 85.9334 | 18+26 10 | 0.02124 | 0.8200 | 0663.1750 |
| | | | | | 21+24 12 | 0.04454 | 0.4278 | 0.3123 |
| | | | | | (F) 15 | 0.00195 | 0.9634 | 0.0150 |

STEP NUMBER 7
VARIABLE ENTERED 1

MULTIPLE R 0.3826
STD. ERROR OF EST. 0.3351

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 83.561 | 11.509 | 102.463 |
| RESIDUAL | 4182 | 469.726 | 0.112 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.33498 ) | | | | | | |
| 010 | 1 | 0.06774 | 0.02948 | 5.2830 | 016 4 | -0.01712 | 0.9755 | 1.2254 |
| 055 | 2 | -0.05293 | 0.02593 | 4.1670 | 5+6 6 | -0.01760 | 0.9502 | 1.2960 |
| 056 | 3 | -0.07553 | 0.02917 | 6.7236 | 49+58 8 | -0.01401 | 0.9204 | 0.8234 |
| 3X4 | 5 | 0.11034 | 0.02956 | 13.8626 | 14+17 9 | -0.10951 | 0.9055 | 50.7519 |
| 8+9 | 7 | -0.04994 | 0.03131 | 2.5439 | 18+26 10 | 0.02124 | 0.8277 | 8651.3986 |
| 22+25 | 13 | 0.47152 | 0.02231 | 445.5416 | 21+24 12 | 0.04424 | 0.4278 | 0.2002 |
| E | 14 | 0.16857 | 0.01783 | 89.3792 | (F) 15 | 0.00141 | 0.9632 | 0.0083 |

STEP NUMBER 8
VARIABLE ENTERED 6

MULTIPLE R 0.3830
STD. ERROR OF EST. 0.3351

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 80.707 | 10.088 | 89.823 |
| RESIDUAL | 4181 | 469.583 | 0.112 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.35897 ) | | | | | | |
| 010 | 1 | 0.06539 | 0.02955 | 4.8972 | 016 4 | -0.01636 | 0.9736 | 1.1189 |
| 055 | 2 | -0.05191 | 0.02595 | 3.9879 | 49+58 8 | -0.01211 | 0.9088 | 0.6128 |
| 056 | 3 | -0.07737 | 0.02921 | 7.0167 | 14+17 9 | -0.10922 | 0.9051 | 50.4032 |
| 3X4 | 5 | 0.11036 | 0.02956 | 13.9425 | 18+26 10 | 0.02149 | 0.8277 | 8675.1638 |
| 5+6 | 6 | -0.03315 | 0.02912 | 1.2956 | 21+24 12 | 0.04498 | 0.4271 | 0.4734 |
| 8+9 | 7 | -0.05042 | 0.03131 | 2.5982 | (F) 15 | 0.00243 | 0.9600 | 0.0246 |
| 22+25 | 13 | 0.47276 | 0.02234 | 447.8576 | | | | |
| E | 14 | 0.17160 | 0.01803 | 90.6598 | | | | |

Table 5-14. (Continued)

STEP NUMBER 9
VARIABLE ENTERED 4

MULTIPLE R 0.3833
STD. ERROR OF EST. 0.3351

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 88.832 | 8.981 | 79.970 |
| RESIDUAL | 4183 | 469.454 | 0.112 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.36932 ) | | | | | | | |
| Q10 | 1 | 0.06482 | 0.02958 | 4.6045 | 49+58 | 8 | -0.01008 | 0.9825 | 0.4958 |
| Q55 | 2 | -0.05169 | 0.02595 | 3.9833 | 14+17 | 9 | -0.10893 | 0.9847 | 53.1830 |
| Q56 | 3 | -0.07787 | 0.02922 | 7.1362 | 18+26 | 10 | 0.02166 | 0.8261 | 8894.4230 |
| Q16 | 4 | -0.01979 | 0.01871 | 1.1199 | 21+24 | 12 | 0.04496 | 0.4271 | 8.4554 |
| 3X4 | 5 | 0.11936 | 0.02956 | 13.9420 | (F) | 15 | 0.00270 | 0.9597 | 0.0334 |
| 5+6 | 6 | -0.03179 | 0.02915 | 1.1895 | | | | | |
| 8+9 | 7 | -0.04753 | 0.03143 | 2.2831 | | | | | |
| 22+25 | 13 | 0.47272 | 0.02234 | 447.9228 | | | | | |
| E | 14 | 0.17278 | 0.01806 | 91.5129 | | | | | |

STEP NUMBER 10
VARIABLE ENTERED 8

MULTIPLE R 0.3834
STD. ERROR OF EST. 0.3351

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 80.898 | 8.089 | 72.014 |
| RESIDUAL | 4179 | 469.389 | 0.112 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.37409 ) | | | | | | | |
| Q10 | 1 | 0.06348 | 0.02959 | 4.6018 | 14+17 | 9 | -0.10854 | 0.9825 | 49.8119 |
| Q55 | 2 | -0.05133 | 0.02595 | 3.9112 | 18+26 | 10 | 0.02165 | 0.8261 | 8681.9886 |
| Q56 | 3 | -0.07911 | 0.02927 | 7.3065 | 21+24 | 12 | 0.04497 | 0.4271 | 8.4657 |
| Q16 | 4 | -0.01878 | 0.01877 | 1.0010 | (F) | 15 | 0.00277 | 0.9597 | 0.0287 |
| 3X4 | 5 | 0.10896 | 0.02962 | 13.5334 | | | | | |
| 5+6 | 6 | -0.02954 | 0.02933 | 1.0165 | | | | | |
| 8+9 | 7 | -0.04838 | 0.03146 | 2.3652 | | | | | |
| 49+58 | 8 | -0.02497 | 0.03553 | 0.4950 | | | | | |
| 22+25 | 12 | 0.47361 | 0.02238 | 443.0596 | | | | | |
| E | 14 | 0.17546 | 0.01846 | 90.3454 | | | | | |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDEN VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 22+25 13 | | 0.3351 | 0.1123 | 0.1123 | 529.6329 | 1 |
| 2 | E 14 | | 0.3719 | 0.1383 | 0.0261 | 126.6305 | 2 |
| 3 | 3X4 5 | | 0.3771 | 0.1422 | 0.0039 | 17.1066 | 3 |
| 4 | Q55 2 | | 0.3803 | 0.1444 | 0.0022 | 10.5734 | 4 |
| 5 | 8+9 7 | | 0.3807 | 0.1449 | 0.0005 | 2.5608 | 5 |
| 6 | Q56 3 | | 0.3812 | 0.1453 | 0.0004 | 1.9265 | 6 |
| 7 | Q10 1 | | 0.3825 | 0.1464 | 0.0011 | 5.2800 | 7 |
| 8 | 5+6 6 | | 0.3833 | 0.1467 | 0.0003 | 1.2960 | 8 |
| 9 | Q16 4 | | 0.3833 | 0.1469 | 0.0002 | 1.1189 | 9 |
| 10 | 49+58 8 | | 0.3834 | 0.1470 | 0.0001 | 0.4950 | 10 |

## Table 5-15. Actual Volume of Transporting Medium plus Actual Detail of Transporting Medium

SUB-PROBLEM 1
DEPENDENT VARIABLE [illegible]
MAXIMUM NUMBER OF STEPS 30
F-LEVEL FOR INCLUSION 0.010000
F-LEVEL FOR DELETION 0.005000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 13

MULTIPLE R 0.7554
STD. ERROR OF EST. 0.1464

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 119.634 | 119.634 | 5567.174 |
| RESIDUAL | 4188 | 89.998 | 0.021 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.14139 ) | | | | | | | |
| 22+25 13 | 0.71994 | 0.00961 | 5567.1239 | 310 | 1 | 0.00563 | 0.9996 | 0.1325 |
| | | | | 355 | 2 | 0.03485 | 0.9896 | 0.0986 |
| | | | | 356 | 3 | -0.00327 | 0.9999 | 0.0449 |
| | | | | 316 | 4 | -0.00165 | 1.0000 | 0.0114 |
| | | | | 3X4 | 5 | 0.00054 | 0.9853 | 0.0012 |
| | | | | 5+6 | 6 | 0.02974 | 0.9936 | 3.7057 |
| | | | | 8+9 | 7 | 0.02125 | 0.9915 | 1.8934 |
| | | | | 49+50 | 8 | -0.00877 | 0.9936 | 0.3221 |
| | | | | 14+17 | 9 | 0.04065 | 0.9943 | 6.9294 |
| | | | | 18+26 | 10 | 0.05242 | 0.8715 | 11.5390 |
| | | | | 20+27 | 11 | 0.03487 | 0.8877 | 5.0959 |
| | | | | E | 14 | -0.05336 | 0.9874 | 11.9546 |
| | | | | (F) | 15 | 0.00948 | 1.0000 | 0.3764 |

STEP NUMBER 2
VARIABLE ENTERED 14

MULTIPLE R 0.7562
STD. ERROR OF EST. 0.1464

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 119.891 | 59.945 | 2796.820 |
| RESIDUAL | 4187 | 89.742 | 0.021 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.14679 ) | | | | | | | |
| 22+25 13 | 0.72069 | 0.00966 | 5569.3779 | 310 | 1 | 0.00[illegible]5 | 0.9969 | 0.1954 |
| E 14 | -0.02538 | 0.00734 | 11.9546 | 355 | 2 | -0.01343 | 0.8830 | 0.7548 |
| | | | | 356 | 3 | 0.00092 | 0.9938 | 0.0036 |
| | | | | 316 | 4 | 0.00075 | 0.9980 | 0.0074 |
| | | | | 3X4 | 5 | 0.00400 | 0.9811 | 0.3670 |
| | | | | 5+6 | 6 | 0.03735 | 0.9773 | 5.8487 |
| | | | | 8+9 | 7 | 0.01067 | 0.9507 | 0.4753 |
| | | | | 49+50 | 8 | 0.00329 | 0.9434 | 0.0453 |
| | | | | 14+17 | 9 | 0.04075 | 0.9943 | 6.9640 |
| | | | | 18+26 | 10 | 0.06405 | 0.8389 | 17.2448 |
| | | | | 20+27 | 11 | 0.04473 | 0.8617 | 9.3927 |
| | | | | (F) | 15 | 0.01070 | 0.9995 | 0.4792 |

Table 5-15. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 11

MULTIPLE R 0.7568
STD. ERROR OF EST. 0.1463

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 125.070 | 41.023 | 1870.636 |
| RESIDUAL | 4186 | 89.562 | 0.021 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.14122 ) | | |
| 20+27 | 11 | 0.01946 | 0.00672 | 8.3927 |
| 22+25 | 13 | 0.71121 | 0.01019 | 4872.6732 |
| E | 14 | -0.02937 | 0.00744 | 15.2551 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.00573 | 0.9983 | 0.1374 |
| Q55 | 2 | -0.01876 | 0.8798 | 1.4865 |
| Q56 | 3 | 0.00111 | 0.9937 | 0.0051 |
| Q16 | 4 | 0.00187 | 0.9974 | 0.0145 |
| 3X4 | 5 | 0.00099 | 0.9767 | 0.0041 |
| 5+6 | 6 | 0.03832 | 0.9769 | 5.1531 |
| 8+9 | 7 | 0.01331 | 0.9474 | 0.7414 |
| 49+58 | 8 | 0.00412 | 0.9431 | 0.0710 |
| 14+17 | 9 | 0.04633 | 0.9838 | 7.3341 |
| 18+26 | 10 | 0.04799 | 0.2710 | 9.5559 |
| (F) | 15 | 0.01138 | 0.9994 | 0.5137 |

STEP NUMBER 4
VARIABLE ENTERED 9

MULTIPLE R 0.7574
STD. ERROR OF EST. 0.1461

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 120.262 | 30.066 | 1407.911 |
| RESIDUAL | 4185 | 89.379 | 0.021 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.12040 ) | | |
| 14+17 | 9 | 0.03893 | 0.01298 | 9.0061 |
| 20+27 | 11 | 0.02183 | 0.00676 | 13.4332 |
| 22+25 | 13 | 0.71225 | 0.01018 | 4893.5951 |
| E | 14 | -0.02954 | 0.00744 | 15.7744 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.00627 | 0.9981 | 0.1644 |
| Q55 | 2 | -0.01637 | 0.8746 | 1.3538 |
| Q56 | 3 | 0.00104 | 0.9937 | 0.0045 |
| Q16 | 4 | 0.00066 | 0.9967 | 0.0018 |
| 3X4 | 5 | 0.00241 | 0.9758 | 0.0244 |
| 5+6 | 6 | 0.03745 | 0.9765 | 5.8754 |
| 8+9 | 7 | 0.01048 | 0.9438 | 0.4593 |
| 49+58 | 8 | 0.00178 | 0.9407 | 0.0133 |
| 18+26 | 10 | 0.04990 | 0.2706 | 10.4438 |
| (F) | 15 | 0.00951 | 0.9983 | 0.3788 |

STEP NUMBER 5
VARIABLE ENTERED 6

MULTIPLE R 0.7578
STD. ERROR OF EST. 0.1460

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 120.388 | 24.078 | 1128.817 |
| RESIDUAL | 4184 | 89.244 | 0.021 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.10382 ) | | |
| 5+6 | 6 | 0.03335 | 0.01252 | 5.6754 |
| 14+17 | 9 | 0.03932 | 0.01297 | 9.1256 |
| 20+27 | 11 | 0.02212 | 0.00675 | 10.7257 |
| 22+25 | 13 | 0.71186 | 0.01019 | 4961.9853 |
| E | 14 | -0.03232 | 0.00750 | 18.2116 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.01212 | 0.9750 | 0.6148 |
| Q55 | 2 | -0.01671 | 0.8713 | 1.1683 |
| Q56 | 3 | 0.00659 | 0.9725 | 0.1817 |
| Q16 | 4 | -0.00159 | 0.9931 | 0.0106 |
| 3X4 | 5 | 0.00260 | 0.9757 | 0.0282 |
| 8+9 | 7 | 0.00923 | 0.9427 | 0.3564 |
| 49+58 | 8 | -0.00314 | 0.9246 | 0.0412 |
| 18+26 | 10 | 0.04853 | 0.2702 | 9.8768 |
| (F) | 15 | 0.00679 | 0.9929 | 0.1927 |

Table 5-15. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 1

MULTIPLE R 0.7579
STD. ERROR OF EST. 0.1461

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 123.431 | 20.067 | 940.[illegible] |
| RESIDUAL | 4183 | 89.231 | 0.021 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.09497 ) | | | | | | |
| Q10 1 | 0.00722 | 0.00928 | 0.5148 | Q55 2 | -0.01498 | 0.8194 | 0.9392 |
| 5*6 6 | 0.03196 | 0.01257 | 5.3251 | Q56 3 | -0.00261 | 0.4991 | 0.0284 |
| 14*17 9 | 0.03840 | 0.01297 | 8.7668 | Q16 4 | -0.00044 | 0.9041 | 0.0026 |
| 20*27 11 | 0.02231 | 0.00676 | 13.6166 | Q34 5 | 0.00198 | 0.9738 | 0.0153 |
| 22*25 13 | 0.71107 | 0.01023 | 4961.3919 | 8*9 7 | 0.01149 | 0.9148 | 0.5522 |
| E 14 | -0.03225 | 0.00751 | 19.4565 | 49*58 8 | -0.00133 | 0.9143 | 0.0156 |
| | | | | 18*26 10 | 0.04471 | 0.2781 | 9.3475 |
| | | | | (F) 15 | 0.00763 | 0.9886 | 0.2415 |

STEP NUMBER 7
VARIABLE ENTERED 7

MULTIPLE R 0.7579
STD. ERROR OF EST. 0.1461

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 120.413 | 17.202 | 806.304 |
| RESIDUAL | 4182 | 89.219 | 0.021 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.09013 ) | | | | | | |
| Q10 1 | 0.00841 | 0.00[illegible] | 0.9136 | Q55 2 | -0.02421 | 0.6298 | 2.4526 |
| 5*6 6 | 0.03179 | 0.0.267 | 5.2938 | Q56 3 | -0.00170 | 0.4960 | 0.0121 |
| 8*9 7 | 0.00867 | 0.01167 | 0.5522 | Q16 4 | -0.00166 | 0.9.39 | 0.0115 |
| 14*17 9 | 0.03782 | 0.01300 | 8.4576 | Q34 5 | 0.00396 | 0.9451 | 0.0655 |
| 20*27 11 | 0.02225 | 0.00676 | 13.8138 | 49*58 8 | -0.00177 | 0.9152 | 0.0171 |
| 22*25 13 | 0.71148 | 0.01021 | 4852.3519 | 18*26 10 | 0.04923 | 0.2697 | 13.1594 |
| E 14 | -0.03116 | 0.00765 | 16.597[illegible] | (F) 15 | 0.00592 | 0.9657 | 0.1486 |

STEP NUMBER 8
VARIABLE ENTERED 15

MULTIPLE R 0.7579
STD. ERROR OF EST. 0.1461

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 120.416 | 15.052 | 705.393 |
| RESIDUAL | 4181 | 89.216 | 0.021 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.08999 ) | | | | | | |
| Q10 1 | 0.00855 | 0.00935 | 0.8453 | Q55 2 | -0.02652 | 0.6276 | 2.5138 |
| 5*6 6 | 0.03149 | 0.01269 | 6.1536 | Q56 3 | -0.00130 | 0.4937 | 0.0071 |
| 8*9 7 | 0.00799 | 0.01181 | 0.4572 | Q16 4 | -0.00176 | 0.9730 | 0.0129 |
| 14*17 9 | 0.03770 | 0.01300 | 8.4396 | Q34 5 | 0.00402 | 0.9450 | 0.0674 |
| 20*27 11 | 0.02223 | 0.00676 | 13.8328 | 49*58 8 | -0.00177 | 0.9152 | 0.0130 |
| 22*25 13 | 0.71145 | 0.01021 | 4853.8413 | 18*26 10 | 0.04925 | 0.2697 | 10.1620 |
| E 14 | -0.03129 | 0.00766 | 16.6898 | | | | |
| (F) 15 | 0.00659 | 0.01721 | 0.1466 | | | | |

Table 5-15. (Continued)

STEP NUMBER 9
VARIABLE ENTERED 5

MULTIPLE R 0.7579
STD. ERROR OF EST. 0.1461

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 120.417 | 13.380 | 626.881 |
| RESIDUAL | 4180 | 89.215 | 0.021 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.08956 ) | | | | | | |
| Q10 | 1 | 0.00850 | 0.00936 | 3.8246 | Q55 2 | -0.02428 | 0.6240 | 2.4660 |
| 3X4 | 5 | 0.00334 | 0.01285 | 3.0674 | Q56 3 | -0.00157 | 0.4916 | 3.0132 |
| 5+6 | 6 | 0.03147 | 0.01275 | 5.1453 | Q16 4 | -0.00176 | 0.9730 | 0.0129 |
| 8+9 | 7 | 0.00850 | 0.01198 | 3.5338 | 49+58 8 | -0.00149 | 0.9136 | 0.0092 |
| 14+17 | 9 | 0.03777 | 0.01300 | 8.4364 | 18+26 10 | 0.04910 | 0.2688 | 10.0988 |
| 20+27 | 11 | 0.02214 | 0.00678 | 10.6739 | | | | |
| 22+25 | 13 | 0.71124 | 0.01025 | 4816.3537 | | | | |
| E | 14 | -0.03133 | 0.00766 | 15.7137 | | | | |
| (F) | 15 | 0.00663 | 0.01721 | 3.1435 | | | | |

STEP NUMBER 10
VARIABLE ENTERED 4

MULTIPLE R 0.7579
STD. ERROR OF EST. 0.1461

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 120.417 | 12.042 | 564.061 |
| RESIDUAL | 4179 | 89.215 | 0.021 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.09033 ) | | | | | | |
| Q10 | 1 | 0.00842 | 0.00938 | 3.8063 | Q55 2 | -0.02428 | 0.6240 | 2.4643 |
| Q16 | 4 | -0.00393 | 0.00816 | 3.0129 | Q56 3 | -0.00159 | 0.4915 | 3.0136 |
| 3X4 | 5 | 0.00334 | 0.01285 | 3.0674 | 49+58 8 | -0.00135 | 0.9052 | 0.0077 |
| 5+6 | 6 | 0.03154 | 0.01271 | 5.1358 | 18+26 10 | 0.04907 | 0.2681 | 10.0961 |
| 8+9 | 7 | 0.00864 | 0.01194 | 3.5143 | | | | |
| 14+17 | 9 | 0.03779 | 0.01301 | 8.4414 | | | | |
| 20+27 | 11 | 0.02213 | 0.00677 | 10.6590 | | | | |
| 22+25 | 13 | 0.71125 | 0.01024 | 4815.2052 | | | | |
| E | 14 | -0.03127 | 0.00768 | 15.5937 | | | | |
| (F) | 15 | 0.00667 | 0.01722 | 3.1930 | | | | |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDEN VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 22+25 13 | | 0.7554 | 0.5707 | 0.5707 | 5537.1239 | 1 |
| 2 | E 14 | | 0.7562 | 0.5719 | 0.0012 | 11.9546 | 2 |
| 3 | 20+27 11 | | 0.7563 | 0.5728 | 0.0009 | 8.3927 | 3 |
| 4 | 14+17 9 | | 0.7576 | 0.5737 | 0.0009 | 9.0041 | 4 |
| 5 | 5+6 6 | | 0.7579 | 0.5743 | 0.0006 | 5.8764 | 5 |
| 6 | Q10 1 | | 0.7579 | 0.5743 | 0.0001 | 0.6148 | 6 |
| 7 | 8+9 7 | | 0.7579 | 0.5744 | 0.0001 | 0.5522 | 7 |
| 8 | (F) 15 | | 0.7579 | 0.5744 | 0.0000 | 0.1466 | 8 |
| 9 | 3X4 5 | | 0.7579 | 0.5744 | 0.0000 | 0.0674 | 9 |
| 10 | Q16 4 | | 0.7579 | 0.5744 | 0.0000 | 0.0129 | 10 |

## Table 5-16. Desired Volume of Transporting Medium plus Desired Detail of Transporting Medium

```
SUB-PROBLM    4
DEPENDENT VARIABLE          (illegible)
MAXIMUM NUMBER OF STEPS      64
F-LEVEL FOR INCLUSION      0.000000
F-LEVEL FOR DELETION       0.000000
TOLERANCE LEVEL            0.001000


 STEP NUMBER    1
 VARIABLE ENTERED   17

 MULTIPLE R              0.1222
 STD. ERROR OF EST.      0.2345

 ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
      REGRESSION    1          3.426          3.426     62.301
      RESIDUAL   4107        225.847          0.055
```

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.62156 ) | | | | | | | |
| 3X4 17 | 0.15971 | 0.02023 | 62.3037 | Q10 | 1 | -0.03360 | 0.9964 | 4.6420 |
| | | | | Q32 | 2 | 0.08372 | 0.9980 | 28.9796 |
| | | | | Q55 | 3 | -0.08027 | 0.9666 | 26.6252 |
| | | | | Q56 | 4 | -0.02092 | 0.9905 | 1.7969 |
| | | | | Q12 | 5 | 0.20920 | 0.9030 | 187.9280 |
| | | | | Q13 | 6 | 0.15986 | 0.8378 | 107.6784 |
| | | | | Q14 | 7 | 0.15975 | 0.9984 | 107.5307 |
| | | | | Q15 | 8 | 0.01225 | 0.9996 | 0.6158 |
| | | | | Q17 | 9 | -0.21843 | 0.9912 | 205.7163 |
| | | | | Q16 | 10 | -0.00039 | 0.9994 | 0.0006 |
| | | | | Q23 | 11 | 0.26478 | 0.9950 | 309.5632 |
| | | | | Q26 | 12 | 0.22697 | 0.9937 | 223.0133 |
| | | | | Q27 | 13 | 0.23714 | 0.9926 | 244.6705 |
| | | | | Q28 | 14 | -0.02308 | 0.9998 | 2.1879 |
| | | | | Q29 | 15 | -0.02005 | 0.9966 | 1.6519 |
| | | | | 2+7 | 16 | 0.00033 | 0.9938 | 0.0004 |
| | | | | 5+6 | 18 | 0.06452 | 0.9999 | 17.1663 |
| | | | | 8+9 | 19 | -0.07171 | 0.9619 | 21.2206 |
| | | | | 49+58 | 20 | 0.08696 | 0.9974 | 31.2833 |
| | | | | 61+62 | 21 | 0.09099 | 0.9931 | 34.2747 |
| | | | | 14+15 | 22 | 0.09055 | 1.0000 | 33.9462 |
| | | | | 14+17 | 23 | -0.06856 | 0.9976 | 19.3908 |
| | | | | 18+26 | 24 | 0.35210 | 0.9816 | 581.0747 |
| | | | | 20+27 | 25 | 0.32860 | 0.9872 | 497.0412 |
| | | | | 21+24 | 26 | 0.75633 | 0.9909 | 5488.3038 |
| | | | | (E) | 28 | 0.10181 | 0.9943 | 43.0031 |
| | | | | (P) | 29 | 0.08382 | 0.9975 | 29.0504 |
| | | | | (F) | 30 | 0.00614 | 0.9985 | 0.1548 |
| | | | | (I) | 31 | 0.06735 | 0.9852 | 18.7091 |
| | | | | 30+31 | 32 | 0.04441 | 0.9992 | 8.1144 |

Table 5-16. (Continued)

STEP NUMBER 2
VARIABLE ENTERED 28

MULTIPLE R 0.1586
STD. ERROR OF EST. 0.2333

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 5.767 | 2.883 | 52.970 |
| RESIDUAL | 4106 | 223.506 | 0.054 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.59885 ) | | |
| 3X4 | 17 | 0.14970 | 0.02019 | 54.9831 |
| (E) | 28 | 0.07717 | 0.01177 | 43.0031 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.03525 | 0.9962 | 5.1064 |
| Q32 | 2 | 0.07389 | 0.9872 | 22.5365 |
| Q55 | 3 | -0.05004 | 0.8638 | 10.3059 |
| Q56 | 4 | -0.02830 | 0.9856 | 3.2900 |
| Q12 | 5 | 0.19989 | 0.8911 | 170.8542 |
| Q13 | 6 | 0.14865 | 0.8234 | 92.8062 |
| Q14 | 7 | 0.15094 | 0.9881 | 95.7048 |
| Q15 | 8 | 0.00439 | 0.9936 | 0.0792 |
| Q17 | 9 | -0.21137 | 0.9835 | 191.9798 |
| Q16 | 10 | -0.00529 | 0.9971 | 0.1148 |
| Q23 | 11 | 0.24842 | 0.9327 | 269.9808 |
| Q26 | 12 | 0.21720 | 0.9786 | 203.2544 |
| Q27 | 13 | 0.22738 | 0.9771 | 223.8156 |
| Q28 | 14 | -0.02243 | 0.9998 | 2.0661 |
| Q29 | 15 | -0.02034 | 0.9966 | 1.6980 |
| 2+7 | 16 | 0.00602 | 0.9907 | 0.1486 |
| 5+6 | 18 | 0.05105 | 0.9303 | 10.7259 |
| 8+9 | 19 | -0.05271 | 0.9236 | 11.4368 |
| 49+58 | 20 | 0.06511 | 0.9419 | 17.4775 |
| 61+62 | 21 | 0.06571 | 0.9171 | 17.8019 |
| 14+15 | 22 | 0.07995 | 0.9872 | 26.4068 |
| 14+17 | 23 | -0.06864 | 0.9976 | 19.4315 |
| 18+26 | 24 | 0.33995 | 0.9372 | 536.3873 |
| 20+27 | 25 | 0.31670 | 0.9520 | 457.6206 |
| 21+24 | 26 | 0.75666 | 0.9891 | 5498.1396 |
| (P) | 29 | 0.05819 | 0.9211 | 13.9490 |
| (F) | 30 | 0.00246 | 0.9977 | 0.0485 |
| (I) | 31 | 0.05751 | 0.9749 | 13.6235 |
| 30+31 | 32 | 0.04715 | 0.9985 | 9.1464 |

STEP NUMBER 3
VARIABLE ENTERED 20

MULTIPLE R 0.1711
STD. ERROR OF EST. 0.2328

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 6.714 | 2.238 | 41.281 |
| RESIDUAL | 4105 | 222.558 | 0.054 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.57418 ) | | |
| 3X4 | 17 | 0.15566 | 0.02020 | 59.3884 |
| 49+58 | 20 | 0.10155 | 0.02429 | 17.4775 |
| (E) | 28 | 0.06526 | 0.01209 | 29.1553 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02785 | 0.9824 | 3.1864 |
| Q32 | 2 | 0.07479 | 0.9871 | 23.0855 |
| Q55 | 3 | -0.05191 | 0.8632 | 11.0890 |
| Q56 | 4 | -0.02002 | 0.9688 | 1.6455 |
| Q12 | 5 | 0.19343 | 0.8758 | 159.5130 |
| Q13 | 6 | 0.14201 | 0.8411 | 84.4726 |
| Q14 | 7 | 0.14835 | 0.9459 | 92.3547 |
| Q15 | 8 | 0.00540 | 0.9934 | 0.1153 |
| Q17 | 9 | -0.21271 | 0.9833 | 194.4896 |
| Q16 | 10 | -0.01123 | 0.9890 | 0.5181 |
| Q23 | 11 | 0.24914 | 0.9322 | 271.5983 |
| Q26 | 12 | 0.21466 | 0.9762 | 198.2398 |
| Q27 | 13 | 0.22481 | 0.9745 | 218.4633 |
| Q28 | 14 | -0.02799 | 0.9929 | 3.2178 |
| Q29 | 15 | -0.01203 | 0.9799 | 0.5943 |
| 2+7 | 16 | 0.00378 | 0.9896 | 0.0587 |
| 5+6 | 18 | 0.04282 | 0.9628 | 7.5389 |
| 8+9 | 19 | -0.05255 | 0.9236 | 11.3659 |
| 61+62 | 21 | 0.06332 | 0.9157 | 16.5229 |
| 14+15 | 22 | 0.07929 | 0.9870 | 25.9624 |
| 14+17 | 23 | -0.07158 | 0.9958 | 21.1358 |
| 18+26 | 24 | 0.33988 | 0.9370 | 535.9991 |
| 20+27 | 25 | 0.31689 | 0.9520 | 458.1114 |
| 21+24 | 26 | 0.75588 | 0.9864 | 5470.4385 |
| (P) | 29 | 0.05350 | 0.9157 | 11.7793 |
| (F) | 30 | 0.00260 | 0.9976 | 0.0278 |
| (I) | 31 | 0.05666 | 0.9747 | 13.2169 |
| 30+31 | 32 | 0.04412 | 0.9962 | 8.0030 |

Table 5-16. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 19

MULTIPLE R 0.1788
STD. ERROR OF EST. 0.2326

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 7.329 | 1.832 | 33.881 |
| RESIDUAL | 4104 | 221.944 | 0.054 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.60492 ) | | | | | | | |
| 3X4 17 | 0.14294 | 0.02052 | 43.5137 | Q10 | 1 | -0.03759 | 0.9529 | 5.8054 |
| 8+9 19 | -0.06280 | 0.01863 | 11.3659 | Q32 | 2 | 0.07169 | 0.9831 | 21.1985 |
| 49+58 20 | 0.10121 | 0.02426 | 17.4051 | Q55 | 3 | -0.02899 | 0.6334 | 3.4504 |
| (E) 28 | 0.05724 | 0.01230 | 21.6476 | Q56 | 4 | -0.02925 | 0.9418 | 3.5123 |
| | | | | Q12 | 5 | 0.19508 | 0.8752 | 162.3217 |
| | | | | Q13 | 6 | 0.14111 | 0.8107 | 83.3624 |
| | | | | Q14 | 7 | 0.15124 | 0.9836 | 96.0459 |
| | | | | Q15 | 8 | 0.00518 | 0.9934 | 0.1101 |
| | | | | Q17 | 9 | -0.21096 | 0.9815 | 191.1093 |
| | | | | Q16 | 10 | -0.00479 | 0.9740 | 0.0943 |
| | | | | Q23 | 11 | 0.24517 | 0.9207 | 262.3951 |
| | | | | Q26 | 12 | 0.21603 | 0.9758 | 200.8551 |
| | | | | Q27 | 13 | 0.22535 | 0.9745 | 219.4993 |
| | | | | Q28 | 14 | -0.01756 | 0.9507 | 1.2653 |
| | | | | Q29 | 15 | -0.02105 | 0.9530 | 1.8197 |
| | | | | 2+7 | 16 | 0.00512 | 0.9869 | 0.1075 |
| | | | | 5+6 | 18 | 0.04467 | 0.9617 | 8.2027 |
| | | | | 61+62 | 21 | 0.05467 | 0.8848 | 12.3011 |
| | | | | 14+15 | 22 | 0.08058 | 0.9865 | 26.8173 |
| | | | | 14+17 | 23 | -0.06838 | 0.9916 | 19.2749 |
| | | | | 18+26 | 24 | 0.33762 | 0.9330 | 527.8611 |
| | | | | 20+27 | 25 | 0.31475 | 0.9486 | 451.1566 |
| | | | | 21+24 | 26 | 0.75578 | 0.9857 | 5465.6460 |
| | | | | (P) | 29 | 0.04920 | 0.9088 | 9.9543 |
| | | | | (F) | 30 | 0.01110 | 0.9725 | 0.5053 |
| | | | | (I) | 31 | 0.05308 | 0.9696 | 11.9944 |
| | | | | 30+31 | 32 | 0.04343 | 0.9960 | 7.751[illegible] |

STEP NUMBER 5
VARIABLE ENTERED 18

MULTIPLE R 0.1841
STD. ERROR OF EST. 0.2323

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 7.772 | 1.554 | 28.793 |
| RESIDUAL | 4103 | 221.501 | 0.054 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.56877 ) | | | | | | | |
| 3X4 17 | 0.14207 | 0.02051 | 47.9933 | Q10 | 1 | -0.03180 | 0.9350 | 4.1533 |
| 5+6 18 | 0.05796 | 0.02024 | 8.2027 | Q32 | 2 | 0.07161 | 0.9831 | 21.1440 |
| 8+9 19 | -0.06458 | 0.01862 | 12.0235 | Q55 | 3 | -0.03121 | 0.6319 | 3.9996 |
| 49+58 20 | 0.09184 | 0.02446 | 14.3958 | Q56 | 4 | -0.02372 | 0.9263 | 2.3098 |
| (E) 28 | 0.05332 | 0.01237 | 18.5932 | Q12 | 5 | 0.19415 | 0.8746 | 160.6783 |
| | | | | Q13 | 6 | 0.14088 | 0.8107 | 83.0630 |
| | | | | Q14 | 7 | 0.15092 | 0.9835 | 95.6132 |
| | | | | Q15 | 8 | 0.00409 | 0.9928 | 0.0688 |
| | | | | Q17 | 9 | -0.21130 | 0.9815 | 191.7042 |
| | | | | Q16 | 10 | -0.00692 | 0.9718 | 0.1964 |
| | | | | Q23 | 11 | 0.24317 | 0.9174 | 257.8027 |
| | | | | Q26 | 12 | 0.21551 | 0.9755 | 199.7968 |
| | | | | Q27 | 13 | 0.22558 | 0.9745 | 219.9356 |
| | | | | Q28 | 14 | -0.01941 | 0.9491 | 1.5457 |
| | | | | Q29 | 15 | -0.01516 | 0.9355 | 0.9428 |
| | | | | 2+7 | 16 | 0.00082 | 0.9798 | 0.0028 |
| | | | | 61+62 | 21 | 0.05242 | 0.8823 | 11.3036 |
| | | | | 14+15 | 22 | 0.07958 | 0.9859 | 26.1404 |
| | | | | 14+17 | 23 | -0.06887 | 0.9915 | 19.5472 |
| | | | | 18+26 | 24 | 0.33705 | 0.9325 | 525.7186 |
| | | | | 20+27 | 25 | 0.31506 | 0.9486 | 452.0403 |
| | | | | 21+24 | 26 | 0.75521 | 0.9825 | 5445.2750 |
| | | | | (P) | 29 | 0.04825 | 0.9084 | 9.5707 |
| | | | | (F) | 30 | 0.00798 | 0.9676 | 0.2612 |
| | | | | (I) | 31 | 0.05483 | 0.9683 | 12.3711 |
| | | | | 30+31 | 32 | 0.04170 | 0.9944 | 7.1456 |

Table 5-16. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 1

MULTIPLE R 0.1867
STD. ERROR OF EST. 0.2323

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 7.996 | 1.333 | 24.704 |
| RESIDUAL | 4102 | 221.277 | 0.054 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.59679 ) | | | | | | | |
| Q10 | 1 | -0.03070 | 0.01506 | 4.1533 | Q32 | 2 | 0.07217 | 0.9828 | 21.4736 |
| 3X4 | 17 | 0.14793 | 0.02050 | 48.5946 | Q55 | 3 | -0.03374 | 0.6283 | 4.6734 |
| 5+6 | 18 | 0.05226 | 0.02042 | 6.5491 | Q56 | 4 | -0.00263 | 0.4907 | 0.0284 |
| 8+9 | 19 | -0.07115 | 0.01889 | 14.1856 | Q12 | 5 | 0.19311 | 0.8731 | 158.8515 |
| 49+58 | 20 | 0.08674 | 0.02458 | 12.4561 | Q13 | 6 | 0.14061 | 0.8106 | 82.7195 |
| (E) | 28 | 0.05390 | 0.01237 | 19.0038 | Q14 | 7 | 0.15059 | 0.9833 | 95.1626 |
| | | | | | Q15 | 8 | 0.00349 | 0.9925 | 0.0500 |
| | | | | | Q17 | 9 | -0.21069 | 0.9809 | 190.4944 |
| | | | | | Q16 | 10 | -0.00916 | 0.9671 | 0.3439 |
| | | | | | Q23 | 11 | 0.24302 | 0.9174 | 257.3933 |
| | | | | | Q26 | 12 | 0.21609 | 0.9753 | 200.8836 |
| | | | | | Q27 | 13 | 0.22639 | 0.9741 | 221.5446 |
| | | | | | Q28 | 14 | -0.02081 | 0.9474 | 1.7772 |
| | | | | | Q29 | 15 | 0.00370 | 0.6294 | 0.0561 |
| | | | | | 2+7 | 16 | 0.00092 | 0.9798 | 0.0034 |
| | | | | | 61+62 | 21 | 0.05219 | 0.8822 | 11.2001 |
| | | | | | 14+15 | 22 | 0.07894 | 0.9854 | 25.7148 |
| | | | | | 14+17 | 23 | -0.06856 | 0.9914 | 19.3660 |
| | | | | | 18+26 | 24 | 0.33688 | 0.9124 | 524.9952 |
| | | | | | 20+27 | 25 | 0.31519 | 0.9486 | 452.3429 |
| | | | | | 21+24 | 26 | 0.75522 | 0.9823 | 5444.2298 |
| | | | | | (P) | 29 | 0.04687 | 0.9065 | 9.0270 |
| | | | | | (F) | 30 | 0.00674 | 0.9662 | 0.1863 |
| | | | | | (I) | 31 | 0.05562 | 0.9677 | 12.7270 |
| | | | | | 30+31 | 32 | 0.04077 | 0.9934 | 6.8251 |

STEP NUMBER 7
VARIABLE ENTERED 3

MULTIPLE R 0.1897
STD. ERROR OF EST. 0.2322

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 8.248 | 1.178 | 21.862 |
| RESIDUAL | 4101 | 221.025 | 0.054 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.60490 ) | | | | | | | |
| Q10 | 1 | -0.03318 | 0.01510 | 4.8272 | Q32 | 2 | 0.07294 | 0.9824 | 21.9312 |
| Q55 | 3 | -0.03908 | 0.01808 | 4.6734 | Q56 | 4 | -0.00444 | 0.4893 | 0.0809 |
| 3X4 | 17 | 0.13933 | 0.02056 | 45.9155 | Q12 | 5 | 0.19189 | 0.8713 | 156.7332 |
| 5+6 | 18 | 0.05392 | 0.02043 | 6.9677 | Q13 | 6 | 0.13871 | 0.8068 | 80.4354 |
| 8+9 | 19 | -0.04744 | 0.02184 | 4.7184 | Q14 | 7 | 0.15242 | 0.9812 | 97.5162 |
| 49+58 | 20 | 0.08775 | 0.02457 | 12.7543 | Q15 | 8 | 0.00380 | 0.9924 | 0.0591 |
| (E) | 28 | 0.04648 | 0.01283 | 13.1248 | Q17 | 9 | -0.20998 | 0.9802 | 189.1389 |
| | | | | | Q16 | 10 | -0.00904 | 0.9671 | 0.3349 |
| | | | | | Q23 | 11 | 0.24292 | 0.9173 | 257.1178 |
| | | | | | Q26 | 12 | 0.21533 | 0.9745 | 199.3388 |
| | | | | | Q27 | 13 | 0.22578 | 0.9736 | 220.2300 |
| | | | | | Q28 | 14 | -0.02016 | 0.9470 | 1.6662 |
| | | | | | Q29 | 15 | 0.00156 | 0.6259 | 0.0100 |
| | | | | | 2+7 | 16 | 0.00233 | 0.9781 | 0.0222 |
| | | | | | 61+62 | 21 | 0.05105 | 0.8811 | 10.7144 |
| | | | | | 14+15 | 22 | 0.08306 | 0.9845 | 26.4480 |
| | | | | | 14+17 | 23 | -0.06692 | 0.9886 | 18.4439 |
| | | | | | 18+26 | 24 | 0.33592 | 0.9306 | 521.4856 |
| | | | | | 20+27 | 25 | 0.31427 | 0.9471 | 449.3214 |
| | | | | | 21+24 | 26 | 0.75490 | 0.9805 | 5432.0949 |
| | | | | | (P) | 29 | 0.04660 | 0.9064 | 8.9210 |
| | | | | | (F) | 30 | 0.00839 | 0.9639 | 0.2886 |
| | | | | | (I) | 31 | 0.05534 | 0.9677 | 12.5953 |
| | | | | | 30+31 | 32 | 0.04032 | 0.9933 | 6.6771 |

Table 5-16. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 10

MULTIPLE R 0.1899
STD. ERROR OF EST. 0.2322

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 8.266 | 1.033 | 19.168 |
| RESIDUAL | 4100 | 221.007 | 0.054 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.60855 ) | | | | | | | |
| Q10 | 1 | -0.03378 | 0.01514 | 4.9831 | Q32 | 2 | 0.07303 | 0.9823 | 21.9792 |
| Q55 | 3 | -0.03904 | 0.01808 | 4.6633 | Q56 | 4 | -0.00456 | 0.4892 | 0.0051 |
| Q16 | 10 | -0.00757 | 0.01309 | 3.3349 | Q12 | 5 | 0.19238 | 0.8700 | 157.5409 |
| 3X4 | 17 | 0.13936 | 0.02056 | 45.9279 | Q13 | 6 | 0.13920 | 0.8055 | 83.9915 |
| 5+6 | 18 | 0.05436 | 0.02044 | 7.3710 | Q14 | 7 | 0.15254 | 0.9811 | 97.6458 |
| 8+9 | 19 | -0.04626 | 0.02193 | 4.4491 | Q15 | 8 | 0.00367 | 0.9922 | 0.0552 |
| 49+58 | 20 | 0.08835 | 0.02465 | 12.9952 | Q17 | 9 | -0.20990 | 0.9801 | 188.9121 |
| (E) | 28 | 0.04681 | 0.01284 | 13.2838 | Q23 | 11 | 0.24277 | 0.9154 | 256.7215 |
| | | | | | Q26 | 12 | 0.21525 | 0.9744 | 199.1469 |
| | | | | | Q27 | 13 | 0.22583 | 0.9735 | 220.2812 |
| | | | | | Q28 | 14 | -0.01897 | 0.9233 | 1.4749 |
| | | | | | Q29 | 15 | 0.00058 | 0.6194 | 0.0014 |
| | | | | | 2+7 | 16 | 0.00224 | 0.9780 | 0.0205 |
| | | | | | 61+62 | 21 | 0.05072 | 0.8795 | 10.5715 |
| | | | | | 14+15 | 22 | 0.00001 | 0.9845 | 26.4118 |
| | | | | | 14+17 | 23 | -0.06678 | 0.9884 | 18.3637 |
| | | | | | 18+26 | 24 | 0.33585 | 0.9290 | 521.1214 |
| | | | | | 20+27 | 25 | 0.31418 | 0.9458 | 448.9116 |
| | | | | | 21+24 | 26 | 0.75488 | 0.9804 | 5430.1468 |
| | | | | | (P) | 29 | 0.04666 | 0.9063 | 8.9445 |
| | | | | | (F) | 30 | 0.00858 | 0.9635 | 0.3018 |
| | | | | | (I) | 31 | 0.05607 | 0.9634 | 13.9250 |
| | | | | | 30+31 | 32 | 0.03989 | 0.9904 | 6.5342 |

STEP NUMBER 9
VARIABLE ENTERED 30

MULTIPLE R 0.1901
STD. ERROR OF EST. 0.2322

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 8.282 | 0.920 | 17.069 |
| RESIDUAL | 4099 | 220.991 | 0.054 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.60828 ) | | | | | | | |
| Q10 | 1 | -0.03350 | 0.01515 | 4.8935 | Q32 | 2 | 0.07288 | 0.9819 | 21.8810 |
| Q55 | 3 | -0.03952 | 0.01810 | 4.7671 | Q56 | 4 | -0.00403 | 0.4873 | 0.0666 |
| Q16 | 10 | -0.00772 | 0.01309 | 3.4491 | Q12 | 5 | 0.19223 | 0.8694 | 157.2387 |
| 3X4 | 17 | 0.13944 | 0.02057 | 45.9698 | Q13 | 6 | 0.13911 | 0.8054 | 80.8690 |
| 5+6 | 18 | 0.05366 | 0.02048 | 5.8634 | Q14 | 7 | 0.15245 | 0.9810 | 97.5121 |
| 8+9 | 19 | -0.04750 | 0.02205 | 4.6438 | Q15 | 8 | 0.00405 | 0.9903 | 0.0672 |
| 49+58 | 20 | 0.08888 | 0.02465 | 13.0832 | Q17 | 9 | -0.21005 | 0.9799 | 189.1531 |
| (E) | 28 | 0.04640 | 0.01286 | 13.0112 | Q23 | 11 | 0.24281 | 0.9154 | 256.7395 |
| (F) | 30 | 0.01519 | 0.02766 | 3.3318 | Q26 | 12 | 0.21537 | 0.9742 | 199.3226 |
| | | | | | Q27 | 13 | 0.22595 | 0.9734 | 220.4672 |
| | | | | | Q28 | 14 | -0.01890 | 0.9233 | 1.4650 |
| | | | | | Q29 | 15 | 0.00101 | 0.6178 | 0.0042 |
| | | | | | 2+7 | 16 | 0.00198 | 0.9771 | 0.0160 |
| | | | | | 61+62 | 21 | 0.05064 | 0.8794 | 10.5376 |
| | | | | | 14+15 | 22 | 0.08030 | 0.9836 | 26.5964 |
| | | | | | 14+17 | 23 | -0.06696 | 0.9880 | 18.4585 |
| | | | | | 18+26 | 24 | 0.33580 | 0.9289 | 520.8420 |
| | | | | | 20+27 | 25 | 0.31413 | 0.9467 | 448.6532 |
| | | | | | 21+24 | 26 | 0.75486 | 0.9802 | 5428.1752 |
| | | | | | (P) | 29 | 0.04643 | 0.9056 | 8.8548 |
| | | | | | (I) | 31 | 0.05393 | 0.9631 | 12.8596 |
| | | | | | 30+31 | 32 | 0.03980 | 0.9902 | 6.5025 |

Table 5-16. (Continued)

STEP NUMBER 10
VARIABLE ENTERED 4

MULTIPLE R 0.1901
STD. ERROR OF EST. 0.2322

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 8.286 | 0.829 | 15.369 |
| RESIDUAL | 4098 | 220.907 | 0.054 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.60968 ) | | |
| Q10 | 1 | -0.02985 | 0.00774 | 2.0752 |
| Q55 | 3 | -0.03976 | 0.00781 | 4.0138 |
| Q56 | 4 | -0.03529 | 0.02051 | 3.0656 |
| Q16 | 10 | -0.00776 | 0.01309 | 3.3514 |
| 3X4 | 17 | 0.13971 | 0.02059 | 46.0172 |
| 5*6 | 18 | 0.05345 | 0.02050 | 6.7968 |
| 8*9 | 19 | -0.04762 | 0.02206 | 4.6613 |
| 49*58 | 20 | 0.08849 | 0.02470 | 12.8357 |
| (E) | 28 | 0.04666 | 0.01290 | 13.3765 |
| (F) | 30 | 0.01475 | 0.02771 | 3.2833 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.07279 | 0.9811 | 21.8242 |
| Q12 | 5 | 0.19230 | 0.8692 | 157.3232 |
| Q13 | 6 | 0.13912 | 0.8054 | 80.8631 |
| Q14 | 7 | 0.15260 | 0.9804 | 97.6839 |
| Q15 | 8 | 0.00423 | 0.9884 | 0.0734 |
| Q17 | 9 | -0.21001 | 0.9796 | 189.0373 |
| Q23 | 11 | 0.24278 | 0.9152 | 256.6076 |
| Q26 | 12 | 0.21535 | 0.9732 | 199.2410 |
| Q27 | 13 | 0.22593 | 0.9726 | 220.3686 |
| Q28 | 14 | -0.01911 | 0.9212 | 1.4974 |
| Q29 | 15 | 0.00175 | 0.5983 | 0.0126 |
| 2*7 | 16 | 0.00204 | 0.9768 | 0.0171 |
| 61*62 | 21 | 0.05050 | 0.8771 | 10.4766 |
| 14*15 | 22 | 0.08058 | 0.9814 | 26.7795 |
| 14*17 | 23 | -0.06687 | 0.9870 | 18.4026 |
| 18*26 | 24 | 0.33587 | 0.9277 | 520.9609 |
| 20*27 | 25 | 0.31421 | 0.9453 | 448.8069 |
| 21*24 | 26 | 0.75486 | 0.9802 | 5426.7009 |
| (P) | 29 | 0.04628 | 0.9023 | 8.7922 |
| (I) | 31 | 0.05589 | 0.9630 | 12.8391 |
| 30*31 | 32 | 0.03977 | 0.9901 | 6.4893 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 3X4 17 | | 0.1222 | 0.0149 | 0.0149 | 62.3007 | 1 |
| 2 | (E) 28 | | 0.1585 | 0.0252 | 0.0102 | 43.2031 | 2 |
| 3 | 49*58 20 | | 0.1711 | 0.0293 | 0.0041 | 17.4775 | 3 |
| 4 | 8*9 19 | | 0.1789 | 0.0320 | 0.0027 | 11.3659 | 4 |
| 5 | 5*6 18 | | 0.1841 | 0.0339 | 0.0019 | 8.2027 | 5 |
| 6 | Q10 1 | | 0.1867 | 0.0349 | 0.0010 | 4.1533 | 6 |
| 7 | Q55 3 | | 0.1897 | 0.0360 | 0.0011 | 4.6734 | 7 |
| 8 | Q16 10 | | 0.1899 | 0.0361 | 0.0001 | 0.3349 | 8 |
| 9 | (F) 30 | | 0.1901 | 0.0361 | 0.0001 | 0.3018 | 9 |
| 10 | Q56 4 | | 0.1901 | 0.0361 | 0.0000 | 0.0666 | 10 |

## Table 5-17. Usefulness of Title Listings or Abstracts

SUB-PROBLM 10
DEPENDENT VARIABLE
MAXIMUM NUMBER OF STEPS 64
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 25

MULTIPLE R 0.4091
STD. ERROR OF EST. 0.3793

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 116.334 | 116.334 | 825.755 |
| RESIDUAL | 4107 | 578.604 | 0.141 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.03111 ) | | | | | | | |
| 20+27 25 | 0.46358 | 0.01613 | 825.7552 | Q10 | 1 | 0.00357 | 0.9997 | 0.0522 |
| | | | | Q32 | 2 | 0.03240 | 0.9914 | 4.3145 |
| | | | | Q55 | 3 | -0.09991 | 0.9806 | 41.3960 |
| | | | | Q56 | 4 | 0.01957 | 1.0000 | 1.5739 |
| | | | | Q12 | 5 | 0.08755 | 0.9617 | 31.7144 |
| | | | | Q13 | 6 | 0.08813 | 0.9632 | 26.5364 |
| | | | | Q14 | 7 | 0.06632 | 0.9684 | 18.1374 |
| | | | | Q15 | 8 | 0.07206 | 0.9985 | 21.4343 |
| | | | | Q17 | 9 | -0.14875 | 0.9041 | 92.9028 |
| | | | | Q16 | 10 | -0.04022 | 0.9997 | 6.6519 |
| | | | | Q26 | 12 | -0.02520 | 0.7321 | 2.6102 |
| | | | | Q27 | 13 | -0.05284 | 0.6549 | 11.4950 |
| | | | | Q28 | 14 | -0.04347 | 0.9998 | 7.7752 |
| | | | | Q29 | 15 | 0.03139 | 0.9982 | 4.0510 |
| | | | | 2+7 | 16 | -0.04925 | 0.9999 | 9.9819 |
| | | | | 3X4 | 17 | 0.02685 | 0.9872 | 2.9613 |
| | | | | 5+6 | 18 | 0.09486 | 0.9993 | 29.7858 |
| | | | | 8+9 | 19 | -0.13084 | 0.9868 | 71.5157 |
| | | | | 49+58 | 20 | 0.03727 | 0.9979 | 5.7108 |
| | | | | 61+62 | 21 | 0.11032 | 0.9781 | 50.5853 |
| | | | | 14+15 | 22 | 0.09055 | 0.9963 | 33.9443 |
| | | | | 14+17 | 23 | -0.07081 | 0.9879 | 20.6912 |
| | | | | 18+26 | 24 | 0.24196 | 0.9[illegible]1 | 255.3324 |
| | | | | 21+24 | 26 | 0.10998 | 0.92[illegible]5 | 50.2739 |
| | | | | 22+25 | 27 | 0.15632 | 0.8858 | 100.1665 |
| | | | | (E) | 28 | 0.19588 | 0.9618 | 163.8231 |
| | | | | (P) | 29 | 0.08905 | 0.9916 | 32.8180 |
| | | | | (F) | 30 | -0.01263 | 1.0000 | 0.6554 |
| | | | | (I) | 31 | 0.02443 | 0.9982 | 2.4525 |
| | | | | 30+31 | 32 | -0.01522 | 0.9979 | 0.9507 |

STEP NUMBER 2
VARIABLE ENTERED 28

MULTIPLE R 0.4465
STD. ERROR OF EST. 0.3681

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 138.534 | 69.267 | 511.156 |
| RESIDUAL | 4106 | 556.404 | 0.136 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.04750 ) | | | | | | | |
| 20+27 25 | 0.42320 | 0.01613 | 689.1068 | Q10 | 1 | 0.00052 | 0.9994 | 0.0011 |
| (E) 28 | 0.24164 | 0.01888 | 163.8231 | Q32 | 2 | 0.01489 | 0.9832 | 0.9103 |
| | | | | Q55 | 3 | -0.04096 | 0.8830 | 6.8993 |
| | | | | Q56 | 4 | 0.00653 | 0.9940 | 0.0841 |
| | | | | Q12 | 5 | 0.07014 | 0.9525 | 20.2975 |
| | | | | Q13 | 6 | 0.05904 | 0.9504 | 14.3585 |

Table 5-17. (Continued)

| | | | | |
|---|---|---|---|---|
| 014 | 7 | 0.05330 | 0.9635 | 11.6950 |
| 015 | 8 | 0.05672 | 0.9913 | 13.2478 |
| 017 | 9 | -0.14449 | 0.9029 | 87.5257 |
| 016 | 10 | -0.05105 | 0.9972 | 10.7250 |
| 026 | 12 | -0.03220 | 0.7313 | 4.2607 |
| 027 | 13 | -0.05794 | 0.6546 | 13.7774 |
| 028 | 14 | -0.04201 | 0.9996 | 7.2564 |
| 029 | 15 | 0.03243 | 0.9982 | 4.3221 |
| 2*7 | 16 | -0.03981 | 0.9971 | 6.5157 |
| 3X4 | 17 | 0.01645 | 0.9842 | 1.1110 |
| 5*6 | 18 | 0.05960 | 0.9803 | 14.6314 |
| 8*9 | 19 | -0.09678 | 0.9503 | 38.8141 |
| 49*58 | 20 | -0.08747 | 0.9446 | 9.2292 |
| 61*62 | 21 | 0.06270 | 0.9119 | 14.2814 |
| 14*15 | 22 | 0.07197 | 0.9857 | 21.3761 |
| 14*17 | 23 | -0.07616 | 0.9825 | 23.9510 |
| 18*26 | 24 | 0.22708 | 0.2691 | 223.1846 |
| 21*24 | 26 | 0.11321 | 0.9245 | 53.2911 |
| 22*25 | 27 | 0.14803 | 0.8838 | 91.9667 |
| (P) | 29 | 0.03873 | 0.9204 | 6.1654 |
| (F) | 30 | -0.01783 | 0.9994 | 1.3055 |
| (I) | 31 | 0.00406 | 0.9973 | 0.0675 |
| 30*31 | 32 | -0.01283 | 0.9977 | 0.6761 |

STEP NUMBER 3
VARIABLE ENTERED 27

MULTIPLE R 0.4657
STD. ERROR OF EST. 0.3641

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 150.726 | 50.242 | 378.977 |
| RESIDUAL | 4105 | 544.212 | 0.133 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.16785 ) | | | | | | | |
| 20*27 25 | 0.37069 | 0.01687 | 482.7776 | Q10 | 1 | 0.00572 | 0.9982 | 0.1364 |
| 22*25 27 | 0.24529 | 0.02558 | 91.9667 | Q32 | 2 | 0.00655 | 0.9800 | 0.1761 |
| (E) 28 | 0.23311 | 0.01869 | 155.4041 | Q55 | 3 | -0.03474 | 0.8813 | 4.9590 |
| | | | | Q56 | 4 | 0.00691 | 0.9937 | 0.1959 |
| | | | | Q12 | 5 | 0.04475 | 0.9218 | 8.2337 |
| | | | | Q13 | 6 | 0.03972 | 0.9328 | 6.4844 |
| | | | | Q14 | 7 | 0.03786 | 0.9522 | 5.8919 |
| | | | | Q15 | 8 | 0.05434 | 0.9909 | 12.1523 |
| | | | | Q17 | 9 | -0.12698 | 0.8863 | 67.2517 |
| | | | | Q16 | 10 | -0.05161 | 0.9972 | 10.9601 |
| | | | | Q26 | 12 | -0.04349 | 0.7275 | 7.7777 |
| | | | | Q27 | 13 | -0.06761 | 0.6522 | 18.8487 |
| | | | | Q28 | 14 | -0.03786 | 0.9987 | 5.8923 |
| | | | | Q29 | 15 | 0.03708 | 0.9974 | 5.6516 |
| | | | | 2*7 | 16 | -0.04161 | 0.9970 | 7.1195 |
| | | | | 3X4 | 17 | 0.00356 | 0.9767 | 0.0521 |
| | | | | 5*6 | 18 | 0.05227 | 0.9775 | 11.2440 |
| | | | | 8*9 | 19 | -0.09041 | 0.9478 | 33.8240 |
| | | | | 49*58 | 20 | -0.01649 | 0.9633 | 1.1160 |
| | | | | 61*62 | 21 | 0.05701 | 0.9103 | 13.3830 |
| | | | | 14*15 | 22 | 0.06238 | 0.9808 | 16.0328 |
| | | | | 14*17 | 23 | -0.07213 | 0.9814 | 21.4655 |
| | | | | 18*26 | 24 | 0.20979 | 0.2632 | 188.9412 |
| | | | | 21*24 | 26 | 0.00612 | 0.4222 | 0.1540 |
| | | | | (P) | 29 | 0.03154 | 0.9180 | 4.0869 |
| | | | | (F) | 30 | -0.01822 | 0.9994 | 1.3635 |
| | | | | (I) | 31 | -0.00590 | 0.9829 | 0.1429 |
| | | | | 30*31 | 32 | -0.02317 | 0.9931 | 2.2049 |

Table 5-17. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 19

MULTIPLE R 0.4725
STD. ERROR OF EST. 0.3627

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 155.175 | 38.794 | 294.962 |
| RESIDUAL | 4104 | 539.763 | 0.132 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.08255 ) | | |
| 8*9 | 19 | -0.16676 | 0.02867 | 33.8240 |
| 20*27 | 25 | 0.36516 | 0.01683 | 472.7119 |
| 22*25 | 27 | 0.23780 | 0.02551 | 85.8998 |
| (E) | 28 | 0.21212 | 0.01897 | 125.0790 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.01885 | 0.9656 | 0.4835 |
| Q32 | 2 | 0.00103 | 0.9763 | 0.0043 |
| Q55 | 3 | 0.01519 | 0.6370 | 0.9473 |
| Q56 | 4 | -0.00962 | 0.9613 | 0.3799 |
| Q12 | 5 | 0.04391 | 0.9216 | 7.9253 |
| Q13 | 6 | 0.03316 | 0.9276 | 4.5154 |
| Q14 | 7 | 0.04353 | 0.9488 | 7.7901 |
| Q15 | 8 | 0.05448 | 0.9909 | 12.2151 |
| Q17 | 9 | -0.12484 | 0.8855 | 64.9603 |
| Q16 | 10 | -0.04087 | 0.9819 | 6.8662 |
| Q26 | 12 | -0.03863 | 0.7252 | 6.1321 |
| Q27 | 13 | -0.06386 | 0.6509 | 16.8025 |
| Q28 | 14 | -0.01987 | 0.9569 | 1.6204 |
| Q29 | 15 | 0.02289 | 0.9684 | 2.0024 |
| 2*7 | 16 | -0.04074 | 0.9969 | 6.8275 |
| 3X4 | 17 | -0.01242 | 0.9471 | 0.6326 |
| 5*6 | 18 | 0.05570 | 0.9763 | 12.7697 |
| 49*50 | 20 | -0.01546 | 0.9432 | 0.9815 |
| 61*62 | 21 | 0.04123 | 0.8794 | 6.9870 |
| 14*15 | 22 | 0.08531 | 0.9808 | 17.5783 |
| 14*17 | 23 | -0.06692 | 0.9776 | 10.4597 |
| 18*26 | 24 | 0.20772 | 0.2629 | 185.0267 |
| 21*24 | 26 | 0.00796 | 0.4220 | 0.2601 |
| (P) | 29 | 0.02399 | 0.9113 | 2.3624 |
| (F) | 30 | -0.00350 | 0.9727 | 0.0504 |
| (I) | 31 | -0.01388 | 0.9755 | 0.7902 |
| 30*31 | 32 | -0.02508 | 0.9927 | 2.5023 |

STEP NUMBER 5
VARIABLE ENTERED 22

MULTIPLE R 0.4760
STD. ERROR OF EST. 0.3619

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 157.478 | 31.496 | 240.439 |
| RESIDUAL | 4103 | 537.461 | 0.131 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.10836 ) | | |
| 8*9 | 19 | -0.17027 | 0.02863 | 35.3729 |
| 14*15 | 22 | 0.10342 | 0.02467 | 17.5783 |
| 20*27 | 25 | 0.36412 | 0.01680 | 469.8323 |
| 22*25 | 27 | 0.23010 | 0.02552 | 81.2744 |
| (E) | 28 | 0.20379 | 0.01903 | 114.6685 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.00935 | 0.9650 | 0.3588 |
| Q32 | 2 | 0.00301 | 0.9754 | 0.0373 |
| Q55 | 3 | 0.01279 | 0.6361 | 0.6714 |
| Q56 | 4 | -0.01077 | 0.9610 | 0.4756 |
| Q12 | 5 | 0.03883 | 0.9156 | 6.1956 |
| Q13 | 6 | 0.03090 | 0.9254 | 3.9203 |
| Q14 | 7 | 0.00474 | 0.5967 | 0.0923 |
| Q15 | 8 | -0.00474 | 0.2411 | 0.0923 |
| Q17 | 9 | -0.12547 | 0.8855 | 65.6119 |
| Q16 | 10 | -0.04088 | 0.9819 | 6.8669 |
| Q26 | 12 | -0.03964 | 0.7250 | 6.4570 |
| Q27 | 13 | -0.06561 | 0.6505 | 17.7331 |
| Q28 | 14 | -0.02263 | 0.9553 | 2.1014 |
| Q29 | 15 | 0.02352 | 0.9681 | 2.2311 |
| 2*7 | 16 | -0.04412 | 0.9945 | 8.0020 |
| 3X4 | 17 | -0.01183 | 0.9470 | 0.5745 |
| 5*6 | 18 | 0.05437 | 0.9758 | 12.1598 |
| 49*50 | 20 | -0.01608 | 0.9431 | 1.0584 |
| 61*62 | 21 | 0.04106 | 0.8794 | 6.9257 |
| 14*17 | 23 | -0.10218 | 0.8186 | 43.2796 |
| 18*26 | 24 | 0.20881 | 0.2629 | 187.0036 |
| 21*24 | 26 | 0.00765 | 0.4220 | 0.2401 |
| (P) | 29 | 0.02630 | 0.9102 | 2.8390 |
| (F) | 30 | -0.00182 | 0.9720 | 0.0136 |
| (I) | 31 | -0.01435 | 0.9754 | 0.8444 |
| 30*31 | 32 | -0.02021 | 0.9870 | 1.6757 |

Table 5-17. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 10

MULTIPLE R 0.4784
STD. ERROR OF EST. 0.3614

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 159.066 | 26.511 | 202.937 |
| RESIDUAL | 4102 | 535.872 | 0.131 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.17767 ) | | |
| 5*6 | 18 | 0.18098 | 0.03125 | 12.1598 |
| 8*9 | 19 | -0.17378 | 0.02061 | 35.0677 |
| 14*15 | 22 | 0.10149 | 0.02464 | 15.9655 |
| 20*27 | 25 | 0.36518 | 0.01678 | 473.5186 |
| 22*25 | 27 | 0.22531 | 0.02553 | 77.9877 |
| (E) | 28 | 0.19466 | 0.01919 | 132.9398 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.00132 | 0.9439 | 0.0072 |
| Q32 | 2 | 0.00304 | 0.9754 | 0.0379 |
| Q55 | 3 | 0.00998 | 0.6343 | 0.4004 |
| Q56 | 4 | -0.00304 | 0.9414 | 0.0379 |
| Q12 | 5 | 7.03713 | 0.9146 | 5.6618 |
| Q13 | 6 | 6.63002 | 0.9261 | 5.6988 |
| Q14 | 7 | 0.00494 | 0.5969 | 0.1000 |
| Q15 | 8 | -0.00494 | 0.2411 | 0.1000 |
| Q17 | 9 | -0.12634 | 0.8854 | 66.5183 |
| Q16 | 10 | -0.04421 | 0.9705 | 8.0313 |
| Q24 | 12 | -0.04094 | 0.7247 | 6.8867 |
| Q27 | 13 | -0.06598 | 0.6505 | 17.8849 |
| Q28 | 14 | -0.02553 | 0.9527 | 2.6749 |
| Q29 | 15 | 0.03179 | 0.9468 | 4.1486 |
| 2*7 | 16 | -0.04981 | 0.9048 | 10.1981 |
| 3X4 | 17 | -0.01191 | 0.9478 | 0.5819 |
| 49*59 | 20 | -0.02337 | 0.9271 | 2.2485 |
| 61*62 | 21 | 0.03811 | 0.8766 | 5.9644 |
| 14*17 | 23 | -0.10279 | 0.8183 | 43.7906 |
| 18*26 | 24 | 0.20732 | 0.2625 | 184.1932 |
| 21*24 | 26 | 0.00567 | 0.4216 | 0.1316 |
| (P) | 29 | 0.62457 | 0.9094 | 2.4975 |
| (F) | 30 | -0.00575 | 0.9670 | 0.1235 |
| (I) | 31 | -0.01231 | 0.9740 | 0.6220 |
| 30*31 | 32 | -0.02271 | 0.9853 | 2.1159 |

STEP NUMBER 7
VARIABLE ENTERED 10

MULTIPLE R 0.4800
STD. ERROR OF EST. 0.3611

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 160.113 | 22.873 | 175.391 |
| RESIDUAL | 4101 | 534.825 | 0.130 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.15229 ) | | |
| Q16 | 10 | -0.05736 | 0.02924 | 8.0313 |
| 5*6 | 18 | 0.11418 | 0.03128 | 13.3264 |
| 8*9 | 19 | -0.16372 | 0.02880 | 32.3212 |
| 14*15 | 22 | 0.10131 | 0.02462 | 15.9359 |
| 20*27 | 25 | 0.36431 | 0.01677 | 472.1526 |
| 22*25 | 27 | 0.22554 | 0.02550 | 78.1990 |
| (E) | 28 | 0.19816 | 0.01921 | 106.4128 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.00477 | 0.9382 | 0.0934 |
| Q32 | 2 | 0.00339 | 0.9753 | 0.0470 |
| Q55 | 3 | 0.01048 | 0.6343 | 0.4501 |
| Q56 | 4 | -0.00600 | 0.9372 | 0.1478 |
| Q12 | 5 | 0.03949 | 0.9122 | 6.4052 |
| Q13 | 6 | 0.03221 | 0.9240 | 4.2578 |
| Q14 | 7 | 0.00607 | 0.5965 | 0.1510 |
| Q15 | 8 | -0.00607 | 0.2409 | 0.1510 |
| Q17 | 9 | -0.12616 | 0.8853 | 66.3083 |
| Q24 | 12 | -0.04096 | 0.7247 | 6.8905 |
| Q27 | 13 | -0.06509 | 0.6503 | 17.4447 |
| Q28 | 14 | -0.01842 | 0.9261 | 1.3919 |
| Q29 | 15 | 0.02598 | 0.9287 | 2.7690 |
| 2*7 | 16 | -0.05022 | 0.9847 | 10.3661 |
| 3X4 | 17 | -0.01211 | 0.9470 | 0.6011 |
| 49*58 | 20 | -0.01972 | 0.9205 | 1.5943 |
| 61*62 | 21 | 0.03650 | 0.8753 | 5.4696 |
| 14*17 | 23 | -0.10201 | 0.8180 | 43.1158 |
| 18*26 | 24 | 0.20552 | 0.2518 | 180.8120 |
| 21*24 | 26 | 0.00554 | 0.4214 | 0.1259 |
| (P) | 29 | 0.02543 | 0.9091 | 2.6528 |
| (F) | 30 | -0.00469 | 0.9665 | 0.0902 |
| (I) | 31 | -0.00946 | 0.9699 | 0.3671 |
| 30*31 | 32 | -0.02495 | 0.9826 | 2.5539 |

Table 5-17. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 6

MULTIPLE R 0.4808
STD. ERROR OF EST. 0.3610

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 160.668 | 20.084 | 154.121 |
| RESIDUAL | 4133 | 538.270 | 0.130 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.15348 | | | | | | | |
| 013 5 | 0.08310 | 0.01604 | 6.2376 | 010 | 1 | -0.00472 | 0.9382 | 0.0914 |
| 016 10 | -0.05937 | 0.02025 | 8.5957 | 032 | 2 | 0.00200 | 0.9735 | 0.0164 |
| 5*6 14 | 0.11325 | 0.03127 | 13.1178 | 055 | 3 | 0.01324 | 0.6798 | 0.7190 |
| 6*9 19 | -0.15843 | 0.02808 | 33.2395 | 056 | 4 | -0.00654 | 0.9378 | 0.1753 |
| 14*15 22 | 0.09950 | 0.02467 | 16.3232 | 012 | 5 | 0.02415 | 0.5836 | 2.3329 |
| 20*27 25 | 0.36335 | 0.01687 | 455.3243 | 014 | 7 | 0.00171 | 0.5855 | 0.0120 |
| 22*25 27 | 0.21971 | 0.02571 | 72.3839 | 015 | 8 | -0.00171 | 0.2365 | 0.0120 |
| (F) 28 | 0.19463 | 0.01927 | 102.2217 | 017 | 9 | -0.12329 | 0.8731 | 63.2689 |
| | | | | 026 | 12 | -0.04326 | 0.7213 | 7.6648 |
| | | | | 027 | 13 | -0.06733 | 0.6476 | 18.6447 |
| | | | | 028 | 14 | -0.01917 | 0.9251 | 1.5074 |
| | | | | 029 | 15 | 0.02608 | 0.9258 | 2.7897 |
| | | | | 2*7 | 16 | -0.04982 | 0.9032 | 9.8745 |
| | | | | 3X4 | 17 | -0.02613 | 0.8134 | 2.8808 |
| | | | | 49*58 | 20 | -0.02221 | 0.9153 | 2.0221 |
| | | | | 61*62 | 21 | 0.03498 | 0.8732 | 5.0231 |
| | | | | 14*17 | 23 | -0.10141 | 0.8176 | 42.5954 |
| | | | | 18*26 | 24 | 0.20362 | 0.2599 | 177.2928 |
| | | | | 21*24 | 26 | 0.00645 | 0.421. | 0.1707 |
| | | | | (P) | 29 | 0.02306 | 0.9039 | 2.1804 |
| | | | | (F) | 30 | -0.00480 | 0.9664 | 0.0943 |
| | | | | (I) | 31 | -0.02075 | 0.8724 | 1.7662 |
| | | | | 30*31 | 32 | -0.02427 | 0.9824 | 2.4750 |

STEP NUMBER 9
VARIABLE ENTERED 17

MULTIPLE R 0.4816
STD. ERROR OF EST. 0.3609

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 161.033 | 17.893 | 137.360 |
| RESIDUAL | 4099 | 533.905 | 0.130 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.14594 | | | | | | | |
| 013 5 | 0.04378 | 0.01730 | 6.4395 | 010 | 1 | -0.00385 | 0.9572 | 0.0606 |
| 016 10 | -0.06518 | 0.02026 | 9.8252 | 032 | 2 | 0.00194 | 0.9735 | 0.0155 |
| 4X4 17 | -0.05778 | 0.03453 | 2.8038 | 055 | 3 | 0.01193 | 0.6281 | 0.5835 |
| 5*6 14 | 0.11303 | 0.03126 | 13.0638 | 056 | 4 | -0.00485 | 0.9330 | 0.0963 |
| 6*9 19 | -0.16629 | 0.02922 | 32.3898 | 012 | 5 | 0.02560 | 0.5021 | 2.6871 |
| 14*15 22 | 0.09949 | 0.02463 | 16.9936 | 014 | 7 | 0.00109 | 0.5851 | 0.0048 |
| 20*27 25 | 0.36083 | 0.01687 | 457.5954 | 015 | 8 | -0.00109 | 0.2363 | 0.0048 |
| 22*25 27 | 0.22017 | 0.02572 | 73.2956 | 017 | 9 | -0.12335 | 0.8731 | 63.3113 |
| (F) 28 | 0.19435 | 0.01927 | 101.7453 | 026 | 12 | -0.04323 | 0.7213 | 7.6742 |
| | | | | 027 | 13 | -0.06727 | 0.6476 | 18.6315 |
| | | | | 028 | 14 | -0.01868 | 0.9253 | 1.4297 |
| | | | | 029 | 15 | 0.02692 | 0.9279 | 2.9713 |
| | | | | 2*7 | 16 | -0.04650 | 0.9719 | 8.8808 |
| | | | | 49*58 | 20 | -0.02533 | 0.9031 | 2.6309 |
| | | | | 61*62 | 21 | 0.03504 | 0.8732 | 5.0375 |
| | | | | 14*17 | 23 | -0.10182 | 0.8175 | 42.9314 |
| | | | | 18*26 | 24 | 0.20432 | 0.2598 | 178.5375 |
| | | | | 21*24 | 26 | 0.00700 | 0.4209 | 0.2006 |
| | | | | (P) | 29 | 0.02245 | 0.9033 | 2.0658 |
| | | | | (F) | 30 | -0.00520 | 0.9662 | 0.1107 |
| | | | | (I) | 31 | -0.02149 | 0.8718 | 1.8935 |
| | | | | 30*31 | 32 | -0.02374 | 0.9814 | 2.3108 |

Table 5-17. (Continued)

STEP NUMBER 10
VARIABLE ENTERED 20

MULTIPLE R 0.4819
STD. ERROR OF EST. 0.3608

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 161.376 | 16.138 | 123.944 |
| RESIDUAL | 4098 | 533.563 | 0.130 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.13761 ) | | |
| Q13 | 6 | 0.04714 | 0.01741 | 7.3320 |
| Q16 | 10 | -0.05758 | 0.02032 | 8.0320 |
| 3X4 | 17 | -0.06416 | 0.03474 | 3.4096 |
| 5+6 | 18 | 0.11942 | 0.03151 | 14.3672 |
| 8+9 | 19 | -0.16497 | 0.02922 | 32.6587 |
| 49+58 | 20 | -0.06234 | 0.03843 | 2.6339 |
| 14+15 | 22 | 0.09851 | 0.02462 | 15.0390 |
| 20+27 | 25 | 0.36023 | 0.01687 | 456.0585 |
| 22+25 | 27 | 0.22212 | 0.02574 | 74.4679 |
| (E) | 28 | 0.20047 | 0.01963 | 104.2956 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.00622 | 0.9291 | 0.1587 |
| Q32 | 2 | 0.00141 | 0.9731 | 0.0082 |
| Q55 | 3 | 0.01281 | 0.6274 | 0.6726 |
| Q56 | 4 | -0.00767 | 0.9218 | 0.2409 |
| Q12 | 5 | 0.02712 | 0.5005 | 3.0150 |
| Q14 | 7 | 0.00180 | 0.5847 | 0.0133 |
| Q15 | 8 | -0.00180 | 0.2361 | 0.0133 |
| Q17 | 9 | -0.12255 | 0.8720 | 62.4732 |
| Q26 | 12 | -0.04226 | 0.7202 | 7.3302 |
| Q27 | 13 | -0.06620 | 0.6462 | 18.0336 |
| Q28 | 14 | -0.01702 | 0.9211 | 1.1877 |
| Q29 | 15 | 0.02448 | 0.9184 | 2.4571 |
| 2+7 | 16 | -0.04575 | 0.9710 | 8.5943 |
| 61+62 | 21 | 0.03578 | 0.8725 | 5.2523 |
| 14+17 | 23 | -0.10080 | 0.8158 | 42.0545 |
| 18+26 | 24 | 0.20424 | 0.2598 | 178.34.4 |
| 21+24 | 26 | 0.00713 | 0.4209 | 0.2080 |
| (P) | 29 | 0.02403 | 0.9000 | 2.3680 |
| (F) | 30 | -0.00518 | 0.9662 | 0.1097 |
| (I) | 31 | -0.02213 | 0.871? | 2.0079 |
| 30+31 | 32 | -0.02256 | 0.979? | 2.0868 |

STEP NUMBER 11
VARIABLE ENTERED 3

MULTIPLE R 0.4820
STD. ERROR OF EST. 0.3608

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 11 | 161.463 | 14.678 | 112.728 |
| RESIDUAL | 4097 | 533.475 | 0.130 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.14124 ) | | |
| Q55 | 3 | 0.02306 | 0.02812 | 0.6726 |
| Q13 | 6 | 0.04804 | 0.01745 | 7.5851 |
| Q16 | 10 | -0.05776 | 0.02032 | 8.0822 |
| 3X4 | 17 | -0.06282 | 0.03478 | 3.2617 |
| 5+6 | 18 | 0.11817 | 0.03154 | 14.3355 |
| 8+9 | 19 | -0.16113 | 0.03394 | 29.4824 |
| 49+58 | 20 | -0.06342 | 0.03846 | 2.7196 |
| 14+15 | 22 | 0.09774 | 0.02464 | 15.7355 |
| 20+27 | 25 | 0.36058 | 0.01687 | 456.6182 |
| 22+25 | 27 | 0.22246 | 0.02574 | 74.6675 |
| (E) | 28 | 0.20477 | 0.02032 | 101.5636 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.00527 | 0.9237 | 0.1136 |
| Q32 | 2 | 0.00106 | 0.9724 | 0.0046 |
| Q56 | 4 | -0.00651 | 0.9139 | 0.1734 |
| Q12 | 5 | 0.02709 | 0.5004 | 3.0075 |
| Q14 | 7 | 0.00112 | 0.5830 | 0.0052 |
| Q15 | 8 | -0.00112 | 0.2355 | 0.0052 |
| Q17 | 9 | -0.12262 | 0.8720 | 62.5259 |
| Q26 | 12 | -0.04217 | 0.7201 | 7.2977 |
| Q27 | 13 | -0.06621 | 0.6462 | 18.0351 |
| Q28 | 14 | -0.01731 | 0.9207 | 1.2275 |
| Q29 | 15 | 0.02581 | 0.9102 | 2.7304 |
| 2+7 | 16 | -0.04624 | 0.9697 | 8.7770 |
| 61+62 | 21 | 0.03616 | 0.8718 | 5.3634 |
| 14+17 | 23 | -0.10130 | 0.8148 | 42.4640 |
| 18+26 | 24 | 0.20439 | 0.2598 | 178.5698 |
| 21+24 | 26 | 0.00749 | 0.4206 | 0.2299 |
| (P) | 29 | 0.02401 | 0.9000 | 2.3617 |
| (F) | 30 | -0.00587 | 0.9635 | 0.1409 |
| (I) | 31 | -0.02225 | 0.8712 | 2.0287 |
| 30+31 | 32 | -0.02242 | 0.9790 | 2.0606 |

Table 5-17. (Continued)

STEP NUMBER 12
VARIABLE ENTERED 4

MULTIPLE R 0.4821
STD. ERROR OF EST. 0.3609

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 12 | 161.486 | 13.457 | 103.328 |
| RESIDUAL | 4096 | 533.452 | 0.130 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.13215 ) | | |
| Q55 | 3 | 0.02197 | 0.02824 | 3.6050 |
| Q56 | 4 | -0.00970 | 0.02328 | 3.1734 |
| Q13 | 6 | 0.04802 | 0.01745 | 7.5753 |
| Q16 | 10 | -0.05824 | 0.02035 | 9.1891 |
| 3X4 | 17 | -0.06211 | 0.03483 | 3.1837 |
| 5+6 | 18 | 0.11656 | 0.03178 | 13.4530 |
| 8+9 | 19 | -0.18243 | 0.03409 | 28.6449 |
| 49+58 | 20 | -0.05514 | 0.03868 | 2.8358 |
| 14+15 | 22 | 0.09800 | 0.02465 | 15.8059 |
| 20+27 | 25 | 0.36041 | 0.01688 | 455.7959 |
| 22+25 | 27 | 0.22225 | 0.02575 | 74.4859 |
| (E) | 28 | 0.20527 | 0.02036 | 101.6871 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.00112 | 0.4924 | 0.0052 |
| Q32 | 2 | 0.00103 | 0.9723 | 0.0043 |
| Q12 | 5 | 0.02698 | 0.5003 | 2.9835 |
| Q14 | 7 | 0.00115 | 0.5830 | 0.0055 |
| Q15 | 8 | -0.00115 | 0.2355 | 0.0055 |
| Q17 | 9 | -0.12251 | 0.8716 | 62.4006 |
| Q26 | 12 | -0.04216 | 0.7201 | 7.2911 |
| Q27 | 13 | -0.06613 | 0.6461 | 17.9842 |
| Q28 | 14 | -0.01770 | 0.9178 | 1.2831 |
| Q29 | 15 | 0.03345 | 0.6859 | 4.5880 |
| 2+7 | 16 | -0.04616 | 0.9696 | 8.7447 |
| 61+62 | 21 | 0.03591 | 0.6791 | 5.2869 |
| 14+17 | 23 | -0.10119 | 0.8145 | 42.3620 |
| 18+26 | 24 | 0.20431 | 0.2597 | 178.3821 |
| 21+24 | 26 | 0.00754 | 0.4205 | 0.2327 |
| (P) | 29 | 0.02359 | 0.8951 | 2.2798 |
| (F) | 30 | -0.00632 | 0.9591 | 0.1635 |
| (I) | 31 | -0.02217 | 0.8710 | 2.0135 |
| 30+31 | 32 | -0.02263 | 0.9782 | 2.0983 |

STEP NUMBER 13
VARIABLE ENTERED 30

MULTIPLE R 0.4821
STD. ERROR OF EST. 0.3609

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 13 | 161.507 | 12.424 | 95.373 |
| RESIDUAL | 4095 | 533.431 | 0.130 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | -0.13155 ) | | |
| Q55 | 3 | 0.02250 | 0.02828 | 3.6333 |
| Q56 | 4 | -0.01033 | 0.02334 | 3.1950 |
| Q13 | 6 | 0.04810 | 0.01745 | 7.5957 |
| Q16 | 10 | -0.05809 | 0.02036 | 8.1437 |
| 3X4 | 17 | -0.06725 | 0.03483 | 3.1931 |
| 5+6 | 18 | 0.11731 | 0.03186 | 13.5757 |
| 8+9 | 19 | -0.18104 | 0.03426 | 27.9239 |
| 49+58 | 20 | -0.06527 | 0.03869 | 2.8451 |
| 14+15 | 22 | 0.09772 | 0.02466 | 15.6994 |
| 20+27 | 25 | 0.36043 | 0.01688 | 455.7513 |
| 22+25 | 27 | 0.22232 | 0.02575 | 74.5157 |
| (E) | 28 | 0.20577 | 0.02040 | 101.7868 |
| (F) | 30 | -0.01742 | 0.04309 | 3.1635 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.00102 | 0.4923 | 0.0042 |
| Q32 | 2 | 0.00113 | 0.9721 | 0.0053 |
| Q12 | 5 | 0.02717 | 0.4999 | 3.0234 |
| Q14 | 7 | 0.00137 | 0.5823 | 0.0077 |
| Q15 | 8 | -0.00137 | 0.2352 | 0.0077 |
| Q17 | 9 | -0.12241 | 0.8712 | 62.2800 |
| Q26 | 12 | -0.04228 | 0.7199 | 7.3333 |
| Q27 | 13 | -0.06626 | 0.6458 | 18.0549 |
| Q28 | 14 | -0.01776 | 0.9177 | 1.2913 |
| Q29 | 15 | 0.03327 | 0.6852 | 4.5370 |
| 2+7 | 16 | -0.04598 | 0.9685 | 8.6724 |
| 61+62 | 21 | 0.03594 | 0.8701 | 5.2962 |
| 14+17 | 23 | -0.10103 | 0.8134 | 42.2153 |
| 18+26 | 24 | 0.20431 | 0.2597 | 178.3367 |
| 21+24 | 26 | 0.00761 | 0.4205 | 0.2371 |
| (P) | 29 | 0.02374 | 0.8946 | 2.3093 |
| (I) | 31 | -0.02208 | 0.8709 | 1.9978 |
| 30+31 | 32 | -0.02258 | 0.9781 | 2.0882 |

Table 5-17. (Continued)

STEP NUMBER 14
VARIABLE ENTERED 1

MULTIPLE R 0.4821
STD. ERROR OF EST. 0.3610

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 14 | 161.508 | 11.536 | 88.539 |
| RESIDUAL | 4094 | 533.431 | 0.130 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.13083 ) | | | | | | | |
| Q10 | 1 | -0.00210 | 0.03227 | 0.0042 | Q32 | 2 | 0.00117 | 0.9710 | 0.0056 |
| Q55 | 3 | 0.02247 | 0.02829 | 0.6311 | Q12 | 5 | 0.02715 | 0.4993 | 3.3184 |
| Q56 | 4 | -0.00891 | 0.03195 | 0.0778 | Q14 | 7 | 0.00138 | 0.5823 | 0.0078 |
| Q13 | 6 | 0.04809 | 0.01745 | 7.5929 | Q15 | 8 | -0.00138 | 0.2352 | 0.0078 |
| Q16 | 10 | -0.05814 | 0.02038 | 8.1431 | Q17 | 9 | -0.12241 | 0.8711 | 62.2607 |
| 3X4 | 17 | -0.06229 | 0.03484 | 3.1957 | Q26 | 12 | -0.04227 | 0.7194 | 7.3272 |
| 5+6 | 18 | 0.11718 | 0.03191 | 13.4882 | Q27 | 13 | -0.06626 | 0.6453 | 18.0488 |
| 8+9 | 19 | -0.18116 | 0.03432 | 27.8642 | Q28 | 14 | -0.01775 | 0.9177 | 1.2897 |
| 49+58 | 20 | -0.06533 | 0.03870 | 2.8490 | Q29 | 15 | 0.03603 | 0.5972 | 5.3205 |
| 14+15 | 22 | 0.09765 | 0.02469 | 15.6383 | 2+7 | 16 | -0.04598 | 0.9685 | 8.6726 |
| 20+27 | 25 | 0.36047 | 0.01689 | 455.2330 | 61+62 | 21 | 0.03598 | 0.8695 | 5.3059 |
| 22+25 | 27 | 0.22228 | 0.02577 | 74.4148 | 14+17 | 23 | -0.10102 | 0.8133 | 42.2010 |
| (E) | 28 | 0.20571 | 0.02042 | 101.4996 | 18+26 | 24 | 0.20431 | 0.2597 | 178.2940 |
| (F) | 30 | -0.01738 | 0.04310 | 0.1626 | 21+24 | 26 | 0.00762 | 0.4205 | 0.2377 |
| | | | | | (P) | 29 | 0.02375 | 0.8945 | 2.3105 |
| | | | | | (I) | 31 | -0.02206 | 0.8699 | 1.9933 |
| | | | | | 30+31 | 32 | -0.02260 | 0.9777 | 2.0923 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDEN VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 20+27 | 25 | 0.4091 | 0.1674 | 0.1674 | 825.7552 | 1 |
| 2 | (E) | 28 | 0.4465 | 0.1993 | 0.0319 | 163.8291 | 2 |
| 3 | 22+25 | 27 | 0.4657 | 0.2169 | 0.0175 | 91.9667 | 3 |
| 4 | 8+9 | 19 | 0.4725 | 0.2233 | 0.0064 | 33.8240 | 4 |
| 5 | 14+15 | 22 | 0.4763 | 0.2266 | 0.0033 | 17.5733 | 5 |
| 6 | 5+6 | 18 | 0.4784 | 0.2289 | 0.0023 | 12.1598 | 6 |
| 7 | Q16 | 10 | 0.4803 | 0.2304 | 0.0015 | 8.0313 | 7 |
| 8 | Q13 | 6 | 0.4808 | 0.2312 | 0.0008 | 4.2578 | 8 |
| 9 | 3X4 | 17 | 0.4814 | 0.2317 | 0.0005 | 2.8008 | 9 |
| 10 | 49+58 | 20 | 0.4819 | 0.2322 | 0.0005 | 2.6309 | 10 |
| 11 | Q55 | 3 | 0.4823 | 0.2323 | 0.0001 | 0.6726 | 11 |
| 12 | Q56 | 4 | 0.4821 | 0.2324 | 0.0000 | 0.1734 | 12 |
| 13 | (F) | 30 | 0.4821 | 0.2324 | 0.0000 | 0.1635 | 13 |
| 14 | Q10 | 1 | 0.4821 | 0.2324 | 0.0000 | 0.0042 | 14 |

### Table 5-18. Class of Information

```
SUB-PROBLM     2
 DEPENDENT VARIABLE
 MAXIMUM NUMBER OF STEPS        64
 F-LEVEL FOR INCLUSION      0.000000
 F-LEVEL FOR DELETION       0.000000
 TOLERANCE LEVEL            0.001000


  STEP NUMBER     1
  VARIABLE ENTERED    19

  MULTIPLE R                 0.2010
  STD. ERROR OF EST.         0.2682

  ANALYSIS OF VARIANCE
                        DF     SUM OF SQUARES    MEAN SQUARE     F RATIO
         REGRESSION      1          12.445         12.445      172.972
         RESIDUAL     4107         295.491          0.072

                                                    .
                  VARIABLES IN EQUATION             .                  VARIABLES NOT IN EQUATION
                                                    .
   VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE .   VARIABLE    PARTIAL CORR.      TOLERANCE     F TO ENTER
                                                    .
                                                    .
   (CONSTANT        0.37341 )                       .
   8+9   19         0.27155     0.02065   172.9719  .   Q10      1      -0.05800         0.9679       13.8574
                                                    .   Q32      2       0.01044         0.9919        0.4476
                                                    .   Q55      3       0.01520         0.6875        0.9486
                                                    .   Q56      4      -0.07699         0.9638       24.4848
                                                    .   Q12      5       0.05187         0.9964       11.0767
                                                    .   Q13      6       0.03895         0.9854        6.2392
                                                    .   Q14      7       0.07977         0.9997       26.2968
                                                    .   Q15      8       0.00535         0.9998        0.1175
                                                    .   Q17      9      -0.05737         0.9942        5.7406
                                                    .   Q16     10       0.17055         0.9872      123.0059
                                                    .   Q23     11      -0.00019         0.9726        0.0001
                                                    .   Q26     12       0.09811         0.9996       39.9100
                                                    .   Q27     13       0.09437         0.9986       36.8964
                                                    .   Q29     15      -0.17270         0.9715      126.2338
                                                    .    2+7    16       0.04041         0.9996        6.7175




                                                    .    3X4    17       0.02748         0.9619        3.1034
                                                    .    5+6    18       0.05619         1.0000       13.0050
                                                    .    49+58  20       0.08939         0.9984       33.0703
                                                    .    61+62  21       0.03219         0.9427        4.2602
                                                    .    14+15  22       0.04463         1.0000        8.1961
                                                    .    14+17  23       0.02322         0.9947        2.2153
                                                    .    18+26  24       0.03532         0.9834        5.1273
                                                    .    20+27  25       0.03928         0.9858        6.3457
                                                    .    21+24  26      -0.00776         0.9972        0.2472
                                                    .    22+25  27      -0.00579         0.9912        0.1375
                                                    .    (E)    28       0.03523         0.9559        5.1026
                                                    .    (P)    29       0.04363         0.9793        7.8312
                                                    .   (F)     30       0.00451         0.9761        0.0836
                                                    .    (I)    31      -0.17919         0.9874      136.2154
                                                    .    30+31  32      -0.00630         0.9998        0.1630


  STEP NUMBER     2
  VARIABLE ENTERED    10

  MULTIPLE R                 0.2614
  STD. ERROR OF EST.         0.2643

  ANALYSIS OF VARIANCE
                        DF     SUM OF SQUARES    MEAN SQUARE     F RATIO
         REGRESSION      2          21.040         10.520      150.558
         RESIDUAL     4106         286.895          0.070

                                                    .
                  VARIABLES IN EQUATION             .                  VARIABLES NOT IN EQUATION
                                                    .
   VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE .   VARIABLE    PARTIAL CORR.      TOLERANCE     F TO ENTER
                                                    .
                                                    .
   (CONSTANT        0.28754 )                       .
  Q16    10         0.16358     0.01475   123.0359  .   Q10      1      -0.04403         0.9606        7.9740
   8+9   19         0.24590     0.02048   144.1815  .   Q32      2       0.00828         0.9918        0.2814
                                                    .   Q55      3       0.01630         0.6875        1.0903
                                                    .   Q56      4      -0.06603         0.9590       17.9755
                                                    .   Q12      5       0.04270         0.9931        7.4973
                                                    .   Q13      6       0.03013         0.9825        3.7295
```

Table 5-18. (Continued)

| | | | | |
|---|---|---|---|---|
| Q14 | 7 | 0.07673 | 0.9991 | 24.3121 |
| Q15 | 8 | 0.0069- | 0.9998 | 3.1812 |
| Q17 | 9 | -0.03[illegible] | 0.9942 | 6.2138 |
| Q23 | 11 | 0.00418 | 0.9720 | 0.0716 |
| Q26 | 12 | 0.09909 | 0.9995 | 40.7389 |
| Q27 | 13 | 0.09301 | 0.9983 | 35.8226 |
| Q29 | 15 | -0.15151 | 0.9506 | 96.4453 |
| 2*7 | 16 | 0.04206 | 0.9996 | 7.2737 |
| 3X4 | 17 | 0.02831 | 0.9619 | 3.2924 |
| 5*6 | 18 | 0.04530 | 0.9953 | 8.4418 |
| 49*58 | 20 | 0.07291 | 0.9873 | 21.9365 |
| 61*62 | 21 | 0.03560 | 0.9425 | 5.2381 |
| 14*15 | 22 | 0.04411 | 0.9999 | 8.0043 |
| 14*17 | 23 | 0.01997 | 0.9943 | 1.6384 |
| 18*26 | 24 | 0.04006 | 0.9828 | 6.5990 |
| 20*27 | 25 | 0.04047 | 0.9868 | 6.7358 |
| 21*24 | 26 | -0.00827 | 0.9972 | 0.2807 |
| 22*25 | 27 | -0.00713 | 0.9912 | 0.2089 |
| (E) | 28 | 0.02344 | 0.9510 | 2.2560 |
| (P) | 29 | 0.03811 | 0.9781 | 5.9695 |
| (F) | 30 | -0.00099 | 0.9751 | 0.0040 |
| (I) | 31 | -0.19423 | 0.9828 | 160.9289 |
| 30*31 | 32 | 0.00172 | 0.9976 | 0.0122 |

STEP NUMBER 3
VARIABLE ENTERED 18

MULTIPLE R 5
STD. ERROR OF EST.

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 21.629 | 7.210 | 103.368 |
| RESIDUAL | 4105 | 286.307 | 0.070 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.24289 ) | | |
| Q16 | 10 | 0.16064 | 0.01477 | 118.2942 |
| 5*6 | 18 | 0.06559 | 0.02261 | 8.4418 |
| 8*9 | 19 | 0.24625 | 0.02046 | 144.8583 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.03783 | 0.9399 | 5.8819 |
| Q32 | 2 | 0.00765 | 0.9916 | 0.2400 |
| Q55 | 3 | 0.01580 | 0.6874 | 1.0248 |
| Q56 | 4 | -0.06064 | 0.9423 | 15.1470 |
| Q12 | 5 | 0.04024 | 0.9899 | 6.6572 |
| Q13 | 6 | 0.02840 | 0.9809 | 3.3128 |
| Q14 | 7 | 0.07544 | 0.9981 | 23.4879 |
| Q15 | 8 | 0.00515 | 0.9987 | 0.1088 |
| Q17 | 9 | -0.03855 | 0.9941 | 6.1086 |
| Q23 | 11 | 0.00002 | 0.9638 | 0.0000 |
| Q26 | 12 | 0.09739 | 0.9978 | 39.2965 |
| Q27 | 13 | 0.09205 | 0.9978 | 35.0717 |
| Q29 | 15 | -0.14664 | 0.9306 | 90.1844 |
| 2*7 | 16 | 0.03805 | 0.9910 | 5.9513 |
| 3X4 | 17 | 0.02785 | 0.9618 | 3.1861 |
| 49*58 | 20 | 0.06676 | 0.9636 | 18.3708 |
| 61*62 | 21 | 0.03159 | 0.9345 | 4.0993 |
| 14*15 | 22 | 0.04229 | 0.9982 | 7.3513 |
| 14*17 | 23 | 0.01934 | 0.9941 | 1.5360 |
| 18*26 | 24 | 0.03772 | 0.9800 | 5.8466 |
| 20*27 | 25 | 0.03930 | 0.9861 | 6.3481 |
| 21*24 | 26 | -0.01142 | 0.9925 | 0.5351 |
| 22*25 | 27 | -0.01013 | 0.9869 | 0.4209 |
| (E) | 28 | 0.01730 | 0.9325 | 1.2287 |
| (P) | 29 | 0.03523 | 0.9738 | 5.1002 |
| (F) | 30 | -0.00450 | 0.9693 | 0.0830 |
| (I) | 31 | -0.19333 | 0.9821 | 159.3531 |
| 30*31 | 32 | -0.00035 | 0.9955 | 0.0005 |

Table 5-18. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 1

MULTIPLE R 0.2675
STD. ERROR OF EST. 0.2639

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 22.338 | 5.510 | 79.089 |
| RESIDUAL | 4104 | 285.993 | 0.070 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.28109 ) | | |
| Q10 | 1 | -0.04141 | 0.01708 | 5.8819 |
| Q16 | 10 | 0.15787 | 0.01481 | 113.6925 |
| 5+6 | 18 | 0.05756 | 0.02284 | 5.3494 |
| 8+9 | 19 | 0.23759 | 0.02076 | 131.0092 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.00838 | 0.9912 | 0.2881 |
| Q55 | 3 | 0.01288 | 0.6832 | 0.6805 |
| Q56 | 4 | -0.04772 | 0.4976 | 9.3641 |
| Q12 | 5 | 0.03687 | 0.9685 | 6.2088 |
| Q13 | 6 | 0.02819 | 0.9809 | 3.2621 |
| Q14 | 7 | 0.07495 | 0.9979 | 23.1765 |
| Q15 | 8 | 0.00445 | 0.9983 | 0.0814 |
| Q17 | 9 | -0.03778 | 0.9937 | 5.8661 |
| Q23 | 11 | -0.00031 | 0.9637 | 0.0004 |
| Q26 | 12 | 0.09790 | 0.9977 | 39.7046 |
| Q27 | 13 | 0.09283 | 0.9974 | 35.6639 |
| Q29 | 15 | -0.15264 | 0.6242 | 97.8825 |
| 2+7 | 16 | 0.03815 | 0.9910 | 5.9817 |
| 3X4 | 17 | 0.02894 | 0.9610 | 3.4381 |
| 49+58 | 20 | 0.06353 | 0.9551 | 16.6246 |
| 61+62 | 21 | 0.03117 | 0.9344 | 3.9913 |
| 14+15 | 22 | 0.04149 | 0.9977 | 7.0750 |
| 14+17 | 23 | 0.01963 | 0.9940 | 1.5823 |
| 18+26 | 24 | 0.03734 | 0.9798 | 5.7288 |
| 20+27 | 25 | 0.03936 | 0.9861 | 6.3650 |
| 21+24 | 26 | -0.01204 | 0.9922 | 0.5952 |
| 22+25 | 27 | -0.01143 | 0.9858 | 0.5359 |
| (E) | 28 | 0.01758 | 0.9324 | 1.2689 |
| (P) | 29 | 0.03348 | 0.9716 | 4.6049 |
| (F) | 30 | -0.00593 | 0.9679 | 0.1444 |
| (I) | 31 | -0.19243 | 0.9813 | 157.7785 |
| 30+31 | 32 | -0.00179 | 0.9941 | 0.0131 |

STEP NUMBER 5
VARIABLE ENTERED 24

MULTIPLE R 0.2699
STD. ERROR OF EST. 0.2638

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 22.437 | 4.487 | 64.490 |
| RESIDUAL | 4103 | 285.499 | 0.070 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.26221 ) | | |
| Q10 | 1 | -0.04097 | 0.01707 | 5.7640 |
| Q16 | 10 | 0.15888 | 0.01480 | 115.2039 |
| 5+6 | 18 | 0.05474 | 0.02286 | 5.7321 |
| 8+9 | 19 | 0.24386 | 0.02091 | 135.0045 |
| 18+26 | 24 | 0.02627 | 0.01097 | 5.7288 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.00550 | 0.9852 | 0.1241 |
| Q55 | 3 | 0.01680 | 0.6760 | 1.1584 |
| Q54 | 4 | -0.04736 | 0.4975 | 9.2197 |
| Q1[illegible] | 5 | 0.03144 | 0.9405 | 4.0578 |
| Q1[illegible] | 6 | 0.02083 | 0.9377 | 1.7803 |
| Q14 | 7 | 0.06935 | 0.9648 | 19.8239 |
| Q15 | 8 | 0.00625 | 0.9960 | 0.1403 |
| Q17 | 9 | -0.02748 | 0.8959 | 3.0990 |
| Q23 | 11 | -0.01918 | 0.7685 | 1.5098 |
| Q26 | 12 | 0.09411 | 0.6480 | 36.6544 |
| Q27 | 13 | 0.08672 | 0.6913 | 31.0806 |
| Q29 | 15 | -0.15416 | 0.6235 | 99.8559 |
| 2+7 | 16 | 0.03802 | 0.9909 | 5.9384 |
| 3X4 | 17 | 0.02487 | 0.9486 | 2.5392 |
| 49+58 | 20 | 0.06198 | 0.9532 | 15.8187 |
| 61+62 | 21 | 0.02694 | 0.9211 | 2.9797 |
| 14+15 | 22 | 0.03955 | 0.9948 | 6.4274 |
| 14+17 | 23 | 0.02474 | 0.9771 | 2.5112 |
| 20+27 | 25 | 0.01443 | 0.2713 | 0.8546 |
| 21+24 | 26 | -0.02432 | 0.9038 | 2.4267 |
| 22+25 | 27 | -0.02633 | 0.8629 | 2.8455 |
| (E) | 28 | 0.01046 | 0.8964 | 0.4487 |
| (P) | 29 | 0.03032 | 0.9640 | 3.7747 |
| (F) | 30 | -0.00643 | 0.9677 | 0.1698 |
| (I) | 31 | -0.19361 | 0.9806 | 159.7434 |
| 30+31 | 32 | -0.00028 | 0.9924 | 0.0003 |

Table 5-13. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 17

MULTIPLE R 0.2710
STD. ERROR OF EST. 0.2637

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 22.614 | 3.769 | 54.185 |
| RESIDUAL | 4102 | 285.323 | 0.070 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.25691 ) | | |
| Q10 | 1 | -0.04177 | 0.01707 | 5.9857 |
| Q16 | 10 | 0.15883 | 0.01480 | 115.1552 |
| 3X4 | 17 | 0.03723 | 0.02336 | 2.5392 |
| 5+6 | 18 | 0.05441 | 0.02286 | 5.6652 |
| 8+9 | 19 | 0.24970 | 0.02123 | 138.3994 |
| 18+26 | 24 | 0.02427 | 0.01104 | 4.8298 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.00504 | 0.9849 | 0.1044 |
| Q55 | 3 | 0.01881 | 0.6719 | 1.4511 |
| Q56 | 4 | -0.04907 | 0.4955 | 9.8985 |
| Q12 | 5 | 0.02528 | 0.8602 | 2.6225 |
| Q13 | 6 | 0.01236 | 0.8042 | 0.6267 |
| Q14 | 7 | 0.06880 | 0.9642 | 19.5027 |
| Q15 | 8 | 0.00668 | 0.9957 | 0.1831 |
| Q17 | 9 | -0.02631 | 0.8938 | 2.8405 |
| Q23 | 11 | -0.01885 | 0.7683 | 1.4579 |
| Q26 | 12 | 0.09387 | 0.6480 | 36.4576 |
| Q27 | 13 | 0.08626 | 0.6910 | 30.7410 |
| Q29 | 15 | -0.15448 | 0.6234 | 100.2609 |
| 2+7 | 16 | 0.03608 | 0.9840 | 5.3455 |
| 49+58 | 20 | 0.06377 | 0.9491 | 16.7461 |
| 61+62 | 21 | 0.02636 | 0.9206 | 2.8506 |
| 14+15 | 22 | 0.03961 | 0.9948 | 6.4444 |
| 14+17 | 23 | 0.02528 | 0.9766 | 2.6233 |
| 20+27 | 25 | 0.01461 | 0.2713 | 0.8759 |
| 21+24 | 26 | -0.02575 | 0.9010 | 2.7219 |
| 22+25 | 27 | -0.02820 | 0.8584 | 3.2644 |
| (E) | 28 | 0.01014 | 0.8963 | 0.4216 |
| (P) | 29 | 0.03001 | 0.9638 | 3.6963 |
| (F) | 30 | -0.00617 | 0.9676 | 0.1562 |
| (I) | 31 | -0.19714 | 0.9708 | 165.8262 |
| 30+31 | 32 | -0.00107 | 0.9914 | 0.0047 |

STEP NUMBER 7
VARIABLE ENTERED 26

MULTIPLE R 0.2721
STD. ERROR OF EST. 0.2637

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 22.803 | 3.258 | 46.852 |
| RESIDUAL | 4101 | 285.133 | 0.070 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.27114 ) | | |
| Q10 | 1 | -0.04220 | 0.01707 | 5.1122 |
| Q16 | 10 | 0.15895 | 0.01480 | 115.3881 |
| 3X4 | 17 | 0.03939 | 0.02340 | 2.8364 |
| 5+6 | 18 | 0.05638 | 0.02288 | 5.0634 |
| 8+9 | 19 | 0.24943 | 0.02122 | 138.1510 |
| 18+26 | 24 | 0.02982 | 0.01154 | 6.6765 |
| 21+24 | 26 | -0.03196 | 0.01937 | 2.7219 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.00522 | 0.9848 | 0.1119 |
| Q55 | 3 | 0.01828 | 0.6716 | 1.3698 |
| Q56 | 4 | -0.04905 | 0.4955 | 9.8874 |
| Q12 | 5 | 0.02700 | 0.8566 | 2.9918 |
| Q13 | 6 | 0.01351 | 0.8027 | 0.7486 |
| Q14 | 7 | 0.07006 | 0.9622 | 20.2219 |
| Q15 | 8 | 0.00765 | 0.9943 | 0.2402 |
| Q17 | 9 | -0.02580 | 0.8935 | 2.9474 |
| Q23 | 11 | -0.01695 | 0.7639 | 1.1785 |
| Q26 | 12 | 0.09437 | 0.6478 | 36.8412 |
| Q27 | 13 | 0.08748 | 0.6897 | 31.6218 |
| Q29 | 15 | -0.15512 | 0.6231 | 101.0813 |
| 2+7 | 16 | 0.03557 | 0.9836 | 5.1954 |
| 49+58 | 20 | 0.06472 | 0.9480 | 17.2463 |
| 61+62 | 21 | 0.02564 | 0.9198 | 2.6973 |
| 14+15 | 22 | 0.04103 | 0.9920 | 6.9134 |
| 14+17 | 23 | 0.02570 | 0.9764 | 2.7091 |
| 20+27 | 25 | 0.01544 | 0.2710 | 0.9780 |
| 22+25 | 27 | -0.01378 | 0.4022 | 0.7783 |
| (E) | 28 | 0.00932 | 0.8954 | 0.3563 |
| (P) | 29 | 0.02993 | 0.9638 | 3.6762 |
| (F) | 30 | -0.00595 | 0.9675 | 0.1452 |
| (I) | 31 | -0.19914 | 0.9672 | 169.3015 |
| 30+31 | 32 | 0.00194 | 0.9781 | 0.0154 |

Table 5-18. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 23

MULTIPLE R 0.2732
STD. ERROR OF EST. 0.2636

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 22.991 | 2.874 | 41.352 |
| RESIDUAL | 4130 | 284.945 | 0.069 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.25260 ) | | |
| Q10 | 1 | -0.04239 | 0.01707 | 5.1733 |
| Q16 | 10 | 0.15855 | 0.01480 | 114.8172 |
| 3X4 | 17 | 0.04925 | 0.02340 | 2.9534 |
| 5+6 | 18 | 0.05557 | 0.02289 | 5.9951 |
| 8+9 | 19 | 0.24770 | 0.02124 | 135.9633 |
| 14+17 | 23 | 0.03897 | 0.02367 | 2.7391 |
| 18+26 | 24 | 0.03224 | 0.01163 | 7.6799 |
| 21+24 | 26 | -0.03245 | 0.01937 | 2.8077 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.00599 | 0.9840 | 0.1470 |
| Q55 | 3 | 0.01731 | 0.6706 | 1.2292 |
| Q56 | 4 | -0.04967 | 0.4952 | 12.1361 |
| Q12 | 5 | 0.02665 | 0.8565 | 2.9141 |
| Q13 | 6 | 0.01333 | 0.8026 | 0.7290 |
| Q14 | 7 | 0.06979 | 0.5581 | 20.0647 |
| Q15 | 8 | 0.00504 | 0.9839 | 0.1042 |
| Q17 | 9 | -0.06979 | 0.3900 | 20.0645 |
| Q23 | 11 | -0.01549 | 0.7613 | 0.9841 |
| Q26 | 12 | 0.09333 | 0.6464 | 36.0184 |
| Q27 | 13 | 0.08623 | 0.6876 | 30.7062 |
| Q29 | 15 | -0.15511 | 0.6231 | 101.0542 |
| 2+7 | 16 | 0.03386 | 0.9788 | 4.7059 |
| 49+58 | 20 | 0.06360 | 0.9459 | 16.6481 |
| 61+62 | 21 | 0.02637 | 0.9191 | 2.8520 |
| 14+15 | 22 | 0.03355 | 0.8325 | 4.6192 |
| 20+27 | 25 | 0.01611 | 0.2708 | 1.0645 |
| 22+25 | 27 | -0.01251 | 0.4012 | 0.6417 |
| (E) | 28 | 0.00648 | 0.8944 | 0.2949 |
| (P) | 29 | 0.03083 | 0.9627 | 3.9000 |
| (F) | 30 | -0.00657 | 0.9670 | 0.1767 |
| (I) | 31 | -0.21251 | 0.9060 | 193.8637 |
| 30+31 | 32 | 0.00178 | 0.9780 | 0.0129 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | MULTIPLE RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 8+9 19 | | 0.2013 | 0.0404 | 0.0404 | 172.9719 | 1 |
| 2 | Q16 10 | | 0.2514 | 0.0603 | 0.0279 | 123.0059 | 2 |
| 3 | 5+6 18 | | 0.2653 | 0.0702 | 0.0019 | 8.4418 | 3 |
| 4 | Q10 1 | | 0.2675 | 0.0716 | 0.0013 | 5.8819 | 4 |
| 5 | 18+26 24 | | 0.2699 | 0.0729 | 0.0013 | 5.7288 | 5 |
| 6 | 3X4 17 | | 0.2713 | 0.0736 | 0.0006 | 2.5392 | 6 |
| 7 | 21+24 26 | | 0.2721 | 0.0741 | 0.0006 | 2.7219 | 7 |
| 8 | 14+17 23 | | 0.2732 | 0.0747 | 0.0006 | 2.7091 | 8 |

Table 5-19. Field of Information

```
SUB-PROBLM    3
DEPENDENT VARIABLE
MAXIMUM NUMBER OF STEPS      64
F-LEVEL FOR INCLUSION      0.000000
F-LEVEL FOR DELETION       0.000000
TOLERANCE LEVEL            0.001000


STEP NUMBER    1
VARIABLE ENTERED    1

MULTIPLE R                0.5995
STD. ERROR OF EST.        0.2094

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
REGRESSION        1         101.096        101.096     2304.449
RESIDUAL       4107         180.169          0.044

                VARIABLES IN EQUATION                          .                    VARIABLES NOT IN EQUATION
                                                               .
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE             .     VARIABLE    PARTIAL CORR.    TOLERANCE   F TO ENTER
                                                               .
                                                               .
 (CONSTANT        0.24917 )                                     .
Q10     1         0.63062     0.01314   2304.4491             .     Q32     2        0.00176        0.9990       0.0127
                                                               .     Q55     3       -0.09221        0.9730      35.2152
                                                               .     Q56     4        0.19435        0.5028     161.1835
                                                               .     Q12     5       -0.00347        0.9985       0.0494
                                                               .     Q13     6        0.00174        1.0000       0.0124
                                                               .     Q14     7       -0.02452        0.9994       2.4704
                                                               .     Q15     8        0.00682        0.9996       0.1910
                                                               .     Q17     9        0.00000        0.9999       0.0000
                                                               .     Q16    10       -0.12548        0.9890      65.6894
                                                               .     Q23    11        0.04933        0.9999      10.0178
                                                               .     Q26    12        0.00786        0.9999       0.2534
                                                               .     Q27    13        0.00258        0.9996       0.0274
                                                               .     Q28    14       -0.18264        0.9915     141.6885
                                                               .      2*7   16        0.00116        0.9998       0.0056
                                                               .      3X4   17        0.02775        0.9964       3.1643


                                                               .      5*6   18       -0.07790        0.9976      25.0679
                                                               .      8*9   19       -0.07780        0.9679      25.0012
                                                               .     49*58  20       -0.07550        0.9871      23.5363
                                                               .     61*62  21        0.03426        0.9996       4.8251
                                                               .     14*15  22       -0.00698        0.9992       0.2001
                                                               .     14*17  23       -0.01632        0.9999       1.0936
                                                               .     18*26  24        0.04367        0.9999       7.8456
                                                               .     20*27  25        0.03913        0.9997       6.2967
                                                               .     21*24  26       -0.00944        0.9997       0.3657
                                                               .     22*25  27        0.00350        0.9993       0.0503
                                                               .     (E)    28       -0.00637        0.9996       0.1668
                                                               .     (P)    29        0.00898        0.9989       0.3312
                                                               .     (F)    30       -0.07134        0.9940      21.0051
                                                               .     (I)    31        0.01050        0.9978       0.4529
                                                               .     30*31  32        0.00562        0.9987       0.1295


STEP NUMBER    2
VARIABLE ENTERED   10

MULTIPLE R                0.6079
STD. ERROR OF EST.        0.2078

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
REGRESSION        2         103.931         51.965     1203.218
RESIDUAL       4106         177.332          0.043

                VARIABLES IN EQUATION                          .                    VARIABLES NOT IN EQUATION
                                                               .
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE             .     VARIABLE    PARTIAL CORR.    TOLERANCE   F TO ENTER
                                                               .
                                                               .
 (CONSTANT        0.31198 )                                     .
Q10     1         0.61947     0.01311   2233.8657             .     Q32     2        0.00259        0.9990       0.0274
Q16    10        -0.09390     0.01159     65.6894             .     Q55     3       -0.08765        0.9712      31.7774
                                                               .     Q56     4        0.19297        0.5025     158.7652
                                                               .     Q12     5        0.00243        0.9963       0.0243
                                                               .     Q13     6        0.00695        0.9983       0.1980
                                                               .     Q14     7       -0.02168        0.9989       1.9310
```

Table 5-19. (Continued)

| | | | | | |
|---|---|---|---|---|---|
| Q15 | 8 | 0.00553 | 0.9995 | 0.1255 |
| Q17 | 9 | 0.00188 | 0.9997 | 0.0146 |
| Q23 | 11 | 0.04439 | 0.9981 | 8.1031 |
| Q26 | 12 | 0.00808 | 0.9999 | 0.2681 |
| Q27 | 13 | 0.00435 | 0.9994 | 0.0778 |
| Q28 | 14 | -0.16392 | 0.9591 | 113.3522 |
| 2*7 | 16 | 0.00050 | 0.9998 | 0.0010 |
| 3X4 | 17 | 0.02567 | 0.9961 | 2.7066 |
| 5*6 | 18 | -0.07188 | 0.9748 | 21.3198 |
| 8*9 | 19 | -0.06655 | 0.9589 | 18.2627 |
| 49*58 | 20 | -0.06508 | 0.9793 | 17.4629 |
| 61*62 | 21 | 0.02932 | 0.9979 | 3.5330 |
| 14*15 | 22 | -0.00657 | 0.9992 | 0.1772 |
| 14*17 | 23 | -0.01292 | 0.9991 | 0.6852 |
| 18*26 | 24 | 0.03924 | 0.9985 | 4.3314 |
| 20*27 | 25 | 0.03759 | 0.9995 | 5.8093 |
| 21*24 | 26 | -0.01020 | 0.9997 | 0.4273 |
| 22*25 | 27 | 0.00275 | 0.9993 | 0.0311 |
| (E) | 28 | -0.00036 | 0.9973 | 0.0005 |
| (P) | 29 | 0.01103 | 0.9987 | 0.4999 |
| (F) | 30 | -0.06675 | 0.9923 | 18.3696 |
| (I) | 31 | 0.01823 | 0.9942 | 1.3719 |
| 30*31 | 32 | -0.00097 | 0.9959 | 0.0039 |

STEP NUMBER 3
VARIABLE ENTERED 18

MULTIPLE R 0.6106
STD. ERROR OF EST. 0.2073

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 104.847 | 34.949 | 813.222 |
| RESIDUAL | 4105 | 176.416 | 0.043 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.37433 ) | | |
| Q10 | 1 | 0.61071 | 0.01321 | 2135.8697 |
| Q16 | 10 | -0.09105 | 0.01157 | 61.8965 |
| 5*6 | 18 | -0.08281 | 0.01793 | 21.3198 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.00399 | 0.9986 | 0.0655 |
| Q55 | 3 | -0.08913 | 0.9709 | 32.8625 |
| Q56 | 4 | 0.19076 | 0.5017 | 154.9826 |
| Q12 | 5 | 0.00623 | 0.9936 | 0.1593 |
| Q13 | 6 | 0.00997 | 0.9966 | 0.4077 |
| Q14 | 7 | -0.01971 | 0.9981 | 1.5951 |
| Q15 | 8 | 0.00775 | 0.9986 | 0.2468 |
| Q17 | 9 | 0.00138 | 0.9997 | 0.0078 |
| Q23 | 11 | 0.05145 | 0.9894 | 10.8929 |
| Q26 | 12 | 0.01125 | 0.9980 | 0.5197 |
| Q27 | 13 | 0.00634 | 0.9987 | 0.1651 |
| Q28 | 14 | -0.16204 | 0.9581 | 110.6688 |
| 2*7 | 16 | 0.00713 | 0.9914 | 0.2086 |
| 3X4 | 17 | 0.02720 | 0.9956 | 3.0390 |
| 8*9 | 19 | -0.06900 | 0.9580 | 19.6331 |
| 49*58 | 20 | -0.05555 | 0.9594 | 12.7036 |
| 61*62 | 21 | 0.03636 | 0.9890 | 5.4315 |
| 14*15 | 22 | -0.00380 | 0.9977 | 0.0543 |
| 14*17 | 23 | -0.01201 | 0.9990 | 0.5917 |
| 18*26 | 24 | 0.04339 | 0.9955 | 7.7401 |
| 20*27 | 25 | 0.03989 | 0.9986 | 6.5411 |
| 21*24 | 26 | -0.00540 | 0.9952 | 0.1196 |
| 22*25 | 27 | 0.00728 | 0.9954 | 0.2174 |
| (E) | 28 | 0.01001 | 0.9771 | 0.4116 |
| (P) | 29 | 0.01559 | 0.9948 | 0.9980 |
| (F) | 30 | -0.06232 | 0.9880 | 16.0005 |
| (I) | 31 | 0.01708 | 0.9939 | 1.1980 |
| 30*31 | 32 | 0.00192 | 0.9943 | 0.0152 |

Table 5-19. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 19

MULTIPLE R 0.6130
STD. ERROR OF EST. 0.2068

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 105.647 | 26.422 | 617.593 |
| RESIDUAL | 4134 | 175.576 | 0.043 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.41018 | | | | | | | |
| Q10 | 1 | 0.60051 | 0.01338 | 2013.9853 | Q32 | 2 | -0.00195 | 0.9912 | 0.0156 |
| Q16 | 16 | -0.09602 | 0.01160 | 54.9636 | Q55 | 3 | -0.06162 | 0.6832 | 15.0377 |
| 5+6 | 18 | -0.08528 | 0.01792 | 22.6935 | Q56 | 4 | 0.18570 | 0.4976 | 146.5387 |
| 8+9 | 19 | -0.07258 | 0.01627 | 19.5331 | Q12 | 5 | 0.00131 | 0.9885 | 0.0070 |
| | | | | | Q13 | 6 | 0.00133 | 0.9809 | 0.0073 |
| | | | | | Q14 | 7 | -0.01891 | 0.9979 | 1.4681 |
| | | | | | Q15 | 8 | 0.00670 | 0.9983 | 0.1840 |
| | | | | | Q17 | 9 | 0.00675 | 0.9937 | 0.1869 |
| | | | | | Q23 | 11 | 0.04097 | 0.9637 | 5.8980 |
| | | | | | Q26 | 12 | 0.00998 | 0.9977 | 0.4090 |
| | | | | | Q27 | 13 | 0.00393 | 0.9974 | 0.0634 |
| | | | | | Q28 | 14 | -0.15264 | 0.9284 | 97.8825 |
| | | | | | 2+7 | 16 | 0.00858 | 0.9910 | 0.3021 |
| | | | | | 3X4 | 17 | 0.01443 | 0.9810 | 0.8755 |
| | | | | | 49+58 | 20 | -0.04047 | 0.9551 | 15.0574 |
| | | | | | 61+62 | 21 | 0.02077 | 0.9344 | 1.7701 |
| | | | | | 14+15 | 22 | -0.00424 | 0.9977 | 0.0737 |
| | | | | | 14+17 | 23 | -0.00719 | 0.9940 | 0.2123 |
| | | | | | 18+26 | 24 | 0.03510 | 0.9798 | 5.0619 |
| | | | | | 20+27 | 25 | 0.03246 | 0.9861 | 4.3279 |
| | | | | | 21+24 | 26 | -0.00919 | 0.9922 | 0.3469 |
| | | | | | 22+25 | 27 | 0.00051 | 0.9858 | 0.0011 |
| | | | | | (E) | 28 | -0.00486 | 0.9324 | 0.0969 |
| | | | | | (P) | 29 | 0.00512 | 0.9716 | 0.1075 |
| | | | | | (F) | 30 | -0.05314 | 0.9679 | 11.6176 |
| | | | | | (I) | 31 | 0.00939 | 0.9813 | 0.3617 |
| | | | | | 30+31 | 32 | 0.00085 | 0.9941 | 0.0030 |

STEP NUMBER 5
VARIABLE ENTERED 24

MULTIPLE R 0.6136
STD. ERROR OF EST. 0.2067

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 105.903 | 21.181 | 495.576 |
| RESIDUAL | 4133 | 175.360 | 0.043 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.39627 | | | | | | | |
| Q10 | 1 | 0.60083 | 0.01338 | 2017.9177 | Q32 | 2 | -0.00470 | 0.9852 | 0.0904 |
| Q16 | 16 | -0.08527 | 0.01160 | 54.0237 | Q55 | 3 | -0.05837 | 0.6760 | 14.0212 |
| 5+6 | 18 | -0.08736 | 0.01792 | 23.7725 | Q56 | 4 | 0.18620 | 0.4975 | 147.3214 |
| 8+9 | 19 | -0.06746 | 0.01639 | 15.9662 | Q12 | 5 | -0.00660 | 0.9405 | 0.1785 |
| 18+26 | 24 | 0.01935 | 0.00860 | 5.0519 | Q13 | 6 | -0.00618 | 0.9377 | 0.1565 |
| | | | | | Q14 | 7 | -0.02576 | 0.9648 | 2.7230 |
| | | | | | Q15 | 8 | 0.00839 | 0.9960 | 0.2688 |
| | | | | | Q17 | 9 | 0.01372 | 0.8959 | 1.4375 |
| | | | | | Q23 | 11 | 0.07820 | 0.7685 | 3.2652 |
| | | | | | Q26 | 12 | -0.01301 | 0.6480 | 0.7373 |
| | | | | | Q27 | 13 | -0.01865 | 0.6913 | 1.4276 |
| | | | | | Q28 | 14 | -0.15416 | 0.9271 | 99.8559 |
| | | | | | 2+7 | 16 | 0.00844 | 0.9909 | 0.2919 |
| | | | | | 3X4 | 17 | 0.01072 | 0.9436 | 0.4713 |
| | | | | | 49+58 | 20 | -0.06212 | 0.9532 | 15.8891 |
| | | | | | 61+62 | 21 | 0.01672 | 0.9211 | 1.1469 |
| | | | | | 14+15 | 22 | -0.00615 | 0.9948 | 0.1553 |
| | | | | | 14+17 | 23 | -0.00264 | 0.9771 | 0.0285 |
| | | | | | 20+27 | 25 | 0.00491 | 0.2713 | 0.0990 |
| | | | | | 21+24 | 26 | -0.02063 | 0.9038 | 1.7459 |
| | | | | | 22+25 | 27 | -0.01271 | 0.8629 | 0.6630 |
| | | | | | (E) | 28 | -0.01200 | 0.8964 | 0.5906 |
| | | | | | (P) | 29 | 0.00202 | 0.9640 | 0.0168 |
| | | | | | (F) | 30 | -0.05364 | 0.9677 | 11.8369 |
| | | | | | (I) | 31 | 0.00848 | 0.9806 | 0.2952 |
| | | | | | 30+31 | 32 | 0.00228 | 0.9924 | 0.0213 |

Table 5-19. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 26

MULTIPLE R 0.6138
STD. ERROR OF EST. 0.2067

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 105.978 | 17.663 | 413.346 |
| RESIDUAL | 4102 | 175.285 | 0.043 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.40538 ) | | |
| Q16 | 1 | 0.60059 | 0.01338 | 2015.2025 |
| Q16 | 10 | -0.08519 | 0.01160 | 53.9325 |
| 5*6 | 18 | -0.08612 | 0.01794 | 23.0931 |
| 8*9 | 19 | -0.06784 | 0.01639 | 17.1330 |
| 13*25 | 24 | 0.02299 | 0.00981 | 5.4913 |
| 21*24 | 26 | -0.02033 | 0.01516 | 1.7459 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | -0.00453 | 0.9852 | 0.0843 |
| Q55 | 3 | -0.05092 | 0.6756 | 14.2861 |
| Q56 | 4 | 0.18634 | 0.4975 | 147.5255 |
| Q12 | 5 | -0.03501 | 0.9348 | 0.1028 |
| Q13 | 6 | -0.00491 | 0.9341 | 0.0990 |
| Q14 | 7 | -0.02483 | 0.9627 | 2.5299 |
| Q15 | 8 | 0.00915 | 0.9947 | 0.3433 |
| Q17 | 9 | 0.01829 | 0.8955 | 1.3716 |
| Q23 | 11 | 0.02904 | 0.7642 | 3.6548 |
| Q26 | 12 | -0.01303 | 0.6478 | 0.6969 |
| Q27 | 13 | -0.01776 | 0.6899 | 1.2935 |
| Q28 | 14 | -0.15474 | 0.9266 | 100.6029 |
| 2*7 | 16 | 0.00812 | 0.9987 | 0.2702 |
| 3*4 | 17 | 0.01189 | 0.9457 | 0.5001 |
| 49*58 | 20 | -0.06153 | 0.9523 | 15.5830 |
| 61*62 | 21 | 0.01617 | 0.9205 | 1.0725 |
| 14*15 | 22 | -0.00508 | 0.9921 | 0.1060 |
| 14*17 | 23 | -0.00234 | 0.9769 | 0.0225 |
| 20*27 | 25 | 0.00556 | 0.2718 | 0.1268 |
| 22*25 | 27 | 0.00342 | 0.4030 | 0.0483 |
| (E) | 28 | -0.01265 | 0.8956 | 0.6565 |
| (P) | 29 | 0.00197 | 0.9640 | 0.0159 |
| (F) | 30 | -0.05349 | 0.9677 | 11.7463 |
| (I) | 31 | 0.00737 | 0.9777 | 0.2225 |
| 30*31 | 32 | 0.00474 | 0.9787 | 0.0920 |

STEP NUMBER 7
VARIABLE ENTERED 17

MULTIPLE R 0.6139
STD. ERROR OF EST. 0.2067

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 106.003 | 15.143 | 354.343 |
| RESIDUAL | 4101 | 175.260 | 0.043 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.40369 ) | | |
| Q10 | 1 | 0.60028 | 0.01338 | 2012.2119 |
| Q16 | 10 | -0.08521 | 0.01160 | 53.9492 |
| 3*4 | 17 | 0.01397 | 0.01834 | 3.5831 |
| 5*6 | 18 | -0.08620 | 0.01794 | 23.0934 |
| 8*9 | 19 | -0.06566 | 0.01664 | 15.5759 |
| 18*26 | 24 | 0.02227 | 0.00905 | 5.3554 |
| 21*24 | 26 | -0.02068 | 0.01519 | 1.8565 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | -0.00475 | 0.9848 | 0.0924 |
| Q55 | 3 | -0.05818 | 0.6716 | 13.9261 |
| Q56 | 4 | 0.18598 | 0.4955 | 146.8888 |
| Q12 | 5 | -0.00882 | 0.8566 | 0.3192 |
| Q13 | 6 | -0.01011 | 0.8027 | 0.4194 |
| Q14 | 7 | -0.02509 | 0.9622 | 2.5828 |
| Q15 | 8 | 0.00938 | 0.9943 | 0.3638 |
| Q17 | 9 | 0.01887 | 0.8935 | 1.4606 |
| Q23 | 11 | 0.03006 | 0.7639 | 3.7076 |
| Q26 | 12 | -0.01316 | 0.6478 | 0.7097 |
| Q27 | 13 | -0.01797 | 0.6897 | 1.3250 |
| Q28 | 14 | -0.15512 | 0.9259 | 101.0813 |
| 2*7 | 16 | 0.00714 | 0.9836 | 0.2088 |
| 49*58 | 20 | -0.06087 | 0.9480 | 15.2454 |
| 61*62 | 21 | 0.01587 | 0.9198 | 1.0358 |
| 14*15 | 22 | -0.00503 | 0.9920 | 0.1037 |
| 14*17 | 23 | -0.00208 | 0.9764 | 0.0177 |
| 20*27 | 25 | 0.00567 | 0.2710 | 0.1317 |
| 22*25 | 27 | 0.00289 | 0.4022 | 0.0343 |
| (E) | 28 | -0.01283 | 0.8954 | 0.6749 |
| (P) | 29 | 0.00181 | 0.9638 | 0.0135 |
| (F) | 30 | -0.05336 | 0.9675 | 11.7084 |
| (I) | 31 | 0.00617 | 0.9672 | 0.1561 |
| 30*31 | 32 | 0.00444 | 0.9781 | 0.0807 |

Table 5-19. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 23

MULTIPLE R 0.6139
STD. ERROR OF EST. 0.2068

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 106.003 | 13.250 | 309.978 |
| RESIDUAL | 4100 | 175.260 | 0.043 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.40486 ) | | | | | | | |
| Q10 | 1 | 0.60029 | 0.01338 | 2011.7174 | Q32 | 2 | -0.00481 | 0.9840 | 0.0949 |
| Q16 | 10 | -0.08519 | 0.01160 | 53.8899 | Q55 | 3 | -0.05814 | 0.6706 | 13.9051 |
| 3X4 | 17 | 0.01392 | 0.01835 | 0.5752 | Q56 | 4 | 0.18607 | 0.4952 | 147.0112 |
| 5+6 | 18 | -0.08614 | 0.01795 | 23.0366 | Q12 | 5 | -0.00879 | 0.8565 | 0.3171 |
| 8+9 | 19 | -0.06555 | 0.01666 | 15.4826 | Q13 | 6 | -0.01010 | 0.8026 | 0.4181 |
| 14+17 | 23 | -0.00247 | 0.01857 | 0.0177 | Q14 | 7 | -0.03092 | 0.5681 | 3.9238 |
| 18+26 | 24 | 0.02212 | 0.00912 | 5.8757 | Q15 | 8 | 0.00964 | 0.9839 | 0.3813 |
| 21+24 | 26 | -0.02065 | 0.01519 | 1.8479 | Q17 | 9 | 0.03092 | 0.3900 | 3.9237 |
| | | | | | Q23 | 11 | 0.02799 | 0.7613 | 3.6897 |
| | | | | | Q26 | 12 | -0.01307 | 0.6464 | 0.7068 |
| | | | | | Q27 | 13 | -0.04789 | 0.6876 | 1.3148 |
| | | | | | Q28 | 14 | -0.13511 | 0.9253 | 131.0542 |
| | | | | | 2+7 | 16 | 0.00730 | 0.9788 | 0.2185 |
| | | | | | 49+58 | 20 | -0.06084 | 0.9459 | 15.2266 |
| | | | | | 61+62 | 21 | 0.01582 | 0.9191 | 1.0259 |
| | | | | | 14+15 | 22 | -0.00458 | 0.8325 | 0.0860 |
| | | | | | 20+27 | 25 | 0.00562 | 0.2708 | 0.1292 |
| | | | | | 22+25 | 27 | 0.00279 | 0.4012 | 0.0319 |
| | | | | | (E) | 28 | -0.01277 | 0.8944 | 0.6683 |
| | | | | | (P) | 29 | 0.00174 | 0.9627 | 0.0125 |
| | | | | | (F) | 30 | -0.05333 | 0.9670 | 11.6905 |
| | | | | | (I) | 31 | 0.00692 | 0.9060 | 0.1960 |
| | | | | | 30+31 | 32 | 0.00445 | 0.9780 | 0.0812 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | MULTIPLE RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDEN VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | Q10 1 | | 0.5993 | 0.3594 | 0.3594 | 2304.4491 | 1 |
| 2 | Q16 10 | | 0.6079 | 0.3695 | 0.0101 | 65.6894 | 2 |
| 3 | 5+6 18 | | 0.6105 | 0.3728 | 0.0033 | 21.3198 | 3 |
| 4 | 8+9 19 | | 0.6133 | 0.3758 | 0.0030 | 19.6331 | 4 |
| 5 | 18+26 24 | | 0.6136 | 0.3765 | 0.0008 | 5.0619 | 5 |
| 6 | 21+24 26 | | 0.6138 | 0.3768 | 0.0003 | 1.7459 | 6 |
| 7 | 3X4 17 | | 0.6139 | 0.3769 | 0.0001 | 0.5801 | 7 |
| 8 | 14+17 23 | | 0.6139 | 0.3769 | 0.0000 | 0.0177 | 8 |

## Table 5-20. Essentiality of Information to Task plus Extensiveness of Information Use in Task

SUB-PROBLM 9
DEPENDENT VARIABLE (430-431)
MAXIMUM NUMBER OF STEPS 64
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

Essentiality of Information to Task plus Extensiveness of Information Use in Task

STEP NUMBER 1
VARIABLE ENTERED 26

MULTIPLE R 0.1037
STD. ERROR OF EST. 0.2118

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 2.004 | 2.004 | 44.689 |
| RESIDUAL | 4107 | 184.194 | 0.045 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.75331 ) | | | | | | | |
| 21+24 26 | 0.09871 | 0.01477 | 44.6890 | Q10 | 1 | -0.03516 | 0.9997 | 5.0829 |
| | | | | Q32 | 2 | -0.03229 | 0.9987 | 4.2853 |
| | | | | Q55 | 3 | -0.00331 | 0.9947 | 0.0450 |
| | | | | Q56 | 4 | -0.03322 | 0.9999 | 4.5360 |
| | | | | Q12 | 5 | 0.00048 | 0.9791 | 0.0010 |
| | | | | Q13 | 6 | -0.02954 | 0.9836 | 3.5868 |
| | | | | Q14 | 7 | -0.09664 | 0.9902 | 38.7099 |
| | | | | Q15 | 8 | -0.04266 | 0.9994 | 7.4849 |
| | | | | Q17 | 9 | 0.09749 | 0.9863 | 39.4017 |
| | | | | Q16 | 10 | -0.04812 | 1.0000 | 9.5314 |
| | | | | Q23 | 11 | -0.05579 | 0.9564 | 12.8216 |
| | | | | Q26 | 12 | -0.06140 | 0.9625 | 15.5382 |
| | | | | Q27 | 13 | -0.07401 | 0.9588 | 22.6163 |
| | | | | Q28 | 14 | -0.00730 | 0.9997 | 0.2190 |
| | | | | Q29 | 15 | -0.01578 | 0.9997 | 1.0222 |
| | | | | 2+7 | 16 | -0.02501 | 0.9999 | 2.5698 |
| | | | | 3X4 | 17 | 0.01904 | 0.9909 | 1.4898 |
| | | | | 5+6 | 18 | 0.03548 | 0.9953 | 5.1762 |
| | | | | 8+9 | 19 | -0.00940 | 0.9972 | 0.3631 |
| | | | | 49+58 | 20 | 0.03462 | 0.9969 | 4.9272 |
| | | | | 61+62 | 21 | 0.01589 | 0.9992 | 1.0248 |
| | | | | 14+15 | 22 | -0.08284 | 0.9952 | 28.3721 |
| | | | | 14+17 | 23 | 0.01379 | 0.9992 | 0.7807 |
| | | | | 18+26 | 24 | -0.06946 | 0.9070 | 19.9066 |
| | | | | 20+27 | 25 | -0.07766 | 0.9245 | 24.9171 |
| | | | | 22+25 | 27 | -0.04811 | 0.4241 | 9.5258 |
| | | | | (E) | 28 | -0.02735 | 0.9976 | 3.0744 |
| | | | | (P) | 29 | 0.01769 | 0.9987 | 1.2852 |
| | | | | (F) | 30 | 0.00879 | 0.9999 | 0.3174 |
| | | | | (I) | 31 | -0.08452 | 0.9984 | 29.5448 |

STEP NUMBER 2
VARIABLE ENTERED 24

MULTIPLE R 0.1246
STD. ERROR OF EST. 0.2113

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 2.893 | 1.446 | 32.401 |
| RESIDUAL | 4106 | 183.305 | 0.045 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.75754 ) | | | | | | | |
| 18+26 24 | -0.04076 | 0.00914 | 19.9056 | Q10 | 1 | -0.03436 | 0.9996 | 4.8525 |
| 21+24 26 | 0.11976 | 0.01547 | 59.9369 | Q32 | 2 | -0.02679 | 0.9921 | 2.9493 |
| | | | | Q55 | 3 | -0.01315 | 0.9754 | 0.7101 |
| | | | | Q56 | 4 | -0.03276 | 0.9999 | 4.4104 |
| | | | | Q12 | 5 | 0.01624 | 0.9424 | 0.8326 |
| | | | | Q13 | 6 | -0.01643 | 0.9467 | 1.1081 |

Table 5-20. (Continued)

| | | | | |
|---|---|---|---|---|
| Q14 | 7 | -0.08701 | 0.9857 | 31.3176 |
| Q15 | 8 | -0.04653 | 0.9966 | 8.9054 |
| Q17 | 9 | 0.08052 | 0.8971 | 26.7866 |
| Q16 | 10 | -0.05101 | 0.9984 | 10.7109 |
| Q23 | 11 | -0.02878 | 0.7795 | 3.4035 |
| Q26 | 12 | -0.02671 | 0.6516 | 2.9303 |
| Q27 | 13 | -0.04413 | 0.6926 | 8.0092 |
| Q28 | 14 | -0.00630 | 0.9995 | 0.1630 |
| Q29 | 15 | -0.01257 | 0.9975 | 0.6488 |
| 2+7 | 16 | -0.02439 | 0.9998 | 2.4436 |
| 3X4 | 17 | 0.02709 | 0.9784 | 3.0151 |
| 5+6 | 18 | 0.03782 | 0.9943 | 5.8807 |
| 8+9 | 19 | -0.01781 | 0.9832 | 1.3024 |
| 49+58 | 20 | 0.03748 | 0.9953 | 5.7752 |
| 61+62 | 21 | 0.02646 | 0.9772 | 2.8765 |
| 14+15 | 22 | -0.08052 | 0.9939 | 26.7911 |
| 14+17 | 23 | 0.00440 | 0.9807 | 0.0794 |
| 20+27 | 25 | -0.03568 | 0.2718 | 5.2337 |
| 22+25 | 27 | -0.03425 | 0.4050 | 4.8218 |
| (E) | 28 | -0.01268 | 0.9511 | 0.6598 |
| (P) | 29 | 0.02495 | 0.9883 | 2.5562 |
| (F) | 30 | 0.00837 | 0.9999 | 0.2874 |
| (I) | 31 | -0.08126 | 0.9958 | 27.2863 |

STEP NUMBER 3
VARIABLE ENTERED 18

MULTIPLE R 0.1302
STD. ERROR OF EST. 0.2112

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 3.155 | 1.052 | 23.586 |
| RESIDUAL | 4105 | 183.043 | 0.045 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.73839 ) | | |
| 5+6 18 | 0.04386 | 0.01809 | 5.8837 |
| 18+26 24 | -0.04147 | 0.00914 | 20.6130 |
| 21+24 26 | 0.11768 | 0.01548 | 57.7559 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02906 | 0.9773 | 3.4681 |
| Q32 | 2 | -0.02719 | 0.9920 | 3.0356 |
| Q55 | 3 | -0.01391 | 0.9750 | 0.7944 |
| Q56 | 4 | -0.02796 | 0.9819 | 3.2104 |
| Q12 | 5 | 0.01754 | 0.9404 | 0.6458 |
| Q13 | 6 | -0.01752 | 0.9459 | 1.2595 |
| Q14 | 7 | -0.08790 | 0.9653 | 31.9596 |
| Q15 | 8 | -0.04783 | 0.9955 | 9.4097 |
| Q17 | 9 | 0.08017 | 0.8970 | 26.5475 |
| Q16 | 10 | -0.05383 | 0.9936 | 11.9251 |
| Q23 | 11 | -0.03148 | 0.7758 | 4.0703 |
| Q26 | 12 | -0.02723 | 0.6515 | 3.0457 |
| Q27 | 13 | -0.04391 | 0.6926 | 7.9265 |
| Q28 | 14 | -0.00845 | 0.9963 | 0.2932 |
| Q29 | 15 | -0.00690 | 0.9744 | 0.1952 |
| 2+7 | 16 | -0.02804 | 0.9912 | 3.2296 |
| 3X4 | 17 | 0.02711 | 0.9784 | 3.0195 |
| 8+9 | 19 | -0.01817 | 0.9831 | 1.3557 |
| 49+58 | 20 | 0.03108 | 0.9709 | 4.2004 |
| 61+62 | 21 | 0.02345 | 0.9706 | 2.2579 |
| 14+15 | 22 | -0.08203 | 0.9925 | 27.8041 |
| 14+17 | 23 | 0.00355 | 0.9803 | 0.0518 |
| 20+27 | 25 | -0.03441 | 0.2715 | 4.8638 |
| 22+25 | 27 | -0.03481 | 0.4050 | 4.9789 |
| (E) | 28 | -0.01791 | 0.9341 | 1.3162 |
| (P) | 29 | 0.02266 | 0.9845 | 2.1083 |
| (F) | 30 | 0.00543 | 0.9938 | 0.1211 |
| (I) | 31 | -0.08059 | 0.9954 | 26.8260 |

Table 5-20. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 1

MULTIPLE R 0.1333
STD. ERROR OF EST. 0.2111

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 3.310 | 0.827 | 18.567 |
| RESIDUAL | 4104 | 182.888 | 0.045 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.75836 ) | | | | | | | |
| Q10 1 | -0.02494 | 0.01339 | 3.4691 | Q32 | 2 | -0.02626 | 0.9909 | 2.8303 |
| 5+6 18 | 0.03878 | 0.01829 | 4.4957 | Q55 | 3 | -0.01897 | 0.9485 | 1.4765 |
| 18+26 24 | -0.04117 | 0.00913 | 20.3158 | Q56 | 4 | -0.01069 | 0.5019 | 0.4693 |
| 21+24 26 | 0.11735 | 0.01548 | 57.4655 | Q12 | 5 | 0.01158 | 0.9393 | 0.5502 |
| | | | | Q13 | 6 | -0.01725 | 0.9458 | 1.2207 |
| | | | | Q14 | 7 | -0.08859 | 0.9648 | 32.4590 |
| | | | | Q15 | 8 | -0.04826 | 0.9954 | 9.5767 |
| | | | | Q17 | 9 | 0.08055 | 0.8969 | 26.7957 |
| | | | | Q16 | 10 | -0.05688 | 0.9845 | 13.3195 |
| | | | | Q23 | 11 | -0.03091 | 0.7755 | 3.9237 |
| | | | | Q26 | 12 | -0.02701 | 0.6515 | 2.9964 |
| | | | | Q27 | 13 | -0.04338 | 0.6923 | 7.7356 |
| | | | | Q28 | 14 | -0.01097 | 0.9891 | 0.4938 |
| | | | | Q29 | 15 | 0.01271 | 0.6350 | 0.6626 |
| | | | | 2+7 | 16 | -0.02808 | 0.9912 | 3.2373 |
| | | | | 3X4 | 17 | 0.02897 | 0.9746 | 3.4466 |
| | | | | 8+9 | 19 | -0.02383 | 0.9509 | 2.3312 |
| | | | | 49+58 | 20 | 0.02944 | 0.9627 | 3.5586 |
| | | | | 61+62 | 21 | 0.02440 | 0.9696 | 2.4451 |
| | | | | 14+15 | 22 | -0.08272 | 0.9921 | 28.2708 |
| | | | | 14+17 | 23 | 0.00340 | 0.9802 | 0.0474 |
| | | | | 20+27 | 25 | -0.03391 | 0.2714 | 4.7230 |
| | | | | 22+25 | 27 | -0.03548 | 0.4049 | 5.1717 |
| | | | | (E) | 28 | -0.01682 | 0.9327 | 1.1612 |
| | | | | (P) | 29 | 0.02197 | 0.9839 | 1.9808 |
| | | | | (F) | 30 | 0.00051 | 0.9894 | 0.0506 |
| | | | | (I) | 31 | -0.07945 | 0.9936 | 26.0643 |

STEP NUMBER 5
VARIABLE ENTERED 17

MULTIPLE R 0.1364
STD. ERROR OF EST. 0.2110

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 3.463 | 0.693 | 15.552 |
| RESIDUAL | 4103 | 182.735 | 0.045 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.75729 ) | | | | | | | |
| Q10 1 | -0.02648 | 0.01341 | 3.8951 | Q32 | 2 | -0.02716 | 0.9908 | 3.0291 |
| 3X4 17 | 0.03424 | 0.01844 | 3.4456 | Q55 | 3 | -0.01462 | 0.9253 | 0.8774 |
| 5+6 18 | 0.03847 | 0.01828 | 4.4255 | Q56 | 4 | -0.01302 | 0.4988 | 0.6959 |
| 18+26 24 | -0.04307 | 0.00919 | 21.9740 | Q12 | 5 | 0.00330 | 0.8599 | 0.0447 |
| 21+24 26 | 0.11568 | 0.01550 | 55.6871 | Q13 | 6 | -0.03073 | 0.8066 | 3.8765 |
| | | | | Q14 | 7 | -0.08906 | 0.9646 | 32.7927 |
| | | | | Q15 | 8 | -0.04784 | 0.9951 | 9.4100 |
| | | | | Q17 | 9 | 0.08225 | 0.8943 | 27.9388 |
| | | | | Q16 | 10 | -0.05650 | 0.9843 | 13.1382 |
| | | | | Q23 | 11 | -0.03101 | 0.7755 | 3.9480 |
| | | | | Q26 | 12 | -0.02696 | 0.6514 | 2.9827 |
| | | | | Q27 | 13 | -0.04368 | 0.6923 | 7.8423 |
| | | | | Q28 | 14 | -0.01075 | 0.9890 | 0.4742 |
| | | | | Q29 | 15 | 0.01201 | 0.6346 | 0.5919 |
| | | | | 2+7 | 16 | -0.03050 | 0.9849 | 3.8199 |
| | | | | 8+9 | 19 | -0.01913 | 0.9227 | 1.5017 |
| | | | | 49+58 | 20 | 0.03115 | 0.9596 | 3.9846 |
| | | | | 61+62 | 21 | 0.02262 | 0.9657 | 2.1007 |
| | | | | 14+15 | 22 | -0.08261 | 0.9920 | 28.1892 |
| | | | | 14+17 | 23 | 0.00432 | 0.9792 | 0.0765 |
| | | | | 20+27 | 25 | -0.03370 | 0.2714 | 4.6643 |
| | | | | 22+25 | 27 | -0.03718 | 0.4035 | 5.6778 |
| | | | | (E) | 28 | -0.01820 | 0.9307 | 1.3595 |
| | | | | (P) | 29 | 0.02092 | 0.9826 | 1.7959 |
| | | | | (F) | 30 | 0.00456 | 0.9881 | 0.0852 |
| | | | | (I) | 31 | -0.08352 | 0.9795 | 28.8165 |

Table 5-20. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 19

MULTIPLE R 0.1377
STD. ERROR OF EST. 0.2110

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 3.530 | 0.588 | 13.212 |
| RESIDUAL | 4102 | 182.668 | 0.045 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.76953 ) | | |
| Q10 | 1 | -0.02936 | 0.01362 | 4.6478 |
| 3X4 | 17 | 0.03029 | 0.01872 | 2.6155 |
| 5+6 | 18 | 0.03809 | 0.01828 | 4.3393 |
| 8+9 | 19 | -0.02072 | 0.01691 | 1.5017 |
| 18+26 | 24 | -0.04420 | 0.00923 | 22.9110 |
| 21+24 | 26 | 0.11555 | 0.01550 | 55.5587 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | -0.02859 | 0.9851 | 3.3543 |
| Q55 | 3 | -0.00541 | 0.6717 | 0.1200 |
| Q56 | 4 | -0.01462 | 0.4956 | 0.8769 |
| Q12 | 5 | 0.00355 | 0.8598 | 0.0516 |
| Q13 | 6 | -0.03135 | 0.8058 | 4.0346 |
| Q14 | 7 | -0.08834 | 0.9629 | 32.2588 |
| Q15 | 8 | -0.04834 | 0.9945 | 9.6074 |
| Q17 | 9 | 0.08289 | 0.8935 | 28.3700 |
| Q16 | 10 | -0.05498 | 0.9759 | 12.4347 |
| Q23 | 11 | -0.03356 | 0.7643 | 4.6230 |
| Q26 | 12 | -0.02565 | 0.6481 | 2.6995 |
| Q27 | 13 | -0.04282 | 0.6907 | 7.5316 |
| Q28 | 14 | -0.00719 | 0.9520 | 0.2119 |
| Q29 | 15 | 0.01067 | 0.6313 | 0.4666 |
| 2+7 | 16 | -0.02987 | 0.9838 | 3.6625 |
| 49+58 | 20 | 0.03001 | 0.9557 | 3.6961 |
| 61+62 | 21 | 0.01893 | 0.9202 | 1.4698 |
| 14+15 | 22 | -0.08261 | 0.9920 | 28.1791 |
| 14+17 | 23 | 0.00531 | 0.9767 | 0.1155 |
| 20+27 | 25 | -0.03384 | 0.2714 | 4.7014 |
| 22+25 | 27 | -0.03831 | 0.4022 | 6.0262 |
| (E) | 28 | -0.02206 | 0.8998 | 1.9970 |
| (P) | 29 | 0.01851 | 0.9647 | 1.4054 |
| (F) | 30 | 0.00736 | 0.9681 | 0.2219 |
| (I) | 31 | -0.08546 | 0.9725 | 30.1717 |

STEP NUMBER 7
VARIABLE ENTERED 15

MULTIPLE R 0.1381
STD. ERROR OF EST. 0.2110

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 3.551 | 0.507 | 11.390 |
| RESIDUAL | 4101 | 182.647 | 0.045 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.76566 ) | | |
| Q10 | 1 | -0.03594 | 0.01668 | 4.6424 |
| Q29 | 15 | 0.01082 | 0.01584 | 3.4656 |
| 3X4 | 17 | 0.03014 | 0.01873 | 2.5933 |
| 5+6 | 18 | 0.03910 | 0.01835 | 4.5429 |
| 8+9 | 19 | -0.01989 | 0.01696 | 1.3751 |
| 18+26 | 24 | -0.04446 | 0.00924 | 23.1434 |
| 21+24 | 26 | 0.11578 | 0.01551 | 55.7454 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | -0.02852 | 0.9851 | 3.3376 |
| Q55 | 3 | -0.00482 | 0.6696 | 0.0952 |
| Q56 | 4 | -0.01690 | 0.4784 | 1.1720 |
| Q12 | 5 | 0.00372 | 0.8596 | 0.0566 |
| Q13 | 6 | -0.03117 | 0.8055 | 3.9884 |
| Q14 | 7 | -0.08809 | 0.9622 | 32.0608 |
| Q15 | 8 | -0.04846 | 0.9944 | 9.6528 |
| Q17 | 9 | 0.08271 | 0.8932 | 28.2378 |
| Q16 | 10 | -0.05412 | 0.9632 | 12.0447 |
| Q23 | 11 | -0.03392 | 0.7635 | 4.7231 |
| Q26 | 12 | -0.02549 | 0.6479 | 2.6649 |
| Q27 | 13 | -0.04259 | 0.6903 | 7.4512 |
| Q28 | 14 | -0.00545 | 0.9242 | 0.1216 |
| 2+7 | 16 | -0.02996 | 0.9837 | 3.6846 |
| 49+58 | 20 | 0.03084 | 0.9510 | 3.9028 |
| 61+62 | 21 | 0.01874 | 0.9199 | 1.4402 |
| 14+15 | 22 | -0.08256 | 0.9920 | 28.1368 |
| 14+17 | 23 | 0.00535 | 0.9767 | 0.1174 |
| 20+27 | 25 | -0.03386 | 0.2714 | 4.7052 |
| 22+25 | 27 | -0.03833 | 0.4022 | 6.0310 |
| (E) | 28 | -0.02185 | 0.8994 | 1.9578 |
| (P) | 29 | 0.01853 | 0.9647 | 1.4079 |
| (F) | 30 | 0.00796 | 0.9651 | 0.2600 |
| (I) | 31 | -0.08544 | 0.9725 | 30.1505 |

Table 5-20. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 14

MULTIPLE R 0.1382
STD. ERROR OF EST. 0.2111

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 3.556 | 0.445 | 9.979 |
| RESIDUAL | 4100 | 182.642 | 0.045 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.76757 ) | | | | | | | |
| Q10 | 1 | -0.03563 | 0.01671 | 4.5399 | Q32 | 2 | -0.02846 | 0.9850 | 3.2284 |
| Q28 | 14 | -0.00436 | 0.01251 | 0.1216 | Q55 | 3 | -0.00479 | 0.6696 | 0.0939 |
| Q29 | 15 | 0.00986 | 0.01608 | 0.3752 | Q56 | 4 | -0.01701 | 0.4782 | 1.1868 |
| 3X4 | 17 | 0.03013 | 0.01874 | 2.6139 | Q12 | 5 | 0.00390 | 0.8585 | 0.0625 |
| 5+6 | 18 | 0.03912 | 0.01836 | 4.5873 | Q13 | 6 | -0.03107 | 0.8052 | 3.9601 |
| 8+9 | 19 | -0.01878 | 0.01725 | 1.1855 | Q14 | 7 | -0.08792 | 0.9575 | 31.9325 |
| 18+25 | 24 | -0.04432 | 0.00925 | 22.9536 | Q15 | 8 | -0.04843 | 0.9943 | 9.6350 |
| 21+24 | 26 | 0.11552 | 0.01551 | 55.5394 | Q17 | 9 | 0.08260 | 0.8927 | 28.1589 |
| | | | | | Q16 | 10 | -0.05391 | 0.9418 | 11.9488 |
| | | | | | Q23 | 11 | -0.03401 | 0.7633 | 4.7460 |
| | | | | | Q26 | 12 | -0.02508 | 0.6420 | 2.5802 |
| | | | | | Q27 | 13 | -0.04227 | 0.6847 | 7.3384 |
| | | | | | 2+7 | 16 | -0.02979 | 0.9825 | 3.6414 |
| | | | | | 49+58 | 20 | 0.03128 | 0.9466 | 4.0141 |
| | | | | | 61+62 | 21 | 0.01888 | 0.9193 | 1.4621 |
| | | | | | 14+15 | 22 | -0.08241 | 0.9904 | 28.0256 |
| | | | | | 14+17 | 23 | 0.00550 | 0.9759 | 0.1242 |
| | | | | | 20+27 | 25 | -0.03375 | 0.2712 | 4.6734 |
| | | | | | 22+25 | 27 | -0.03839 | 0.4022 | 6.0507 |
| | | | | | (E) | 28 | -0.02176 | 0.8991 | 1.9410 |
| | | | | | (P) | 29 | 0.01873 | 0.9635 | 1.4382 |
| | | | | | (F) | 30 | 0.00790 | 0.9650 | 0.2559 |
| | | | | | (I) | 31 | -0.08801 | 0.9386 | 31.9964 |

STEP NUMBER 9
VARIABLE ENTERED 23

MULTIPLE R 0.1383
STD. ERROR OF EST. 0.2111

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 3.562 | 0.396 | 8.882 |
| RESIDUAL | 4099 | 182.636 | 0.045 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.76439 ) | | | | | | | |
| Q10 | 1 | -0.03563 | 0.01671 | 4.5466 | Q32 | 2 | -0.02833 | 0.9842 | 3.2927 |
| Q28 | 14 | -0.00449 | 0.01252 | 0.1285 | Q55 | 3 | -0.00500 | 0.6686 | 0.1023 |
| Q29 | 15 | 0.00986 | 0.01608 | 0.3758 | Q56 | 4 | -0.01715 | 0.4779 | 1.2061 |
| 3X4 | 17 | 0.03048 | 0.01874 | 2.6443 | Q12 | 5 | 0.00383 | 0.8584 | 0.0601 |
| 5+6 | 18 | 0.03918 | 0.01836 | 4.5522 | Q13 | 6 | -0.03111 | 0.8051 | 3.9700 |
| 8+9 | 19 | -0.01906 | 0.01727 | 1.2176 | Q14 | 7 | -0.11903 | 0.5652 | 58.8917 |
| 14+17 | 23 | 0.02668 | 0.01896 | 1.9262 | Q15 | 8 | -0.04925 | 0.9839 | 9.9637 |
| 18+26 | 24 | -0.04390 | 0.00933 | 22.1454 | Q17 | 9 | 0.11903 | 0.3879 | 58.8910 |
| 21+24 | 26 | 0.11553 | 0.01552 | 55.4256 | Q16 | 10 | -0.05399 | 0.9417 | 11.9781 |
| | | | | | Q23 | 11 | -0.03375 | 0.7608 | 4.6721 |
| | | | | | Q26 | 12 | -0.02534 | 0.6408 | 2.6338 |
| | | | | | Q27 | 13 | -0.04263 | 0.6828 | 7.4604 |
| | | | | | 2+7 | 16 | -0.03025 | 0.9778 | 3.7524 |
| | | | | | 49+58 | 20 | 0.03106 | 0.9446 | 3.9563 |
| | | | | | 61+62 | 21 | 0.01905 | 0.9186 | 1.4875 |
| | | | | | 14+15 | 22 | -0.09233 | 0.8317 | 35.2354 |
| | | | | | 20+27 | 25 | -0.03362 | 0.2711 | 4.6364 |
| | | | | | 22+25 | 27 | -0.03817 | 0.4012 | 5.9783 |
| | | | | | (E) | 28 | -0.02195 | 0.8981 | 1.9758 |
| | | | | | (P) | 29 | 0.01893 | 0.9624 | 1.4689 |
| | | | | | (F) | 30 | 0.00777 | 0.9644 | 0.2474 |
| | | | | | (I) | 31 | -0.09269 | 0.8741 | 35.5130 |

Table 5-20. (Continued)

STEP NUMBER 10
VARIABLE ENTERED 5

MULTIPLE R 0.1384
STD. ERROR OF EST. 0.2111

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 3.564 | 0.356 | 7.998 |
| RESIDUAL | 4098 | 182.633 | 0.045 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.76443 ) | | | | | | | |
| Q10 | 1 | -0.03549 | 0.01672 | 4.5043 | Q32 | 2 | -0.02866 | 0.9796 | 3.3689 |
| Q12 | 5 | 0.00396 | 0.01616 | 3.0631 | Q55 | 3 | -0.00480 | 0.6667 | 0.0942 |
| Q28 | 14 | -0.00459 | 0.01253 | 3.1343 | Q56 | 4 | -0.01724 | 0.4777 | 1.2179 |
| Q29 | 15 | 0.00989 | 0.01608 | 3.3785 | Q13 | 6 | -0.04357 | 0.4775 | 7.7921 |
| 3X4 | 17 | 0.02939 | 0.01958 | 2.2386 | Q14 | 7 | -0.12355 | 0.5327 | 63.5038 |
| 5+6 | 18 | 0.03902 | 0.01838 | 4.5073 | Q15 | 8 | -0.04926 | 0.9839 | 9.9642 |
| 8+9 | 19 | -0.01908 | 0.01727 | 1.2137 | Q17 | 9 | 0.12354 | 0.3656 | 63.5031 |
| 14+17 | 23 | 0.00662 | 0.01896 | 0.1217 | Q16 | 10 | -0.05427 | 0.9389 | 12.1041 |
| 18+26 | 24 | -0.04429 | 0.00946 | 21.9037 | Q23 | 11 | -0.03403 | 0.7581 | 4.7561 |
| 21+24 | 26 | 0.11528 | 0.01555 | 54.9435 | Q26 | 12 | -0.02575 | 0.6366 | 2.7179 |
| | | | | | Q27 | 13 | -0.04313 | 0.6775 | 7.6369 |
| | | | | | 2+7 | 16 | -0.03016 | 0.9772 | 3.7300 |
| | | | | | 49+58 | 20 | 0.03082 | 0.9285 | 3.8954 |
| | | | | | 61+62 | 21 | 0.01883 | 0.9143 | 1.4535 |
| | | | | | 14+15 | 22 | -0.09320 | 0.8231 | 35.9007 |
| | | | | | 20+27 | 25 | -0.03364 | 0.2710 | 4.6428 |
| | | | | | 22+25 | 27 | -0.03921 | 0.3919 | 6.3076 |
| | | | | | (E) | 28 | -0.02231 | 0.8928 | 2.0405 |
| | | | | | (P) | 29 | 0.01865 | 0.9536 | 1.4253 |
| | | | | | (F) | 30 | 0.00767 | 0.9637 | 0.2409 |
| | | | | | (I) | 31 | -0.09467 | 0.8496 | 37.0542 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDEN VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 21+24 26 | | 0.1037 | 0.0108 | 0.0108 | 44.6890 | 1 |
| 2 | 18+26 24 | | 0.1245 | 0.0155 | 0.0048 | 19.9066 | 2 |
| 3 | 5+6 18 | | 0.1302 | 0.0169 | 0.0014 | 5.8807 | 3 |
| 4 | Q10 1 | | 0.1333 | 0.0178 | 0.0008 | 3.4681 | 4 |
| 5 | 3X4 17 | | 0.1364 | 0.0186 | 0.0008 | 3.4466 | 5 |
| 6 | 8+9 19 | | 0.1377 | 0.0190 | 0.0004 | 1.5017 | 6 |
| 7 | Q29 15 | | 0.1381 | 0.0191 | 0.0001 | 0.4666 | 7 |
| 8 | Q28 14 | | 0.1382 | 0.0191 | 0.0000 | 0.1216 | 8 |
| 9 | 14+17 23 | | 0.1383 | 0.0191 | 0.0000 | 0.1242 | 9 |
| 10 | Q12 5 | | 0.1384 | 0.0191 | 0.0000 | 0.0601 | 10 |

## Table 5-21. Discovery of Information Available, but Unknown During Task

```
SUB-PROBLM   11
 DEPENDENT VARIABLE
 MAXIMUM NUMBER OF STEPS      64
 F-LEVEL FOR INCLUSION      0.000000
 F-LEVEL FOR DELETION       0.000000
 TOLERANCE LEVEL            0.001000


 STEP NUMBER    1
 VARIABLE ENTERED   29

 MULTIPLE R                 0.1217
 STD. ERROR OF EST.         0.4018

 ANALYSIS OF VARIANCE
                   DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
        REGRESSION      1          9.964          9.964     61.718
        RESIDUAL     4107        663.022          0.161

                VARIABLES IN EQUATION                    .          VARIABLES NOT IN EQUATION
                                                         .
  VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE      .    VARIABLE     PARTIAL CORR.    TOLERANCE    F TO ENTER
                                                         .
                                                         .
  (CONSTANT         0.15906 )                            .
  (P)   29          0.18454     0.02349      61.7178     .    Q10     1        0.03565        0.9989        5.2260
                                                         .    Q55     3       -0.04011        0.9807        6.6167
                                                         .    Q56     4        0.01755        0.9980        1.2647
                                                         .    Q12     5        0.07664        0.9845       24.2609
                                                         .    Q13     6        0.06538        0.9831       17.6261
                                                         .    Q14     7        0.04622        0.9970        8.7902
                                                         .    Q15     8       -0.04548        0.9989        8.5111
                                                         .    Q17     9       -0.08731        0.9873       31.5425
                                                         .    Q16    10        0.00081        0.9996        0.0027
                                                         .    Q23    11        0.05375        0.9860       11.8963
                                                         .    Q26    12        0.03960        0.9965        6.4494
                                                         .    Q27    13        0.04123        0.9959        6.9925
                                                         .    Q28    14       -0.00955        0.9998        0.3747
                                                         .    Q29    15        0.02190        0.9998        1.9702
                                                         .     2*7   16        0.01964        0.9996        1.5839

                                                         .     3X4   17        0.03885        0.9975        6.2081
                                                         .     5*6   18        0.00670        0.9955        0.1642
                                                         .     8*9   19       -0.07353        0.9793       22.3211
                                                         .    49*58  20       -0.00498        0.9821        0.1020
                                                         .    61*62  21        0.10515        0.9784       45.9043
                                                         .    14*15  22       -0.01284        1.0000        0.6776
                                                         .    14*17  23       -0.03905        0.9971        6.2702
                                                         .    18*26  24        0.07621        0.9884       23.9871
                                                         .    20*27  25        0.08255        0.9916       28.1728
                                                         .    21*24  26        0.03175        0.9987        4.1431
                                                         .    27*25  27        0.07850        0.9921       25.4579
                                                         .     (E)   28        0.07676        0.9219       24.3382
                                                         .    (F)    30        0.00825        0.9995        0.2793
                                                         .     (I)   31        0.64983        0.9885     3001.2922
                                                         .    30*31  32       -0.03120        0.9995        4.0021

 STEP NUMBER    2
 VARIABLE ENTERED   25

 MULTIPLE R                 0.1467
 STD. ERROR OF EST.         0.4005

 ANALYSIS OF VARIANCE
                   DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
        REGRESSION      2         14.482          7.241     45.150
        RESIDUAL     4106        658.503          0.160

                VARIABLES IN EQUATION                    .          VARIABLES NOT IN EQUATION
                                                         .
  VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE      .    VARIABLE     PARTIAL CORR.    TOLERANCE    F TO ENTER
                                                         .
                                                         .
  (CONSTANT         0.10146 )                            .
  20*27 2           0.09175     0.01729      28.1728     .    Q10     1        0.03406        0.9985        4.7675
  (P)   24          0.17337     0.02351      54.1837     .    Q55     3       -0.02987        0.9666        3.6663
                                                         .    Q56     4        0.01668        0.9979        1.1430
                                                         .    Q12     5        0.06255        0.9502       16.1235
                                                         .    Q13     6        0.05138        0.9505       10.8650
                                                         .    Q14     7        0.03253        0.9671        4.3493
```

Table 5-21. (Continued)

| | | | | |
|---|---|---|---|---|
| Q15 | 8 | -0.04272 | 0.9977 | 7.5070 |
| Q17 | 9 | -0.06563 | 0.8970 | 17.7575 |
| Q16 | 10 | 0.00233 | 0.9993 | 0.0222 |
| Q23 | 11 | 0.02247 | 0.8260 | 2.0741 |
| Q26 | 12 | -0.00344 | 0.7319 | 0.0484 |
| Q27 | 13 | -0.00876 | 0.6547 | 0.3153 |
| Q28 | 14 | -0.01074 | 0.9996 | 0.4739 |
| Q29 | 15 | 0.01841 | 0.9980 | 1.3916 |
| 2+7 | 16 | 0.01863 | 0.9994 | 1.4250 |
| 3X4 | 17 | 0.03011 | 0.9856 | 3.7257 |
| 5+6 | 18 | 0.00503 | 0.9951 | 0.1038 |
| 8+9 | 19 | -0.06559 | 0.9689 | 17.7389 |
| 49+58 | 20 | -0.00780 | 0.9810 | 0.2498 |
| 61+62 | 21 | 0.09510 | 0.9602 | 37.4613 |
| 14+15 | 22 | -0.01783 | 0.9965 | 1.3048 |
| 14+17 | 23 | -0.02892 | 0.9811 | 3.4366 |
| 18+26 | 24 | 0.01128 | 0.2712 | 0.5228 |
| 21+24 | 26 | 0.00963 | 0.9244 | 0.3805 |
| 22+25 | 27 | 0.05432 | 0.8824 | 12.1487 |
| (E) | 28 | 0.06332 | 0.8928 | 16.5239 |
| (F) | 30 | 0.00871 | 0.9994 | 0.3115 |
| (I) | 31 | 0.64971 | 0.9875 | 2998.6383 |
| 30+31 | 32 | -0.02737 | 0.9972 | 3.0779 |

STEP NUMBER 3
VARIABLE ENTERED 19

MULTIPLE R 0.1604
STD. ERROR OF EST. 0.3997

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 17.315 | 5.772 | 36.135 |
| RESIDUAL | 4105 | 655.670 | 0.160 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.16535 ) | | |
| 8+9 19 | -0.13163 | 0.03125 | 17.7389 |
| 20+27 25 | 0.08422 | 0.01734 | 23.5827 |
| (P) 29 | 0.15964 | 0.02368 | 45.4426 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.02237 | 0.9644 | 2.0543 |
| Q55 | 3 | 0.00696 | 0.6789 | 0.1985 |
| Q56 | 4 | 0.00373 | 0.9585 | 0.0572 |
| Q12 | 5 | 0.06112 | 0.9496 | 15.3867 |
| Q13 | 6 | 0.04593 | 0.9432 | 8.6758 |
| Q14 | 7 | 0.03557 | 0.9652 | 5.2001 |
| Q15 | 8 | -0.04430 | 0.9972 | 8.0694 |
| Q17 | 9 | -0.06375 | 0.8961 | 16.7489 |
| Q16 | 10 | 0.01000 | 0.9859 | 0.4106 |
| Q23 | 11 | 0.01471 | 0.8140 | 0.8885 |
| Q26 | 12 | -0.00033 | 0.7303 | 0.0004 |
| Q27 | 13 | -0.00620 | 0.6537 | 0.1576 |
| Q28 | 14 | 0.00295 | 0.9565 | 0.0357 |
| Q29 | 15 | 0.00745 | 0.9695 | 0.2280 |
| 2+7 | 16 | 0.01987 | 0.9991 | 1.6213 |
| 3X4 | 17 | 0.01858 | 0.9533 | 1.4178 |
| 5+6 | 18 | 0.00594 | 0.9949 | 0.1450 |
| 49+58 | 20 | -0.00899 | 0.9807 | 0.3318 |
| 61+62 | 21 | 0.08326 | 0.9171 | 28.6511 |
| 14+15 | 22 | -0.01757 | 0.9965 | 1.2677 |
| 14+17 | 23 | -0.02551 | 0.9783 | 2.6719 |
| 18+26 | 24 | 0.00786 | 0.2704 | 0.2533 |
| 21+24 | 26 | 0.00827 | 0.9240 | 0.2808 |
| 22+25 | 27 | 0.05116 | 0.8801 | 10.7690 |
| (E) | 28 | 0.05341 | 0.8688 | 11.7385 |
| (F) | 30 | 0.01950 | 0.9738 | 1.5615 |
| (I) | 31 | 0.64780 | 0.9785 | 2967.5105 |
| 30+31 | 32 | -0.02855 | 0.9970 | 3.3475 |

Table 5-21. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 28

MULTIPLE R 0.1688
STD. ERROR OF EST. 0.3991

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 19.185 | 4.796 | 30.107 |
| RESIDUAL | 4104 | 653.800 | 0.159 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.14668 ) | | |
| 8+9 | 19 | -0.11387 | 0.03164 | 12.9518 |
| 20+27 | 25 | 0.07443 | 0.01755 | 17.9834 |
| (E) | 28 | 0.07379 | 0.02154 | 11.7385 |
| (P) | 29 | 0.13882 | 0.02442 | 32.3265 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.02265 | 0.9644 | 2.1062 |
| Q55 | 3 | 0.02087 | 0.6372 | 1.7880 |
| Q56 | 4 | 0.00040 | 0.9548 | 0.0007 |
| Q12 | 5 | 0.05769 | 0.9452 | 13.7011 |
| Q13 | 6 | 0.04208 | 0.9379 | 7.2774 |
| Q14 | 7 | 0.03183 | 0.9601 | 4.1605 |
| Q15 | 8 | -0.04961 | 0.9883 | 10.1241 |
| Q17 | 9 | -0.06340 | 0.8960 | 16.5612 |
| Q16 | 10 | 0.00648 | 0.9816 | 0.1723 |
| Q23 | 11 | 0.00610 | 0.7924 | 0.1528 |
| Q26 | 12 | -0.00237 | 0.7292 | 0.0231 |
| Q27 | 13 | -0.00748 | 0.6534 | 0.2294 |
| Q28 | 14 | 0.00192 | 0.9562 | 0.0152 |
| Q29 | 15 | 0.00886 | 0.9689 | 0.3222 |
| 2+7 | 16 | 0.02240 | 0.9970 | 2.0591 |
| 3X4 | 17 | 0.01772 | 0.9530 | 1.2881 |
| 5+6 | 18 | -0.00096 | 0.9783 | 0.0038 |
| 49+58 | 20 | -0.02014 | 0.9412 | 1.6656 |
| 61+62 | 21 | 0.07391 | 0.8777 | 22.5340 |
| 14+15 | 22 | -0.02369 | 0.9842 | 2.3032 |
| 14+17 | 23 | -0.02779 | 0.9766 | 3.1720 |
| 18+26 | 24 | 0.00330 | 0.2684 | 0.0447 |
| 21+24 | 26 | 0.00894 | 0.9238 | 0.3280 |
| 22+25 | 27 | 0.04995 | 0.8796 | 10.2624 |
| (F) | 30 | 0.01706 | 0.9717 | 1.1944 |
| (I) | 31 | 0.64661 | 0.9743 | 2948.0742 |
| 30+31 | 32 | -0.02730 | 0.9964 | 3.0609 |

STEP NUMBER 5
VARIABLE ENTERED 27

MULTIPLE R 0.1759
STD. ERROR OF EST. 0.3987

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 20.816 | 4.163 | 26.192 |
| RESIDUAL | 4103 | 652.169 | 0.159 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.10086 ) | | |
| 8+9 | 19 | -0.10918 | 0.03164 | 11.9093 |
| 20+27 | 25 | 0.05549 | 0.01851 | 8.9907 |
| 22+25 | 27 | 0.08993 | 0.02807 | 10.2624 |
| (E) | 28 | 0.07212 | 0.02152 | 11.2313 |
| (P) | 29 | 0.13515 | 0.02442 | 30.6382 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.02480 | 0.9627 | 2.5247 |
| Q55 | 3 | 0.02197 | 0.6370 | 1.9813 |
| Q56 | 4 | 0.00146 | 0.9544 | 0.0088 |
| Q12 | 5 | 0.04974 | 0.9160 | 10.1751 |
| Q13 | 6 | 0.03597 | 0.9222 | 5.3144 |
| Q14 | 7 | 0.02650 | 0.9483 | 2.8827 |
| Q15 | 8 | -0.05083 | 0.9878 | 10.6243 |
| Q17 | 9 | -0.05743 | 0.8807 | 13.5759 |
| Q16 | 10 | 0.00622 | 0.9816 | 0.1586 |
| Q23 | 11 | -0.00104 | 0.7763 | 0.0045 |
| Q26 | 12 | -0.00613 | 0.7251 | 0.1542 |
| Q27 | 13 | -0.01061 | 0.6509 | 0.4615 |
| Q28 | 14 | 0.00306 | 0.9557 | 0.0384 |
| Q29 | 15 | 0.01069 | 0.9676 | 0.4690 |
| 2+7 | 16 | 0.02193 | 0.9969 | 1.9732 |
| 3X4 | 17 | 0.01381 | 0.9470 | 0.7825 |
| 5+6 | 18 | -0.00368 | 0.9754 | 0.0555 |
| 49+58 | 20 | -0.02304 | 0.9382 | 2.1793 |
| 61+62 | 21 | 0.07245 | 0.8768 | 21.6436 |
| 14+15 | 22 | -0.02746 | 0.9789 | 3.0962 |
| 14+17 | 23 | -0.02645 | 0.9759 | 2.8722 |
| 18+26 | 24 | -0.00399 | 0.2628 | 0.0654 |
| 21+24 | 26 | -0.04134 | 0.4215 | 7.0230 |
| (F) | 30 | 0.01667 | 0.9717 | 1.1406 |
| (I) | 31 | 0.64559 | 0.9708 | 2931.3902 |
| 30+31 | 32 | -0.03068 | 0.9921 | 3.8638 |

Table 5-21. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 6

MULTIPLE R 0.1796
STD. ERROR OF EST. 0.3985

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 21.660 | 3.610 | 22.736 |
| RESIDUAL | 4102 | 651.325 | 0.159 | |

| VARIABLES IN EQUATION | | | |
|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
| (CONSTANT | 0.09769 ) | | |
| Q13 6 | 0.04086 | 0.01772 | 5.3164 |
| 8*9 19 | -0.10417 | 0.03170 | 10.8333 |
| 20*27 25 | 0.05067 | 0.01861 | 7.4121 |
| 22*25 27 | 0.08151 | 0.02830 | 8.2972 |
| (E) 28 | 0.06849 | 0.02157 | 10.0856 |
| (P) 29 | 0.13087 | 0.02447 | 29.5918 |

| VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|
| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| Q10 | 1 | 0.02498 | 0.9627 | 2.5608 |
| Q55 | 3 | 0.02500 | 0.4327 | 2.5641 |
| Q56 | 4 | 0.00082 | 0.9541 | 0.0028 |
| Q12 | 5 | 0.03457 | 0.5066 | 4.9881 |
| Q14 | 7 | 0.02206 | 0.9329 | 1.9959 |
| Q15 | 8 | -0.04973 | 0.9068 | 10.1664 |
| Q17 | 9 | -0.05379 | 0.8698 | 11.9022 |
| Q16 | 10 | 0.00451 | 0.9793 | 0.0835 |
| Q23 | 11 | -0.00218 | 0.7755 | 0.0194 |
| Q26 | 12 | -0.00861 | 0.7218 | 0.3037 |
| Q27 | 13 | -0.01299 | 0.6481 | 0.6923 |
| Q28 | 14 | 0.00198 | 0.9548 | 0.0160 |
| Q29 | 15 | 0.01106 | 0.9675 | 0.5020 |
| 2*7 | 16 | 0.02323 | 0.9956 | 2.2136 |
| 3X4 | 17 | 0.00035 | 0.8139 | 0.0005 |
| 5*6 | 18 | -0.00625 | 0.9752 | 0.0740 |
| 49*58 | 20 | -0.02585 | 0.9329 | 2.7415 |
| 61*62 | 21 | 0.07098 | 0.8751 | 20.7642 |
| 14*15 | 22 | -0.02889 | 0.9774 | 3.4261 |
| 14*17 | 23 | -0.02646 | 0.9759 | 2.8724 |
| 18*26 | 24 | -0.00696 | 0.2618 | 0.1985 |
| 21*24 | 26 | -0.04049 | 0.4213 | 6.7332 |
| (F) | 30 | 0.01661 | 0.9716 | 1.1311 |
| (I) | 31 | 0.66864 | 0.8747 | 3315.9106 |
| 30*31 | 32 | -0.03003 | 0.9918 | 3.7018 |

STEP NUMBER 7
VARIABLE ENTERED 22

MULTIPLE R 0.1816
STD. ERROR OF EST. 0.3984

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 22.204 | 3.172 | 19.989 |
| RESIDUAL | 4101 | 650.781 | 0.159 | |

| VARIABLES IN EQUATION | | | |
|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
| (CONSTANT | 0.11045 ) | | |
| Q13 6 | 0.04212 | 0.01773 | 5.6439 |
| 8*9 19 | -0.10248 | 0.03170 | 10.4538 |
| 14*15 22 | -0.05032 | 0.02719 | 3.4251 |
| 20*27 25 | 0.05105 | 0.01861 | 7.5255 |
| 22*25 27 | 0.08507 | 0.02835 | 9.0026 |
| (E) 28 | 0.07277 | 0.02168 | 11.2536 |
| (P) 29 | 0.12919 | 0.02448 | 27.8393 |

| VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|
| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| Q10 | 1 | 0.02427 | 0.9621 | 2.4170 |
| Q55 | 3 | 0.02620 | 0.6317 | 2.8170 |
| Q56 | 4 | 0.00121 | 0.9539 | 0.0060 |
| Q12 | 5 | 0.03696 | 0.5035 | 5.6085 |
| Q14 | 7 | 0.05016 | 0.5846 | 10.3437 |
| Q15 | 8 | -0.05016 | 0.2361 | 10.3437 |
| Q17 | 9 | -0.05361 | 0.8697 | 11.8158 |
| Q16 | 10 | 0.00444 | 0.9793 | 0.0809 |
| Q23 | 11 | -0.00030 | 0.7722 | 0.0004 |
| Q26 | 12 | -0.00827 | 0.7217 | 0.2803 |
| Q27 | 13 | -0.01236 | 0.6478 | 0.6265 |
| Q28 | 14 | 0.00318 | 0.9532 | 0.0414 |
| Q29 | 15 | 0.01053 | 0.9671 | 0.4546 |
| 2*7 | 16 | 0.02473 | 0.9931 | 2.5096 |
| 3X4 | 17 | -0.00039 | 0.8134 | 0.0006 |
| 5*6 | 18 | -0.00359 | 0.9747 | 0.0528 |
| 49*58 | 20 | -0.02562 | 0.9328 | 2.6930 |
| 61*62 | 21 | 0.07113 | 0.8751 | 20.8687 |
| 14*17 | 23 | -0.01619 | 0.8173 | 1.0750 |
| 18*26 | 24 | -0.00731 | 0.2610 | 0.2191 |
| 21*24 | 26 | -0.04036 | 0.4212 | 6.6910 |
| (F) | 30 | 0.01590 | 0.9710 | 1.0368 |
| (I) | 31 | 0.66883 | 0.8747 | 3318.5188 |
| 30*31 | 32 | -0.03229 | 0.9862 | 4.2799 |

Table 5-21. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 3

MULTIPLE R 0.1835
STD. ERROR OF EST. 0.3983

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 22.651 | 2.831 | 17.850 |
| RESIDUAL | 4100 | 650.334 | 0.159 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.13019 ) | | | | | | | |
| Q55 3 | 0.05191 | 0.03093 | 2.8170 | Q10 | 1 | 0.02669 | 0.9546 | 2.9225 |
| Q13 6 | 0.04460 | 0.01779 | 5.2859 | Q56 | 4 | 0.00402 | 0.9431 | 0.0662 |
| 8*9 19 | -0.13499 | 0.03714 | 13.2879 | Q12 | 5 | 0.03688 | 0.5035 | 5.5840 |
| 14*15 22 | -0.05217 | 0.02720 | 3.6788 | Q14 | 7 | 0.04881 | 0.5829 | 9.7895 |
| 20*27 25 | 0.05193 | 0.01861 | 7.7851 | Q15 | 8 | -0.04881 | 0.2354 | 9.7895 |
| 22*25 27 | 0.08572 | 0.02835 | 9.1615 | Q17 | 9 | -0.05381 | 0.8697 | 11.9824 |
| (E) 28 | 0.08196 | 0.02236 | 13.4374 | Q16 | 10 | 0.00397 | 0.9790 | 0.0646 |
| (P) 29 | 0.12888 | 0.02448 | 27.7172 | Q23 | 11 | -0.00070 | 0.7720 | 0.0020 |
| | | | | Q26 | 12 | -0.00814 | 0.7217 | 0.2719 |
| | | | | Q27 | 13 | -0.01242 | 0.6478 | 0.4326 |
| | | | | Q28 | 14 | 0.00245 | 0.9524 | 0.0247 |
| | | | | Q29 | 15 | 0.01340 | 0.9562 | 0.7364 |
| | | | | 2*7 | 16 | 0.02382 | 0.9918 | 2.3264 |
| | | | | 3X4 | 17 | 0.00096 | 0.8112 | 0.0038 |
| | | | | 5*6 | 18 | -0.00500 | 0.9718 | 0.1025 |
| | | | | 49*50 | 20 | -0.02689 | 0.9307 | 2.9666 |
| | | | | 61*62 | 21 | 0.07184 | 0.8745 | 21.2641 |
| | | | | 14*17 | 23 | -0.01717 | 0.8162 | 1.2890 |
| | | | | 18*26 | 24 | -0.00705 | 0.2610 | 0.2038 |
| | | | | 21*24 | 26 | -0.03969 | 0.4209 | 6.4670 |
| | | | | (F) | 30 | 0.01442 | 0.9678 | 0.8523 |
| | | | | (I) | 31 | 0.66888 | 0.8747 | 3318.6726 |
| | | | | 30*31 | 32 | -0.03205 | 0.9861 | 4.2160 |

STEP NUMBER 9
VARIABLE ENTERED 20

MULTIPLE R 0.1854
STD. ERROR OF EST. 0.3982

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 23.121 | 2.569 | 16.204 |
| RESIDUAL | 4099 | 649.864 | 0.159 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.11405 ) | | | | | | | |
| Q55 3 | 0.05442 | 0.03096 | 3.0936 | Q10 | 1 | 0.02384 | 0.9427 | 2.3308 |
| Q13 6 | 0.04732 | 0.01784 | 5.9456 | Q56 | 4 | 0.00059 | 0.9277 | 0.0014 |
| 8*9 19 | -0.13529 | 0.03713 | 13.2736 | Q12 | 5 | 0.03840 | 0.5021 | 6.0524 |
| 49*50 20 | -0.07198 | 0.04179 | 2.9656 | Q14 | 7 | 0.04954 | 0.5925 | 10.0841 |
| 14*15 22 | -0.05188 | 0.02720 | 3.6388 | Q15 | 8 | -0.04954 | 0.2353 | 10.0841 |
| 20*27 25 | 0.05108 | 0.01861 | 7.5334 | Q17 | 9 | -0.05273 | 0.8681 | 11.4268 |
| 22*25 27 | 0.08800 | 0.02837 | 9.6183 | Q16 | 10 | 0.00632 | 0.9717 | 0.1636 |
| (E) 28 | 0.08974 | 0.02281 | 15.4863 | Q23 | 11 | -0.00126 | 0.7717 | 0.0065 |
| (P) 29 | 0.13170 | 0.02453 | 29.0288 | Q26 | 12 | -0.00702 | 0.7204 | 0.2019 |
| | | | | Q27 | 13 | -0.01119 | 0.6464 | 0.5134 |
| | | | | Q28 | 14 | 0.00460 | 0.9464 | 0.0867 |
| | | | | Q29 | 15 | 0.01012 | 0.9412 | 0.4195 |
| | | | | 2*7 | 16 | 0.02462 | 0.9909 | 2.4852 |
| | | | | 3X4 | 17 | -0.00203 | 0.8013 | 0.0169 |
| | | | | 5*6 | 18 | -0.00165 | 0.9566 | 0.0111 |
| | | | | 61*62 | 21 | 0.07269 | 0.8738 | 21.7672 |
| | | | | 14*17 | 23 | -0.01586 | 0.8142 | 1.0305 |
| | | | | 18*26 | 24 | -0.00730 | 0.2610 | 0.2181 |
| | | | | 21*24 | 26 | -0.03942 | 0.4209 | 6.3767 |
| | | | | (F) | 30 | 0.01467 | 0.9677 | 0.8818 |
| | | | | (I) | 31 | 0.66864 | 0.8741 | 3313.6252 |
| | | | | 30*31 | 32 | -0.03091 | 0.9842 | 3.9193 |

Table 5-21. (Continued)

STEP NUMBER 10
VARIABLE ENTERED 1

MULTIPLE R 0.1868
STD. ERROR OF EST. 0.3981

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 23.490 | 2.349 | 14.821 |
| RESIDUAL | 4098 | 649.495 | 0.158 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.08048 ) | | |
| Q10 | 1 | 0.03926 | 0.02572 | 2.3338 |
| Q55 | 3 | 0.05837 | 0.03106 | 3.5317 |
| Q13 | 6 | 0.04708 | 0.01784 | 6.9654 |
| 8+9 | 19 | -0.12874 | 0.03738 | 11.8634 |
| 49+58 | 20 | -0.06479 | 0.04205 | 2.3749 |
| 14+15 | 22 | -0.05100 | 0.02720 | 3.5168 |
| 20+27 | 25 | 0.05077 | 0.01861 | 7.4397 |
| 22+25 | 27 | 0.08954 | 0.02839 | 9.9499 |
| (E) | 28 | 0.08973 | 0.02280 | 15.4855 |
| (P) | 29 | 0.13348 | 0.02455 | 29.5552 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q56 | 4 | -0.02185 | 0.4876 | 1.9570 |
| Q12 | 5 | 0.03937 | 0.5013 | 6.3617 |
| Q14 | 7 | 0.04930 | 0.5824 | 9.9818 |
| Q15 | 8 | -0.04930 | 0.2352 | 9.9818 |
| Q17 | 9 | -0.05315 | 0.8679 | 11.6071 |
| Q16 | 10 | 0.00811 | 0.9664 | 0.2697 |
| Q23 | 11 | -0.00105 | 0.7716 | 0.0045 |
| Q26 | 12 | -0.00743 | 0.7202 | 0.2264 |
| Q27 | 13 | -0.01189 | 0.6458 | 0.5794 |
| Q28 | 14 | 0.00568 | 0.9445 | 0.1320 |
| Q29 | 15 | -0.00442 | 0.6289 | 0.0802 |
| 2+7 | 16 | 0.02474 | 0.9909 | 2.5082 |
| 3X4 | 17 | -0.00246 | 0.8010 | 0.0248 |
| 5+6 | 18 | 0.00148 | 0.9403 | 0.0089 |
| 61+62 | 21 | 0.07304 | 0.8736 | 21.9760 |
| 14+17 | 23 | -0.01634 | 0.8139 | 1.0943 |
| 18+26 | 24 | -0.00684 | 0.2609 | 0.1915 |
| 21+24 | 26 | -0.03958 | 0.4209 | 6.4273 |
| (F) | 30 | 0.01571 | 0.9659 | 1.0117 |
| (I) | 31 | 0.66841 | 0.8729 | 3308.6154 |
| 30+31 | 32 | -0.03011 | 0.9830 | 3.7176 |

STEP NUMBER 11
VARIABLE ENTERED 4

MULTIPLE R 0.1881
STD. ERROR OF EST. 0.3981

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 11 | 23.801 | 2.164 | 13.655 |
| RESIDUAL | 4097 | 649.185 | 0.158 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.09257 ) | | |
| Q10 | 1 | 0.07344 | 0.03547 | 4.2870 |
| Q55 | 3 | 0.05575 | 0.03111 | 3.2110 |
| Q56 | 4 | -0.04918 | 0.03516 | 1.9570 |
| Q13 | 6 | 0.04777 | 0.01784 | 7.1678 |
| 8+9 | 19 | -0.13081 | 0.03740 | 12.2325 |
| 49+58 | 20 | -0.06894 | 0.04214 | 2.6755 |
| 14+15 | 22 | -0.04925 | 0.02722 | 3.2725 |
| 20+27 | 25 | 0.04975 | 0.01862 | 7.1358 |
| 22+25 | 27 | 0.08979 | 0.02838 | 10.0070 |
| (E) | 28 | 0.09224 | 0.02287 | 16.2673 |
| (P) | 29 | 0.13136 | 0.02460 | 28.5249 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q12 | 5 | 0.03975 | 0.5012 | 6.4823 |
| Q14 | 7 | 0.04932 | 0.5824 | 9.9880 |
| Q15 | 8 | -0.04932 | 0.2352 | 9.9880 |
| Q17 | 9 | -0.05309 | 0.8679 | 11.5780 |
| Q16 | 10 | 0.00779 | 0.9661 | 0.2483 |
| Q23 | 11 | -0.00118 | 0.7716 | 0.0057 |
| Q26 | 12 | -0.00777 | 0.7200 | 0.2475 |
| Q27 | 13 | -0.01206 | 0.6458 | 0.5961 |
| Q28 | 14 | 0.00665 | 0.9425 | 0.0887 |
| Q29 | 15 | -0.00037 | 0.6072 | 0.0006 |
| 2+7 | 16 | 0.02503 | 0.9908 | 2.5685 |
| 3X4 | 17 | -0.00144 | 0.7993 | 0.0085 |
| 5+6 | 18 | 0.00040 | 0.9384 | 0.0010 |
| 61+62 | 21 | 0.07209 | 0.8716 | 21.3961 |
| 14+17 | 23 | -0.01628 | 0.8138 | 1.0857 |
| 18+26 | 24 | -0.00694 | 0.2609 | 0.1975 |
| 21+24 | 26 | -0.03969 | 0.4209 | 6.4614 |
| (F) | 30 | 0.01438 | 0.9622 | 0.8471 |
| (I) | 31 | 0.66837 | 0.8728 | 3307.0474 |
| 30+31 | 32 | -0.03025 | 0.9830 | 3.7526 |

Table 5-21. (Continued)

STEP NUMBER 12
VARIABLE ENTERED 30

MULTIPLE R 0.1886
STD. ERROR OF EST. 0.3981

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 12 | 23.935 | 1.995 | 12.587 |
| RESIDUAL | 4096 | 649.050 | 0.158 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.08987 ) | | |
| Q10 | 1 | 0.07305 | 0.03547 | 4.2413 |
| Q55 | 3 | 0.05432 | 0.03115 | 3.0413 |
| Q56 | 4 | -0.04716 | 0.03522 | 1.7921 |
| Q13 | 6 | 0.04762 | 0.01784 | 7.1236 |
| 8*9 | 19 | -0.13446 | 0.03761 | 12.7831 |
| 49*58 | 20 | -0.06893 | 0.04215 | 2.6767 |
| 14*15 | 22 | -0.04861 | 0.02723 | 3.1856 |
| 20*27 | 25 | 0.04974 | 0.01862 | 7.1323 |
| 22*25 | 27 | 0.08956 | 0.02839 | 9.9550 |
| (E) | 28 | 0.09091 | 0.02292 | 15.7385 |
| (P) | 29 | 0.13082 | 0.02460 | 28.2727 |
| F) | 30 | 0.04367 | 0.04744 | 3.8471 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q12 | 5 | 0.03937 | 0.5006 | 6.3574 |
| Q14 | 7 | 0.04888 | 0.5818 | 9.8069 |
| Q15 | 8 | -0.04888 | 0.2350 | 9.8069 |
| Q17 | 9 | -0.05344 | 0.8674 | 11.7292 |
| Q16 | 10 | 0.00747 | 0.9657 | 0.2288 |
| Q23 | 11 | -0.00112 | 0.7716 | 0.0051 |
| Q26 | 12 | -0.00751 | 0.7198 | 0.2312 |
| Q27 | 13 | -0.01178 | 0.6455 | 0.5685 |
| Q28 | 14 | 0.00473 | 0.9424 | 0.0914 |
| Q29 | 15 | 0.00029 | 0.6059 | 0.0003 |
| 2*7 | 16 | 0.02451 | 0.9893 | 2.4614 |
| 3X4 | 17 | -0.00132 | 0.7992 | 0.0072 |
| 5*6 | 18 | -0.00057 | 0.9351 | 0.0006 |
| 61*62 | 21 | 0.07201 | 0.8715 | 21.3445 |
| 14*17 | 23 | -0.01683 | 0.8127 | 1.1609 |
| 18*26 | 24 | -0.00694 | 0.2609 | 0.1973 |
| 21*24 | 26 | -0.03989 | 0.4208 | 6.5275 |
| (I) | 31 | 0.66832 | 0.8727 | 3305.3924 |
| 30*31 | 32 | -0.03039 | 0.9829 | 3.7850 |

STEP NUMBER 13
VARIABLE ENTERED 10

MULTIPLE R 0.1887
STD. ERROR OF EST. 0.3981

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 13 | 23.971 | 1.844 | 11.634 |
| RESIDUAL | 4095 | 649.014 | 0.158 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.08414 ) | | |
| Q10 | 1 | 0.07380 | 0.03551 | 4.3190 |
| Q55 | 3 | 0.05424 | 0.03115 | 3.0339 |
| Q56 | 4 | -0.04692 | 0.03523 | 1.7739 |
| Q13 | 6 | 0.04726 | 0.01786 | 7.0015 |
| Q16 | 10 | 0.01074 | 0.02246 | 0.2288 |
| 8*9 | 19 | -0.13606 | 0.03776 | 12.9814 |
| 49*58 | 20 | -0.07048 | 0.04227 | 2.7734 |
| 14*15 | 22 | -0.04856 | 0.02724 | 3.1730 |
| 20*27 | 25 | 0.04992 | 0.01863 | 7.1797 |
| 22*25 | 27 | 0.08966 | 0.02839 | 9.9744 |
| (E) | 28 | 0.09040 | 0.02294 | 15.5245 |
| (P) | 29 | 0.13077 | 0.02461 | 28.2662 |
| (F) | 30 | 0.04317 | 0.04746 | 3.8275 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q12 | 5 | 0.03924 | 0.5006 | 6.3121 |
| Q14 | 7 | 0.04877 | 0.5816 | 9.7621 |
| Q15 | 8 | -0.04877 | 0.2349 | 9.7621 |
| Q17 | 9 | -0.05353 | 0.8673 | 11.7667 |
| Q23 | 11 | -0.00080 | 0.7702 | 0.0026 |
| Q26 | 12 | -0.00749 | 0.7197 | 0.2295 |
| Q27 | 13 | -0.01190 | 0.6454 | 0.5798 |
| Q28 | 14 | 0.00358 | 0.9187 | 0.0526 |
| Q29 | 15 | 0.00112 | 0.5986 | 0.0051 |
| 2*7 | 16 | 0.02455 | 0.9893 | 2.4680 |
| 3X4 | 17 | -0.00124 | 0.7991 | 0.0063 |
| 5*6 | 18 | -0.00063 | 0.9339 | 0.0016 |
| 61*62 | 21 | 0.07239 | 0.8700 | 21.5657 |
| 14*17 | 23 | -0.01697 | 0.8124 | 1.1797 |
| 18*26 | 24 | -0.00654 | 0.2601 | 0.1752 |
| 21*24 | 26 | -0.03990 | 0.4208 | 6.5280 |
| (I) | 31 | 0.66892 | 0.8701 | 3315.2532 |
| 30*31 | 32 | -0.03003 | 0.9801 | 3.6961 |

Table 5-21. (Continued)

STEP NUMBER 14
VARIABLE ENTERED 17

MULTIPLE R 0.1887
STD. ERROR OF EST. 0.3982

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 14 | 23.972 | 1.712 | 10.801 |
| RESIDUAL | 4094 | 649.013 | 0.159 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.08456 ) | | | | | | | |
| Q10 | 1 | 0.07374 | 0.03552 | 4.3098 | Q12 | 5 | 0.03938 | 0.4987 | 6.3586 |
| Q55 | 3 | 0.05413 | 0.03118 | 3.0130 | Q14 | 7 | 0.04876 | 0.5814 | 9.7540 |
| Q56 | 4 | -0.04679 | 0.03527 | 1.7599 | Q15 | 8 | -0.04876 | 0.2349 | 9.7540 |
| Q13 | 6 | 0.04784 | 0.01930 | 5.1429 | Q17 | 9 | -0.05353 | 0.8673 | 11.7625 |
| Q16 | 10 | 0.01072 | 0.02246 | 0.2279 | Q23 | 11 | -0.00087 | 0.7697 | 0.0028 |
| 3X4 | 17 | -0.00305 | 0.03843 | 0.0053 | Q26 | 12 | -0.00748 | 0.7197 | 0.2290 |
| 8+9 | 19 | -0.13637 | 0.03797 | 12.8992 | Q27 | 13 | -0.01189 | 0.6453 | 0.5787 |
| 49+58 | 20 | -0.07083 | 0.04251 | 2.7752 | Q28 | 14 | 0.00363 | 0.9178 | 0.0538 |
| 14+15 | 22 | -0.04861 | 0.02725 | 3.1833 | Q29 | 15 | 0.00111 | 0.5986 | 0.0051 |
| 20+27 | 25 | 0.04994 | 0.01863 | 7.1827 | 2+7 | 16 | 0.02484 | 0.9768 | 2.5274 |
| 22+25 | 27 | 0.08975 | 0.02842 | 9.9751 | 5+6 | 18 | -0.00061 | 0.9336 | 0.0015 |
| (E) | 28 | 0.09039 | 0.02295 | 15.5195 | 61+62 | 21 | 0.07240 | 0.8699 | 21.5674 |
| (P) | 29 | 0.13075 | 0.02461 | 28.2261 | 14+17 | 23 | -0.01698 | 0.8124 | 1.1809 |
| (F) | 30 | 0.04314 | 0.04747 | 3.8251 | 18+26 | 24 | -0.00652 | 0.2599 | 0.1737 |
| | | | | | 21+24 | 26 | -0.03988 | 0.4206 | 6.5209 |
| | | | | | (I) | 31 | 0.66918 | 0.8693 | 3319.1151 |
| | | | | | 30+31 | 32 | -0.03001 | 0.9786 | 3.6889 |

STEP NUMBER 15
VARIABLE ENTERED 18

MULTIPLE R 0.1887
STD. ERROR OF EST. 0.3982

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 15 | 23.972 | 1.598 | 10.079 |
| RESIDUAL | 4093 | 649.013 | 0.159 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.08548 ) | | | | | | | |
| Q10 | 1 | 0.07365 | 0.03560 | 4.2814 | Q12 | 5 | 0.03940 | 0.4986 | 6.3638 |
| Q55 | 3 | 0.05417 | 0.03120 | 3.0141 | Q14 | 7 | 0.04876 | 0.5813 | 9.7502 |
| Q56 | 4 | -0.04685 | 0.03531 | 1.7638 | Q15 | 8 | -0.04876 | 0.2348 | 9.7502 |
| Q13 | 6 | 0.04784 | 0.01930 | 5.1416 | Q17 | 9 | -0.05353 | 0.8672 | 11.7581 |
| Q16 | 10 | 0.01075 | 0.02248 | 0.2289 | Q23 | 11 | -0.00080 | 0.7672 | 0.0026 |
| 3X4 | 17 | -0.00302 | 0.03844 | 0.0062 | Q26 | 12 | -0.00747 | 0.7194 | 0.2283 |
| 5+6 | 18 | -0.00137 | 0.03520 | 0.0015 | Q27 | 13 | -0.01189 | 0.6453 | 0.5786 |
| 3+9 | 19 | -0.13640 | 0.03798 | 12.8957 | Q28 | 14 | 0.00364 | 0.9171 | 0.0543 |
| 49+58 | 20 | -0.07065 | 0.04276 | 2.7333 | Q29 | 15 | 0.00108 | 0.5969 | 0.0048 |
| 14+15 | 22 | -0.04859 | 0.02726 | 3.1780 | 2+7 | 16 | 0.02501 | 0.9684 | 2.5603 |
| 20+27 | 25 | 0.04993 | 0.01864 | 7.1755 | 61+62 | 21 | 0.07252 | 0.8678 | 21.6350 |
| 22+25 | 27 | 0.08980 | 0.02844 | 9.9613 | 14+17 | 23 | -0.01698 | 0.8124 | 1.1805 |
| (E) | 28 | 0.09049 | 0.02308 | 15.3719 | 18+26 | 24 | -0.00650 | 0.2596 | 0.1728 |
| (P) | 29 | 0.13076 | 0.02462 | 28.2154 | 21+24 | 26 | -0.03989 | 0.4200 | 6.5213 |
| (F) | 30 | 0.04325 | 0.04755 | 3.8272 | (I) | 31 | 0.66977 | 0.8677 | 3328.9982 |
| | | | | | 30+31 | 32 | -0.03001 | 0.9773 | 3.6874 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|---|
| 1 | (P) | 29 | | 0.1217 | 0.0148 | 0.0148 | 61.7178 | 1 |
| 2 | 20+27 | 25 | | 0.1467 | 0.0215 | 0.0067 | 28.1728 | 2 |
| 3 | 8+9 | 19 | | 0.1604 | 0.0257 | 0.0042 | 17.7389 | 3 |
| 4 | (E) | 28 | | 0.1688 | 0.0285 | 0.0028 | 11.7385 | 4 |
| 5 | 22+25 | 27 | | 0.1759 | 0.0309 | 0.0024 | 10.2624 | 5 |
| 6 | Q13 | 6 | | 0.1796 | 0.0322 | 0.0013 | 5.3144 | 6 |
| 7 | 14+15 | 22 | | 0.1815 | 0.0330 | 0.0008 | 3.4261 | 7 |
| 8 | Q55 | 3 | | 0.1835 | 0.0337 | 0.0007 | 2.8170 | 8 |
| 9 | 49+58 | 20 | | 0.1854 | 0.0344 | 0.0007 | 2.9666 | 9 |
| 10 | Q10 | 1 | | 0.1869 | 0.0349 | 0.0005 | 2.3303 | 10 |
| 11 | Q56 | 4 | | 0.1881 | 0.0354 | 0.0005 | 1.9570 | 11 |
| 12 | (F) | 30 | | 0.1885 | 0.0356 | 0.0002 | 0.8071 | 12 |
| 13 | Q16 | 10 | | 0.1887 | 0.0356 | 0.0001 | 0.2298 | 13 |
| 14 | 3X4 | 17 | | 0.1887 | 0.0356 | 0.0000 | 0.0063 | 14 |
| 15 | 5+6 | 18 | | 0.1887 | 0.0356 | 0.0000 | 0.0015 | 15 |

## Table 5-22. Existence of Company TIC times Use of Company TIC

SUB-PROBLEM 1
DEPENDENT VARIABLE [illegible]
MAXIMUM NUMBER OF STEPS 32
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 3

MULTIPLE R 0.2762
STD. ERROR OF EST. 0.3479

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 14.560 | 14.560 | 120.263 |
| RESIDUAL | 1456 | 176.271 | 0.121 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.83031 ) | | | | | | |
| 055 3 | -0.39570 | 0.03608 | 120.2625 | 037 1 | 0.22101 | 0.9571 | 74.7183 |
| | | | | 039 2 | 0.24219 | 0.9088 | 90.6619 |
| | | | | 056 4 | 0.01888 | 0.9651 | 0.5188 |
| | | | | 059 5 | 0.28351 | 0.9037 | 127.1730 |
| | | | | 050A 6 | 0.16615 | 0.8520 | 41.3083 |
| | | | | 050C 7 | 0.08322 | 0.9600 | 10.1458 |
| | | | | 0 37+39 8 | 0.27524 | 0.9004 | 119.2625 |
| | | | | 9 | 0.31941 | 0.9150 | 165.3133 |
| | | | | 42+43 10 | 0.09178 | 0.9793 | 12.3598 |
| | | | | 45+46 11 | 0.06774 | 0.9928 | 6.7069 |
| | | | | 49+58 12 | 0.07563 | 0.9984 | 8.3702 |
| | | | | (F) 13 | 0.60346 | 0.8863 | 833.3043 |
| | | | | (P) 14 | 0.10222 | 0.9793 | 15.3632 |
| | | | | 40+41 16 | 0.22949 | 0.9875 | 89.8855 |

STEP NUMBER 2
VARIABLE ENTERED 6

MULTIPLE R 0.3191
STD. ERROR OF EST. 0.3432

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 19.426 | 9.713 | 82.450 |
| RESIDUAL | 1455 | 171.405 | 0.118 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.66837 ) | | | | | | |
| 055 3 | -0.30036 | 0.03456 | 60.6705 | 037 1 | 0.20396 | 0.9409 | 63.1100 |
| 050A 6 | 0.23200 | 0.03610 | 41.3093 | 039 2 | 0.22210 | 0.8868 | 75.4440 |
| | | | | 056 4 | 0.01739 | 0.9650 | 0.4397 |
| | | | | 059 5 | 0.26412 | 0.8809 | 109.0187 |
| | | | | 050C 7 | 0.00189 | 0.7285 | 0.0052 |
| | | | | 0 37+39 8 | 0.25386 | 0.8736 | 100.1555 |
| | | | | [illegible] 9 | 0.29389 | 0.8701 | 137.4546 |
| | | | | 42+43 10 | 0.07787 | 0.9710 | 8.8714 |
| | | | | 45+46 11 | 0.05201 | 0.9827 | 3.9446 |
| | | | | 49+58 12 | 0.03656 | 0.9385 | 1.9465 |
| | | | | (F) 13 | 0.58888 | 0.8378 | 771.9112 |
| | | | | (P) 14 | 0.08290 | 0.9434 | 10.0616 |
| | | | | 40+41 16 | 0.21430 | 0.9737 | 69.9901 |

Table 5-22. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 12

MULTIPLE R 0.3209
STD. ERROR OF EST. 0.3431

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 19.655 | 6.552 | 55.651 |
| RESIDUAL | 1454 | 171.175 | 0.118 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.65402 ) | | |
| 055 | 3 | -0.30351 | 0.03861 | 61.7773 |
| 05CA | 6 | 0.21929 | 0.03722 | 34.7174 |
| 40+5R | 12 | 0.08163 | 0.05851 | 1.9465 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 037 | 1 | 0.20261 | 0.9349 | 62.2019 |
| 039 | 2 | 0.21928 | 0.8601 | 73.3918 |
| 056 | 4 | 0.02215 | 0.9459 | 0.7133 |
| 059 | 5 | 0.26193 | 0.8541 | 107.0284 |
| 050C | 7 | 0.00421 | 0.7254 | 0.0257 |
| 0 37+39 | 8 | 0.25140 | 0.8583 | 98.0258 |
| 38+44 | 9 | 0.29207 | 0.8642 | 135.5068 |
| 42+43 | 10 | 0.07407 | 0.9570 | 8.0154 |
| 45+46 | 11 | 0.05103 | 0.9819 | 3.7942 |
| (E) | 13 | 0.59153 | 0.8142 | 782.0833 |
| (P) | 14 | 0.08003 | 0.9559 | 9.3664 |
| 40+41 | 16 | 0.21130 | 0.9463 | 67.9065 |

STEP NUMBER 4
VARIABLE ENTERED 4

MULTIPLE R 0.3214
STD. ERROR OF EST. 0.3431

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 19.739 | 4.935 | 41.909 |
| RESIDUAL | 1453 | 171.091 | 0.118 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.63084 ) | | |
| 055 | 3 | -0.29812 | 0.03914 | 58.0075 |
| 056 | 4 | 0.03084 | 0.03651 | 0.7133 |
| 05CA | 6 | 0.21890 | 0.03725 | 34.2451 |
| 40+5R | 12 | 0.08787 | 0.05899 | 2.2194 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 037 | 1 | 0.20248 | 0.9388 | 62.0729 |
| 039 | 2 | 0.21858 | 0.8675 | 72.8549 |
| 059 | 5 | 0.26275 | 0.8535 | 107.6770 |
| 050C | 7 | -0.00298 | 0.6525 | 0.0129 |
| 0 37+39 | 8 | 0.25080 | 0.8571 | 97.4617 |
| 38+44 | 9 | 0.29152 | 0.8630 | 134.8535 |
| 42+43 | 10 | 0.07556 | 0.9535 | 8.3381 |
| 45+46 | 11 | 0.05208 | 0.9800 | 3.9484 |
| (E) | 13 | 0.59130 | 0.8136 | 780.5805 |
| (P) | 14 | 0.08172 | 0.9516 | 9.7627 |
| 40+41 | 16 | 0.21166 | 0.9461 | 68.1024 |

STEP NUMBER 5
VARIABLE ENTERED 7

MULTIPLE R 0.3216
STD. ERROR OF EST. 0.3433

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 19.741 | 3.948 | 33.507 |
| RESIDUAL | 1452 | 17 .090 | 0.118 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.63078 ) | | |
| 055 | 3 | -0.29786 | 0.03922 | 57.6665 |
| 056 | 4 | 0.03223 | 0.03852 | 0.6999 |
| 05CA | 6 | 0.22045 | 0.04307 | 26.1956 |
| 050C | 7 | -0.00415 | 0.03660 | 0.0129 |
| 40+5R | 12 | 0.08779 | 0.05902 | 2.2084 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 037 | 1 | 0.20255 | 0.9386 | 62.0769 |
| 039 | 2 | 0.21865 | 0.8673 | 72.8546 |
| 059 | 5 | 0.26274 | 0.8533 | 107.5935 |
| 0 37+39 | 8 | 0.25089 | 0.8568 | 97.4732 |
| 38+44 | 9 | 0.29151 | 0.8628 | 134.7519 |
| 42+43 | 10 | 0.07585 | 0.9505 | 8.3962 |
| 45+46 | 11 | 0.05202 | 0.9795 | 3.9375 |
| (E) | 13 | 0.59129 | 0.8136 | 780.0241 |
| (P) | 14 | 0.08177 | 0.9514 | 9.7681 |
| 40+41 | 16 | 0.21165 | 0.9457 | 68.0438 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

Table 5-22. (Continued)

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 055 | 3 | 0.2762 | 0.0763 | 0.0763 | 120.2425 | 1 |
| 2 | 050A | 6 | 0.3191 | 0.1018 | 0.0255 | 41.3083 | 2 |
| 3 | 49+5R | 12 | 0.3209 | 0.1030 | 0.0012 | 1.9465 | 3 |
| 4 | 056 | 4 | 0.3216 | 0.1034 | 0.0004 | 0.7133 | 4 |
| 5 | 050C | 7 | 0.3216 | 0.1034 | 0.0000 | 0.0129 | 5 |

## Table 5-23. Effort Index

```
SUB-PROBLEM    9
DEPENDENT VARIABLE          8
MAXIMUM NUMBER OF STEPS    32
F-LEVEL FOR INCLUSION      0.000000
F-LEVEL FOR DELETION       0.000000
TOLERANCE LEVEL            0.001000


STEP NUMBER    1
VARIABLE ENTERED    3

MULTIPLE R                 0.3372
STD. ERROR OF EST.         0.2905

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
  REGRESSION      1          15.759         15.759       186.750
  RESIDUAL     1456         122.863          0.084

                VARIABLES IN EQUATION                    VARIABLES NOT IN EQUATION
  VARIABLE     COEFFICIENT  STD. ERROR  F TO REMOVE   VARIABLE  PARTIAL CORR.  TOLERANCE  F TO ENTER
  (CONSTANT      0.46795 )                            Q37    1      0.54731      0.9571     622.2365
  Q55    3      -0.41168     0.03012     186.7502     Q39    2      0.69027      0.9088    1324.2261
                                                     Q56    4      0.00769      0.9651       0.0859
                                                     Q59    5      0.39865      0.9037     274.9224
                                                     Q50A   6      0.23396      0.8520      84.2539
                                                     Q50C   7      0.10835      0.9600      17.2830
                                                     Q 37+39 8     0.75528      0.9004    1932.2361
                                                     38+44  9      0.62657      0.9150     940.4061
                                                     42+43 10      0.24018      0.9793      89.0721
                                                     45+46 11      0.14561      0.9928      31.5196
                                                     49+58 12      0.21557      0.9984      70.9075
                                                     (P)   14      0.24360      0.9793      91.7901
                                                     33+35 15      0.60346      0.9237     833.3043
                                                     40+41 16      0.73370      0.9875    1696.4848


STEP NUMBER    2
VARIABLE ENTERED    6

MULTIPLE R                 0.4027
STD. ERROR OF EST.         0.2825

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
  REGRESSION      2          22.484         11.242       140.841
  RESIDUAL     1455         116.138          0.080

                VARIABLES IN EQUATION                    VARIABLES NOT IN EQUATION
  VARIABLE     COEFFICIENT  STD. ERROR  F TO REMOVE   VARIABLE  PARTIAL CORR.  TOLERANCE  F TO ENTER
  (CONSTANT      0.27758 )                            Q37    1      0.53621      0.9409     586.7704
  Q55    3      -0.29959     0.03174      89.0846     Q39    2      0.68083      0.8868    1256.3181
  Q50A   6       0.27273     0.02971      84.2539     Q56    4      0.00539      0.9650       0.0422
                                                     Q59    5      0.37662      0.8809     240.3368
                                                     Q50C   7     -0.00772      0.7285       0.0868
                                                     Q 37+39 8     0.74652      0.8736    1830.2946
                                                     38+44  9      0.60620      0.8701     844.7516
                                                     42+43 10      0.22582      0.9710      78.1301
                                                     45+46 11      0.12621      0.9827      23.5341
                                                     49+58 12      0.16793      0.9385      42.1913
                                                     (P)   14      0.22175      0.9634      75.1944
                                                     33+35 15      0.58888      0.8982     771.9112
                                                     40+41 16      0.73132      0.9737    1671.7387


STEP NUMBER    3
VARIABLE ENTERED   12

MULTIPLE R                 0.4311
STD. ERROR OF EST.         0.2786

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
  REGRESSION      3          25.759         8.586       110.616
  RESIDUAL     1454         112.863          0.078
```

Table 5-23. (Continued)

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.22333 ) | | | | | | | |
| 055 | 3 | -0.31149 | 0.03136 | 98.6887 | 037 | 1 | 0.53660 | 0.9389 | 587.5525 |
| 050A | 6 | 0.22469 | 0.03022 | 55.2778 | 039 | 2 | 0.67331 | 0.8691 | 1204.9677 |
| 49+58 | 12 | 0.30860 | 0.04751 | 42.1913 | 056 | 4 | 0.02700 | 0.9499 | 1.0597 |
| | | | | | 059 | 5 | 0.35786 | 0.8543 | 213.4129 |
| | | | | | 050C | 7 | 0.00292 | 0.7256 | 0.0124 |
| | | | | | 0 37+38 | 8 | 0.74127 | 0.8583 | 1772.1240 |
| | | | | | 38+44 | 9 | 0.60301 | 0.8642 | 830.2169 |
| | | | | | 42+43 | 10 | 0.21014 | 0.9570 | 67.1274 |
| | | | | | 45+46 | 11 | 0.12325 | 0.9819 | 22.4134 |
| | | | | | (P) | 14 | 0.21069 | 0.9559 | 67.4967 |
| | | | | | 33+35 | 15 | 0.59153 | 0.8970 | 782.0833 |
| | | | | | 40+41 | 16 | 0.72353 | 0.9463 | 1596.3033 |

STEP NUMBER 4
VARIABLE ENTERED 4

MULTIPLE R 0.4318
STD. ERROR OF EST. 0.2786

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 25.841 | 6.460 | 83.230 |
| RESIDUAL | 1453 | 112.781 | 0.078 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.20039 ) | | | | | | | |
| 055 | 3 | -0.30616 | 0.03178 | 92.8085 | 037 | 1 | 0.53658 | 0.9388 | 587.0919 |
| 056 | 4 | 0.03052 | 0.02965 | 1.0597 | 039 | 2 | 0.67301 | 0.8675 | 1202.2180 |
| 050A | 6 | 0.22341 | 0.03025 | 54.5608 | 059 | 5 | 0.35894 | 0.8535 | 214.7328 |
| 49+58 | 12 | 0.31477 | 0.04789 | 43.2093 | 050C | 7 | -0.00596 | 0.6525 | 0.0516 |
| | | | | | 0 37+38 | 8 | 0.74104 | 0.8571 | 1768.5647 |
| | | | | | 38+44 | 9 | 0.60264 | 0.8630 | 828.0532 |
| | | | | | 42+43 | 10 | 0.21223 | 0.9535 | 68.4881 |
| | | | | | 45+46 | 11 | 0.12461 | 0.9800 | 22.9025 |
| | | | | | (P) | 14 | 0.21306 | 0.9516 | 69.0499 |
| | | | | | 33+35 | 15 | 0.59130 | 0.8966 | 780.5805 |
| | | | | | 40+41 | 16 | 0.72421 | 0.9461 | 1601.5124 |

STEP NUMBER 5
VARIABLE ENTERED 7

MULTIPLE R 0.4318
STD. ERROR OF EST. 0.2787

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 25.845 | 5.169 | 66.551 |
| RESIDUAL | 1452 | 112.777 | 0.078 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.20029 ) | | | | | | | |
| 055 | 3 | -0.30573 | 0.03185 | 92.1709 | 037 | 1 | 0.53675 | 0.9386 | 587.7112 |
| 056 | 4 | 0.03277 | 0.03127 | 1.0982 | 039 | 2 | 0.67319 | 0.8673 | 1202.5621 |
| 050A | 6 | 0.22739 | 0.03093 | 54.2823 | 059 | 5 | 0.35889 | 0.8513 | 214.5260 |
| 050C | 7 | -0.00675 | 0.02972 | 0.0516 | 0 37+38 | 8 | 0.74129 | 0.8568 | 1769.8959 |
| 49+58 | 12 | 0.31451 | 0.04792 | 43.0833 | 38+44 | 9 | 0.60263 | 0.8628 | 827.4547 |
| | | | | | 42+43 | 10 | 0.21291 | 0.9505 | 68.8974 |
| | | | | | 45+46 | 11 | 0.12451 | 0.9795 | 22.8491 |
| | | | | | (P) | 14 | 0.21317 | 0.9514 | 69.0761 |
| | | | | | 33+35 | 15 | 0.59129 | 0.8966 | 780.0241 |
| | | | | | 40+41 | 16 | 0.72424 | 0.9457 | 1600.7018 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 055 | 3 | 0.3372 | 0.1137 | 0.1137 | 186.7502 | 1 |
| 2 | 050A | 6 | 0.4027 | 0.1622 | 0.0485 | 84.2539 | 2 |
| 3 | 49+58 | 12 | 0.4311 | 0.1858 | 0.0236 | 42.1913 | 3 |
| 4 | 056 | 4 | 0.4318 | 0.1864 | 0.0006 | 1.0597 | 4 |
| 5 | 050C | 7 | 0.4318 | 0.1864 | 0.0000 | 0.0516 | 5 |

## Table 5-24. Use of TAB

```
SUB-PROBLEM    4
 DEPENDENT VARIABLE          237
 MAXIMUM NUMBER OF STEPS      32
 F-LEVEL FOR INCLUSION       0.000000
 F-LEVEL FOR DELETION        0.000000
 TOLERANCE LEVEL             0.001000



  STEP NUMBER     1
  VARIABLE ENTERED     9

  MULTIPLE R                 0.4502
  STD. ERROR OF EST.         0.3262

  ANALYSIS OF VARIANCE
                        DF     SUM OF SQUARES    MEAN SQUARE    F RATIO
         REGRESSION      1           39.373         39.373    370.104
         RESIDUAL     1456          154.893          0.106

                  VARIABLES IN EQUATION             .                 VARIABLES NOT IN EQUATION
                                                    .
   VARIABLE        COEFFICIENT  STD. ERROR  F TO REMOVE .     VARIABLE     PARTIAL CORR.      TOLERANCE    F TO ENTER
                                                    .
                                                    .
   (CONSTANT          0.02774 )                     .
   38+44  9           0.54288     0.02822    370.1043 .     039       2         0.30776         0.8926     152.2296
                                                    .     055       3        -0.08885         0.9150      11.5773
                                                    .     056       4         0.00687         0.9934       0.0687
                                                    .     059       5         0.13943         0.8858      28.8453
                                                    .     050A      6         0.06881         0.9053       6.9227
                                                    .     050C      7         0.05184         0.9765       3.9214
                                                    .     0 37+3    8         0.59682         0.8238     805.0165
                                                    .      42*43   10         0.17378         0.9761      45.3093
                                                    .      45*46   11         0.00340         0.9877       0.0169
                                                    .      49+58   12         0.02395         0.9810       0.8350
                                                    .      (E)     13         0.41215         0.5610     297.7357
                                                    .      (P)     14         0.09954         0.9713      14.5619
                                                    .      33*35   15         0.11662         0.8600      20.0597
                                                    .      40+41   16         0.10454         0.9147      16.0757



  STEP NUMBER     2
  VARIABLE ENTERED    15

  MULTIPLE R                 0.4671
  STD. ERROR OF EST.         0.3240

  ANALYSIS OF VARIANCE
                        DF     SUM OF SQUARES    MEAN SQUARE    F RATIO
         REGRESSION      2           41.479         20.740    197.504
         RESIDUAL     1455          152.787          0.105

                  VARIABLES IN EQUATION             .                 VARIABLES NOT IN EQUATION
                                                    .
   VARIABLE        COEFFICIENT  STD. ERROR  F TO REMOVE .     VARIABLE     PARTIAL CORR.      TOLERANCE    F TO ENTER
                                                    .
                                                    .
   (CONSTANT         -0.03792 )                     .
   38+44  9           0.49222     0.03023    265.0706 .     039       2         0.29180         0.8538     135.3309
   33*35 15           0.11329     0.02530     20.0597 .     055       3        -0.06857         0.8925       6.8681
                                                    .     056       4         0.00196         0.9916       0.0056
                                                    .     059       5         0.11466         0.8304      19.3699
                                                    .     050A      6         0.05150         0.8830       3.8660
                                                    .     050C      7         0.04258         0.9697       2.6411
                                                    .     0 37+3    8         0.58947         0.7856     774.2555
                                                    .      42*43   10         0.16658         0.9705      41.5009
                                                    .      45*46   11        -0.00254         0.9851       0.0094
                                                    .      49+58   12         0.02000         0.9798       0.5817
                                                    .      (E)     13         0.42219         0.3830     315.3764
                                                    .      (P)     14         0.09107         0.9650      12.1590
                                                    .      40+41   16         0.08773         0.8916      11.2774
```

Table 5-24. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 16

MULTIPLE R 0.4686
STD. ERROR OF EST. 0.3229

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 43.655 | 14.218 | 134.349 |
| RESIDUAL | 1454 | 151.611 | 0.104 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | -0.03429 ) | | |
| 38444 9 | 0.46928 | 0.03089 | 230.7747 |
| 33935 15 | 0.09968 | 0.02553 | 15.2456 |
| 40641 16 | 0.05646 | 0.01681 | 11.2774 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 039 | 2 | 0.28016 | 0.8081 | 123.7594 |
| 055 | 3 | -0.06889 | 0.8825 | 6.0287 |
| 056 | 4 | 0.00579 | 0.9898 | 0.0487 |
| 059 | 5 | 0.09975 | 0.7984 | 14.6041 |
| 050A | 6 | 0.04788 | 0.8913 | 3.3386 |
| 050C | 7 | 0.04329 | 0.9697 | 2.7285 |
| 0 3743 | 8 | 0.58701 | 0.7457 | 763.8871 |
| 42043 | 10 | 0.15787 | 0.9569 | 37.1391 |
| 45046 | 11 | -0.01223 | 0.9734 | 0.2173 |
| 49058 | 12 | 0.00619 | 0.9552 | 0.0558 |
| (F) | 13 | 0.58701 | 0.1389 | 763.8855 |
| (P) | 14 | 0.07918 | 0.9436 | 9.1666 |

STEP NUMBER 4
VARIABLE ENTERED 3

MULTIPLE R 0.4725
STD. ERROR OF EST. 0.3223

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 43.375 | 10.844 | 104.418 |
| RESIDUAL | 1453 | 150.892 | 0.104 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.01436 ) | | |
| 055 3 | -0.09164 | 0.03557 | 6.9287 |
| 38444 9 | 0.45217 | 0.03151 | 205.9695 |
| 33935 15 | 0.08698 | 0.02593 | 11.2495 |
| 40641 16 | 0.05649 | 0.01678 | 11.3352 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 039 | 2 | 0.27249 | 0.7750 | 116.4582 |
| 056 | 4 | -0.00577 | 0.9624 | 0.0484 |
| 059 | 5 | 0.08786 | 0.7658 | 11.2949 |
| 050A | 6 | 0.02834 | 0.7998 | 1.1673 |
| 050C | 7 | 0.03329 | 0.9473 | 1.6111 |
| 0 3743 | 8 | 0.58619 | 0.7173 | 760.1287 |
| 42043 | 10 | 0.15249 | 0.9485 | 34.5660 |
| 45046 | 11 | -0.01453 | 0.9712 | 0.3503 |
| 49058 | 12 | 0.00665 | 0.9552 | 0.7641 |
| (F) | 13 | 0.58619 | 0.1336 | 760.1269 |
| (P) | 14 | 0.07357 | 0.9363 | 7.9027 |

STEP NUMBER 5
VARIABLE ENTERED 7

MULTIPLE R 0.4734
STD. ERROR OF EST. 0.3222

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 43.542 | 8.708 | 83.892 |
| RESIDUAL | 1452 | 150.724 | 0.104 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | -0.00575 ) | | |
| 055 3 | -0.08670 | 0.03598 | 5.8052 |
| 050C 7 | 0.03619 | 0.02851 | 1.6111 |
| 9 | 0.44901 | 0.03160 | 201.9295 |
| 33935 15 | 0.08519 | 0.02596 | 10.7649 |
| 40641 16 | 0.05662 | 0.01677 | 11.3923 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 039 | 2 | 0.27107 | 0.7719 | 115.0759 |
| 056 | 4 | -0.01590 | 0.9846 | 0.3670 |
| 059 | 5 | 0.09758 | 0.7658 | 11.2162 |
| 050A | 6 | 0.01406 | 0.8144 | 0.2867 |
| 0 3743 | 8 | 0.58559 | 0.7143 | 757.2391 |
| 42043 | 10 | 0.14097 | 0.9457 | 31.8444 |
| 45046 | 11 | -0.01576 | 0.9712 | 0.3604 |
| 49058 | 12 | 0.00485 | 0.9524 | 0.0342 |
| (F) | 13 | 0.58559 | 0.1331 | 757.2373 |
| (P) | 14 | 0.07247 | 0.9351 | 7.6613 |

Table 5-24. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 4

MULTIPLE R 0.4736
STD. ERROR OF EST. 0.3223

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 43.580 | 7.263 | 69.941 |
| RESIDUAL | 1451 | 150.686 | 0.104 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.00664 ) | | | | | | |
| 055 3 | -0.09951 | 0.03629 | 6.0839 | 039 2 | 0.27130 | 0.7718 | 115.2014 |
| 056 4 | -0.02153 | 0.03554 | 0.3670 | 059 5 | 0.08680 | 0.7631 | 11.0087 |
| 050C 7 | 0.04131 | 0.02974 | 1.9289 | 050A 6 | 0.01171 | 0.5993 | 0.1989 |
| 38+44 9 | 0.44921 | 0.03161 | 202.0002 | 0 37+39 8 | 0.58572 | 0.7143 | 757.2407 |
| 33035 15 | 0.08522 | 0.02597 | 10.7671 | 42043 10 | 0.15017 | 0.9375 | 33.4514 |
| 40+41 16 | 0.05617 | 0.01679 | 11.1868 | 45046 11 | -0.01455 | 0.9689 | 0.3974 |
| | | | | 49+58 12 | 0.00265 | 0.9337 | 0.0102 |
| | | | | (E) 13 | 0.58572 | 0.1331 | 757.2389 |
| | | | | (P) 14 | 0.07135 | 0.9277 | 7.4191 |

STEP NUMBER 7
VARIABLE ENTERED 6

MULTIPLE R 0.4737
STD. ERROR OF EST. 0.3223

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 43.601 | 6.229 | 59.944 |
| RESIDUAL | 1450 | 150.666 | 0.104 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.00131 ) | | | | | | |
| 055 3 | -0.08469 | 0.03788 | 4.9998 | 039 2 | 0.27109 | 0.7692 | 114.9331 |
| 056 4 | -0.01901 | 0.03599 | 0.2791 | 059 5 | 0.08618 | 0.7588 | 10.8413 |
| 050A 6 | 0.01803 | 0.04042 | 0.1989 | 0 37+39 8 | 0.58596 | 0.7123 | 757.6455 |
| 050C 7 | 0.03364 | 0.03437 | 0.9577 | 42043 10 | 0.14996 | 0.9371 | 33.3349 |
| 38+44 9 | 0.44706 | 0.03198 | 195.4047 | 45046 11 | -0.01748 | 0.9635 | 0.4429 |
| 33035 15 | 0.08429 | 0.02606 | 10.4607 | 49+58 12 | 0.00032 | 0.8964 | 0.0001 |
| 40+41 16 | 0.05580 | 0.01682 | 11.0049 | (E) 13 | 0.58596 | 0.1327 | 757.6436 |
| | | | | (P) 14 | 0.07071 | 0.9232 | 7.2815 |

STEP NUMBER 8
VARIABLE ENTERED 12

MULTIPLE R 0.4737
STD. ERROR OF EST. 0.3225

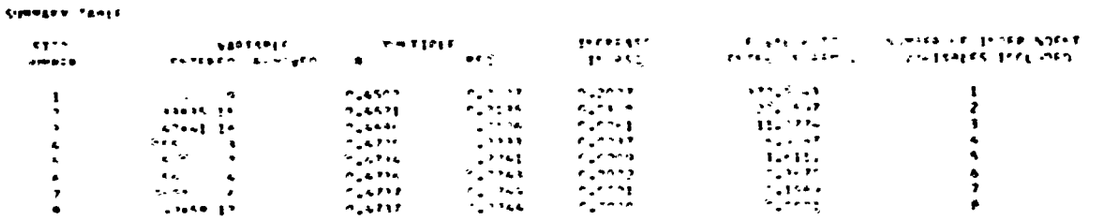
ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 43.601 | 5.450 | 52.415 |
| RESIDUAL | 1449 | 150.666 | 0.104 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.00147 ) | | | | | | |
| 055 3 | -0.08472 | 0.03795 | 4.9844 | 039 2 | 0.27238 | 0.7617 | 116.0418 |
| 056 4 | -0.01896 | 0.03622 | 0.2741 | 059 5 | 0.08685 | 0.7463 | 11.0063 |
| 050A 6 | 0.01793 | 0.04127 | 0.1887 | 0 37+39 8 | 0.58797 | 0.7074 | 765.0620 |
| 050C 7 | 0.03364 | 0.03439 | 0.9571 | 42043 10 | 0.15053 | 0.9296 | 33.5732 |
| 38+44 9 | 0.44704 | 0.03203 | 194.8377 | 45046 11 | -0.01748 | 0.9635 | 0.4426 |
| 49+58 12 | 0.00068 | 0.05627 | 0.0001 | (E) 13 | 0.58796 | 0.1318 | 765.0602 |
| 33034 15 | 0.08429 | 0.02607 | 10.4534 | (P) 14 | 0.07078 | 0.9209 | 7.2917 |
| 40+41 16 | 0.05577 | 0.01701 | 10.7461 | | | | |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

Table 5-24. (Continued)



## Table 5-25. Use of STAR plus Use of English Abstracts or Translations

SUB-PROBLEM 3
DEPENDENT VARIABLE [illegible]
MAXIMUM NUMBER OF STEPS 32
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 6

MULTIPLE R 0.3078
STD. ERROR OF EST. 0.2882

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 12.657 | 12.657 | 152.377 |
| RESIDUAL | 1456 | 120.936 | 0.083 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.03371 ) | | | | | | | |
| Q50A | 6 | 0.34536 | 0.02798 | 152.3768 | Q37 | 1 | 0.41761 | 0.9612 | 307.3521 |
| | | | | | Q39 | 2 | 0.27136 | 0.9360 | 115.6781 |
| | | | | | Q55 | 3 | -0.19718 | 0.8520 | 58.8580 |
| | | | | | Q46 | 4 | 0.05917 | 0.9934 | 5.1126 |
| | | | | | Q59 | 5 | 0.28104 | 0.9331 | 124.7750 |
| | | | | | Q50C | 7 | -0.00860 | 0.7285 | 0.1076 |
| | | | | | Q 37+39 | 8 | 0.36695 | 0.9257 | 226.4117 |
| | | | | | 42+43 | 10 | 0.11851 | 0.9805 | 20.7265 |
| | | | | | 45+46 | 11 | 0.07680 | 0.9843 | 8.3330 |
| | | | | | 49+58 | 12 | 0.06867 | 0.9418 | 6.8930 |
| | | | | | (E) | 13 | 0.62427 | 0.8891 | 929.1015 |
| | | | | | (P) | 14 | 0.12429 | 0.9706 | 22.8294 |
| | | | | | 33+35 | 15 | 0.32174 | 0.9357 | 168.0122 |
| | | | | | 40+41 | 16 | 0.26104 | 0.9770 | 106.3994 |

STEP NUMBER 2
VARIABLE ENTERED 3

MULTIPLE R 0.3605
STD. ERROR OF EST. 0.2824

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 17.358 | 8.679 | 108.645 |
| RESIDUAL | 1455 | 116.234 | 0.080 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.17539 ) | | | | | | | |
| Q55 | 3 | -0.24362 | 0.03175 | 58.8580 | Q37 | 1 | 0.40103 | 0.9409 | 278.6485 |
| Q50A | 6 | 0.25763 | 0.02973 | 75.1160 | Q39 | 2 | 0.23704 | 0.8868 | 66.5611 |
| | | | | | Q56 | 4 | 0.02674 | 0.9650 | 1.0404 |
| | | | | | Q59 | 5 | 0.24608 | 0.8809 | 93.7242 |
| | | | | | Q50C | 7 | -0.00468 | 0.7285 | 0.1095 |
| | | | | | Q 37+39 | 8 | 0.33617 | 0.8736 | 185.2546 |
| | | | | | 42+43 | 10 | 0.10153 | 0.9710 | 15.1447 |
| | | | | | 45+46 | 11 | 0.07028 | 0.9827 | 7.2180 |
| | | | | | 49+58 | 12 | 0.08193 | 0.9385 | 9.8260 |
| | | | | | (E) | 13 | 0.60620 | 0.8378 | 844.7516 |
| | | | | | (P) | 14 | 0.10995 | 0.9634 | 17.7933 |
| | | | | | 33+35 | 15 | 0.29389 | 0.8982 | 137.4546 |
| | | | | | 40+41 | 16 | 0.25488 | 0.9737 | 104.0228 |

Table 5-25. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 12

MULTIPLE R 0.3695
STD. ERROR OF EST. 0.2818

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 18.139 | 6.046 | 76.143 |
| RESIDUAL | 1454 | 115.494 | 0.079 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.14891 | | | | | | | |
| 055 3 | -0.24943 | 0.03171 | 61.8598 | 037 | 1 | 0.39899 | 0.9389 | 275.1006 |
| 050A 6 | 0.23417 | 0.03057 | 58.6978 | 039 | 2 | 0.22850 | 0.8691 | 80.0470 |
| 49+58 12 | 0.15063 | 0.04805 | 9.8260 | 056 | 4 | 0.03741 | 0.9499 | 2.0365 |
| | | | | 059 | 5 | 0.23621 | 0.8543 | 85.8606 |
| | | | | 050C | 7 | -0.00353 | 0.7256 | 0.0181 |
| | | | | 0 37+39 | 8 | 0.32933 | 0.8583 | 176.7652 |
| | | | | 42+43 | 10 | 0.09267 | 0.9570 | 12.5871 |
| | | | | 45+46 | 11 | 0.06822 | 0.9819 | 6.7941 |
| | | | | (F) | 13 | 0.60301 | 0.8142 | 830.2169 |
| | | | | (P) | 14 | 0.10345 | 0.9559 | 15.7188 |
| | | | | 33+35 | 15 | 0.29207 | 0.8970 | 135.5068 |
| | | | | 40+41 | 16 | 0.24543 | 0.9463 | 93.1324 |

STEP NUMBER 4
VARIABLE ENTERED 4

MULTIPLE R 0.3701
STD. ERROR OF EST. 0.2817

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 18.330 | 4.575 | 57.858 |
| RESIDUAL | 1453 | 115.293 | 0.079 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.12676 | | | | | | | |
| 055 3 | -0.24175 | 0.03213 | 56.7012 | 037 | 1 | 0.39896 | 0.9388 | 274.8621 |
| 056 4 | 0.04214 | 0.02997 | 2.0365 | 039 | 2 | 0.22727 | 0.8675 | 79.0845 |
| 050A 6 | 0.23238 | 0.03058 | 57.7465 | 059 | 5 | 0.23757 | 0.8535 | 86.8501 |
| 49+58 12 | 0.15927 | 0.04842 | 10.8 | 050C | 7 | -0.01625 | 0.6525 | 0.3836 |
| | | | | 0 37+39 | 8 | 0.32838 | 0.8571 | 175.4987 |
| | | | | 42+43 | 10 | 0.09517 | 0.9535 | 13.2721 |
| | | | | 45+46 | 11 | 0.06999 | 0.9800 | 7.1479 |
| | | | | (F) | 13 | 0.60264 | 0.8136 | 828.3532 |
| | | | | (P) | 14 | 0.10428 | 0.9516 | 16.5884 |
| | | | | 33+35 | 15 | 0.29152 | 0.8966 | 134.9535 |
| | | | | 40+41 | 16 | 0.24611 | 0.9461 | 93.6210 |

STEP NUMBER 5
VARIABLE ENTERED 7

MULTIPLE R 0.3704
STD. ERROR OF EST. 0.2817

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 18.331 | 3.666 | 46.184 |
| RESIDUAL | 1452 | 115.292 | 0.079 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.11647 | | | | | | | |
| 055 3 | -0.24078 | 0.03219 | 55.9353 | 037 | 1 | 0.39932 | 0.9386 | 275.2611 |
| 056 4 | 0.04899 | 0.03162 | 2.4012 | 039 | 2 | 0.22757 | 0.8673 | 79.2520 |
| 050A 6 | 0.24336 | 0.03535 | 47.3871 | 059 | 5 | 0.23735 | 0.8533 | 86.6219 |
| 050C 7 | -0.01961 | 0.03004 | 0.3836 | 0 37+39 | 8 | 0.32877 | 0.8568 | 175.8445 |
| 49+58 12 | 0.15855 | 0.04944 | 10.7125 | 42+43 | 10 | 0.09625 | 0.9505 | 13.5677 |
| | | | | 45+46 | 11 | 0.06965 | 0.9795 | 7.0732 |
| | | | | (F) | 13 | 0.60263 | 0.8136 | 827.4547 |
| | | | | (P) | 14 | 0.10653 | 0.9514 | 16.6569 |
| | | | | 33+35 | 15 | 0.29151 | 0.8966 | 134.7519 |
| | | | | 40+41 | 16 | 0.24588 | 0.9457 | 93.3676 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

Table 5-25. (Continued)

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 050A | 6 | 0.3078 | 0.0947 | 0.0947 | 152.3768 | 1 |
| 2 | 055 | 9 | 0.3605 | 0.1299 | 0.0352 | 58.8590 | 2 |
| 3 | 4965R | 12 | 0.3685 | 0.1358 | 0.0058 | 9.8760 | 3 |
| 4 | 09A | 4 | 0.3701 | 0.1370 | 0.0012 | 2.0365 | 4 |
| 5 | 090C | 7 | 0.3704 | 0.1372 | 0.0002 | 0.3836 | 5 |

Table 5-26. Use of DDC

SUB-PROBLM 5
DEPENDENT VARIABLE 039
MAXIMUM NUMBER OF STEPS 32
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 9

MULTIPLE R 0.3277
STD. ERROR OF EST. 0.8155

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 116.477 | 116.477 | 175.151 |
| RESIDUAL | 1456 | 968.257 | 0.665 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.05844 ) | | | | | | | |
| 38+44 9 | 0.93375 | 0.07059 | 175.150R | 037 | 1 | 0.30776 | 0.7973 | 152.2296 |
| | | | | 055 | 3 | -0.22839 | 0.9150 | 80.0711 |
| | | | | 056 | 4 | 0.05712 | 0.9934 | 4.7635 |
| | | | | 059 | 5 | 0.21796 | 0.8858 | 72.5661 |
| | | | | 050A | 6 | 0.16928 | 0.9053 | 42.9239 |
| | | | | 050C | 7 | 0.10334 | 0.9765 | 15.7073 |
| | | | | 0 37+38 | 8 | 0.94711 | 0.8238 | 12672.5734 |
| | | | | 42+43 | 10 | 0.22721 | 0.9761 | 79.2036 |
| | | | | 45+46 | 11 | 0.09160 | 0.9877 | 12.5120 |
| | | | | 49+58 | 12 | 0.14161 | 0.9810 | 24.7742 |
| | | | | (E) | 13 | 0.71251 | 0.5610 | 1500.3751 |
| | | | | (P) | 14 | 0.19603 | 0.9713 | 58.1490 |
| | | | | 33+35 | 15 | 0.20851 | 0.8600 | 66.1361 |
| | | | | 40+41 | 16 | 0.25646 | 0.9147 | 102.4358 |

STEP NUMBER 2
VARIABLE ENTERED 16

MULTIPLE R 0.4075
STD. ERROR OF EST. 0.7885

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 180.162 | 90.081 | 144.894 |
| RESIDUAL | 1455 | 904.573 | 0.622 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.09002 ) | | | | | | | |
| 38+44 9 | 0.72284 | 0.07133 | 102.6949 | 037 | 1 | 0.29227 | 0.7886 | 135.8062 |
| 40+41 16 | 0.41022 | 0.04053 | 102.435R | 055 | 3 | -0.22863 | 0.9142 | 80.1920 |
| | | | | 056 | 4 | 0.06871 | 0.9921 | 6.8971 |
| | | | | 059 | 5 | 0.16961 | 0.8400 | 43.0669 |
| | | | | 050A | 6 | 0.13754 | 0.9011 | 37.0038 |
| | | | | 050C | 7 | 0.10504 | 0.9764 | 16.2211 |
| | | | | 0 37+38 | 8 | 0.94347 | 0.7716 | 11780.9055 |
| | | | | 42+43 | 10 | 0.20250 | 0.9598 | 62.1745 |
| | | | | 45+46 | 11 | 0.06453 | 0.9745 | 6.0805 |
| | | | | 49+58 | 12 | 0.10492 | 0.9553 | 16.1831 |
| | | | | (E) | 13 | 0.80470 | 0.2532 | 2671.3463 |
| | | | | (P) | 14 | 0.16259 | 0.9466 | 39.4807 |
| | | | | 33+35 | 15 | 0.17584 | 0.8363 | 46.3925 |

Table 5-26. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 3

MULTIPLE R 0.4579
STD. ERROR OF EST. 0.7679

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 227.444 | 75.815 | 128.584 |
| RESIDUAL | 1454 | 857.291 | 0.590 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.23968 ) | | | | | | | |
| 055 3 | -0.74580 | 0.08327 | 80.1920 | 037 | 1 | 0.28101 | 0.7827 | 124.5712 |
| 38449 9 | 0.54674 | 0.07217 | 57.3532 | 056 | 4 | 0.03055 | 0.9626 | 1.3577 |
| 40441 16 | 0.39988 | 0.03949 | 102.5439 | 059 | 5 | 0.12249 | 0.7937 | 22.1322 |
| | | | | 050A | 6 | 0.09084 | 0.8071 | 12.0691 |
| | | | | 050C | 7 | 0.07028 | 0.9501 | 7.2178 |
| | | | | 0 37439 | 8 | 0.94046 | 0.7335 | 11123.8213 |
| | | | | 42443 | 10 | 0.18510 | 0.9449 | 31.5461 |
| | | | | 45446 | 11 | 0.05404 | 0.9718 | 4.2560 |
| | | | | 49458 | 12 | 0.10881 | 0.9553 | 17.4080 |
| | | | | (E) | 13 | 0.79267 | 0.2352 | 2456.2980 |
| | | | | (P) | 14 | 0.14494 | 0.9378 | 31.1793 |
| | | | | 33435 | 15 | 0.13934 | 0.8093 | 28.7682 |

STEP NUMBER 4
VARIABLE ENTERED 15

MULTIPLE R 0.4744
STD. ERROR OF EST. 0.7606

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 244.088 | 61.022 | 109.472 |
| RESIDUAL | 1453 | 840.647 | 0.579 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.01528 ) | | | | | | | |
| 055 3 | -0.66195 | 0.08397 | 62.1482 | 037 | 1 | 0.27249 | 0.7767 | 116.4582 |
| 38449 9 | 0.43716 | 0.07437 | 34.5895 | 056 | 4 | 0.02845 | 0.9624 | 1.1765 |
| 33435 15 | 0.32829 | 0.06121 | 28.7682 | 059 | 5 | 0.09909 | 0.7658 | 14.3993 |
| 40441 16 | 0.35672 | 0.03960 | 85.7513 | 050A | 6 | 0.07873 | 0.7998 | 9.0564 |
| | | | | 050C | 7 | 0.06344 | 0.9473 | 5.8674 |
| | | | | 0 37439 | 8 | 0.93925 | 0.7173 | 10872.1572 |
| | | | | 42443 | 10 | 0.18169 | 0.9485 | 29.5670 |
| | | | | 45446 | 11 | 0.05124 | 0.9712 | 3.8228 |
| | | | | 49458 | 12 | 0.10838 | 0.9552 | 17.2575 |
| | | | | (E) | 13 | 0.93929 | 0.1336 | 10872.1600 |
| | | | | (P) | 14 | 0.14092 | 0.9363 | 29.4186 |

STEP NUMBER 5
VARIABLE ENTERED 12

MULTIPLE R 0.4839
STD. ERROR OF EST. 0.7564

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 253.962 | 50.792 | 88.773 |
| RESIDUAL | 1452 | 830.773 | 0.572 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.11761 ) | | | | | | | |
| 055 3 | -0.66414 | 0.08350 | 63.2582 | 037 | 1 | 0.27338 | 0.7767 | 117.2065 |
| 38449 9 | 0.41324 | 0.07418 | 31.0337 | 056 | 4 | 0.04187 | 0.9488 | 2.5476 |
| 49458 12 | 0.53116 | 0.12784 | 17.2575 | 059 | 5 | 0.08454 | 0.7492 | 10.4445 |
| 33435 15 | 0.32559 | 0.06087 | 28.6088 | 050A | 6 | 0.05696 | 0.7624 | 4.7233 |
| 40441 16 | 0.34064 | 0.03980 | 72.8585 | 050C | 7 | 0.05800 | 0.9445 | 4.8974 |
| | | | | 0 37439 | 8 | 0.93873 | 0.7111 | 10763.6089 |
| | | | | 42443 | 10 | 0.17216 | 0.9378 | 44.3221 |
| | | | | 45446 | 11 | 0.04914 | 0.9708 | 3.5120 |
| | | | | (E) | 13 | 0.93873 | 0.1325 | 10763.6095 |
| | | | | (P) | 14 | 0.13381 | 0.9308 | 26.4558 |

Table 5-26. (Continued)

```
STEP NUMBER    6
VARIABLE ENTERED    7

MULTIPLE R              0.4865
STD. ERROR OF EST.      0.7554

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
     REGRESSION   6        256.756          42.793        74.993
     RESIDUAL  1451        827.979           0.571

                VARIABLES IN EQUATION                    .          VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE      .   VARIABLE   PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                         .
 (CONSTANT       -3.19610 )                              .
 055      3      -0.63567     0.08438      56.7554       .   037    1      0.27208      0.7758      115.9192
 056      4       0.14415     0.06694       4.8974       .   056    4      0.02604      0.8672        0.9841
 059      5       0.40101     0.07429      29.1403       .   059    5      0.03457      0.7692       10.4458
 050A     6       0.51584     0.12788      16.2721       .   050A   6      0.03317      0.5853        1.5970
 037+39   8       0.31835     0.06088      27.3458       .   037+39 8      0.93851      0.7084    10715.3525
 042+43  10       0.34176     0.03984      73.5952       .   042+43 10     0.16979      0.8355       43.0446
                                                         .   045+46 11     0.04891      0.9707        3.4770
                                                         .   (E)    13     0.93851      0.1320    10715.3511
                                                         .   (P)    14     0.13227      0.9299       25.8183


STEP NUMBER    7
VARIABLE ENTERED    6

MULTIPLE R              0.4874
STD. ERROR OF EST.      0.7552

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
     REGRESSION   7        257.667          36.810        64.534
     RESIDUAL  1450        827.068           0.570

                VARIABLES IN EQUATION                    .          VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE      .   VARIABLE   PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                         .
 (CONSTANT       -0.23136 )                              .
 055      3      -0.60514     0.08775      47.4579       .   037    1      0.27181      0.7757      115.4928
 050A     6       0.12110     0.09583       1.5970       .   056    4      0.03065      0.8524        1.2129
 050C     7       0.10163     0.07639       1.7701       .   059    5      0.04298      0.7471       10.0474
          9       0.18826     0.07495      26.8315       .   037+39 8      0.93845      0.7077    10695.2799
 042+43  10       0.47986     0.13098      13.2715       .   042+43 10     0.16946      0.0354       42.8398
 045+46  11       0.31227     0.06106      26.1578       .   045+46 11     0.04447      0.9647        3.1358
 (E)     13       0.34068     0.03984      73.1275       .   (E)    13     0.93845      0.1318    10695.2290
                                                         .   (P)    14     0.13039      0.9256       25.0613


STEP NUMBER    8
VARIABLE ENTERED    4

MULTIPLE R              0.4881
STD. ERROR OF EST.      0.7551

ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
     REGRESSION   8        258.444          32.306        56.652
     RESIDUAL  1449        826.290           0.570

                VARIABLES IN EQUATION                    .          VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE      .   VARIABLE   PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                         .
 (CONSTANT       -0.29765 )                              .
 055      3      -0.58870     0.08886      43.8882       .   037    1      0.27238      0.7756      116.0418
 056      4       0.09903     0.08483       1.3629       .   059    5      0.08407      0.7463       10.3081
 050A     6       0.13584     0.09664       1.9755       .   037+39 8      0.93845      0.7074    10688.9758
 050C     7       0.07175     0.08054       0.7946       .   042+43 10     0.17247      0.0296       44.3942
          9       0.38496     0.07500      26.3315       .   045+46 11     0.04764      0.9635        3.2931
 042+43  10       0.49679     0.13177      14.2144       .   (E)    13     0.93845      0.1318    10688.9745
 045+46  11       0.31132     0.06105      26.0019       .   (P)    14     0.13299      0.9209       26.0705
 (E)     13       0.34154     0.03984      73.4934       .

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION
```

Table 5-26. (Continued)

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 38 [illegible] | 9 | 0.3277 | 0.1074 | 0.1074 | 175.1508 | 1 |
| 2 | 40041 | 16 | 0.4075 | 0.1661 | 0.0587 | 102.4358 | 2 |
| 3 | 055 | 3 | 0.4579 | 0.2097 | 0.0436 | 80.1920 | 3 |
| 4 | 33035 | 15 | 0.4744 | 0.2250 | 0.0153 | 28.7482 | 4 |
| 5 | 40058 | 12 | 0.4839 | 0.2341 | 0.0091 | 17.2575 | 5 |
| 6 | 050C | 7 | 0.4865 | 0.2367 | 0.0026 | 4.8974 | 6 |
| 7 | 0508 | 6 | 0.4874 | 0.2375 | 0.0008 | 1.5970 | 7 |
| 8 | 354 | 4 | 0.4881 | 0.2383 | 0.0007 | 1.3629 | 8 |

## Table 5-27. Use of DOD Specialized Information Centers plus Use of Other Specialized Information Centers

SUB-PROBLM 2
DEPENDENT VARIABLE 3(240-961)
MAXIMUM NUMBER OF STEPS 32
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 12

MULTIPLE R 0.1937
STD. ERROR OF EST. 0.5230

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 15.517 | 15.517 | 56.732 |
| RESIDUAL | 1456 | 398.233 | 0.274 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.01128 ) | | | | | | |
| 4965R 12 | 0.65076 | 0.08640 | 56.7316 | 037 1 | 0.20936 | 0.9931 | 66.6981 |
| | | | | 039 2 | 0.30356 | 0.9684 | 147.4666 |
| | | | | 055 3 | -0.10619 | 0.9984 | 16.5956 |
| | | | | 056 4 | 0.01072 | 0.9881 | 0.1673 |
| | | | | 059 5 | 0.27421 | 0.9569 | 118.2956 |
| | | | | 050A 6 | 0.11005 | 0.9818 | 17.8370 |
| | | | | 050C 7 | 0.03810 | 0.9946 | 2.1147 |
| | | | | 0 37+39 8 | 0.31829 | 0.9703 | 164.0201 |
| | | | | Q 38+44 9 | 0.27320 | 0.9810 | 117.3564 |
| | | | | 42+43 10 | 0.14371 | 0.9796 | 30.6840 |
| | | | | 45+46 11 | 0.13437 | 0.9970 | 26.7567 |
| | | | | (E) 13 | 0.71227 | 0.9532 | 1498.3021 |
| | | | | (P) 14 | 0.21109 | 0.9854 | 49.3320 |
| | | | | 33+35 15 | 0.23921 | 0.9930 | 88.3143 |

STEP NUMBER 2
VARIABLE ENTERED 6

MULTIPLE R 0.2217
STD. ERROR OF EST. 0.5200

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 20.340 | 10.170 | 37.612 |
| RESIDUAL | 1455 | 393.610 | 0.270 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.08229 ) | | | | | | |
| 050A 6 | 0.71968 | 0.05202 | 17.9470 | 037 1 | 0.19365 | 0.9598 | 56.6487 |
| 4965R 12 | 0.56053 | 0.08852 | 40.0073 | 039 2 | 0.28809 | 0.9215 | 131.4025 |
| | | | | 055 3 | -0.06963 | 0.8691 | 7.0436 |
| | | | | 056 4 | -0.00154 | 0.9758 | 0.0036 |
| | | | | 059 5 | 0.25786 | 0.9107 | 103.5679 |
| | | | | 050C 7 | -0.02254 | 0.7256 | 0.7392 |
| | | | | 0 37+3 8 | 0.30244 | 0.9136 | 146.3927 |
| | | | | 9 | 0.25382 | 0.9010 | 100.6202 |
| | | | | 42+43 10 | 0.13328 | 0.9679 | 26.2940 |
| | | | | 45+46 11 | 0.12323 | 0.9837 | 22.4209 |
| | | | | (E) 13 | 0.71598 | 0.8694 | 1529.3013 |
| | | | | (P) 14 | 0.16767 | 0.9639 | 42.0699 |
| | | | | 33+35 15 | 0.22047 | 0.9351 | 76.2850 |

Table 5-27. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 3

MULTIPLE R 0.2318
STD. ERROR OF EST. 0.5189

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 22.236 | 7.412 | 27.527 |
| RESIDUAL | 1456 | 391.513 | 0.269 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.09512 ) | | | | | | |
| 055 3 | -0.15499 | 0.05860 | 7.0636 | 037 1 | 0.18589 | 0.9389 | 51.9971 |
| 056A 6 | 0.16192 | 0.05629 | 8.2760 | 039 2 | 0.28028 | 0.8691 | 123.8740 |
| 40658 12 | 0.97625 | 0.08849 | 47.1144 | 056 4 | -0.01910 | 0.9499 | 0.2696 |
| | | | | 059 5 | 0.24980 | 0.8543 | 96.0413 |
| | | | | 056C 7 | -0.02291 | 0.7256 | 0.7233 |
| | | | | G 37039 8 | 0.29512 | 0.8583 | 138.6282 |
| | | | | G 38044 9 | 0.24543 | 0.8642 | 93.1324 |
| | | | | 42043 10 | 0.12693 | 0.9570 | 23.7914 |
| | | | | 45046 11 | 0.12072 | 0.9819 | 21.4871 |
| | | | | (F) 13 | 0.72193 | 0.8142 | 1596.3032 |
| | | | | (P) 14 | 0.14242 | 0.9559 | 39.3681 |
| | | | | 33035 15 | 0.21130 | 0.8970 | 67.9065 |

STEP NUMBER 4
VARIABLE ENTERED 7

MULTIPLE R 0.2328
STD. ERROR OF EST. 0.5190

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 22.431 | 5.608 | 20.822 |
| RESIDUAL | 1455 | 391.318 | 0.269 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.01543 ) | | | | | | |
| 055 3 | -0.15479 | 0.05861 | 7.0273 | 037 1 | 0.18625 | 0.9386 | 52.2344 |
| 056A 6 | 0.16088 | 0.05660 | 8.5693 | 039 2 | 0.28108 | 0.8684 | 124.5593 |
| 056C 7 | -0.04443 | 0.05267 | 0.7233 | 056 4 | -0.00834 | 0.8542 | 0.0584 |
| 40658 12 | 0.96949 | 0.08967 | 41.2467 | 059 5 | 0.24857 | 0.8537 | 95.6201 |
| | | | | G 37039 8 | 0.29597 | 0.8576 | 139.4071 |
| | | | | G 38044 9 | 0.24541 | 0.8662 | 93.3553 |
| | | | | 42043 10 | 0.12779 | 0.9550 | 24.1052 |
| | | | | 45046 11 | 0.12093 | 0.9807 | 21.7255 |
| | | | | (F) 13 | 0.72378 | 0.8142 | 1597.5042 |
| | | | | (P) 14 | 0.14278 | 0.9558 | 39.5748 |
| | | | | 33035 15 | 0.21145 | 0.8970 | 67.9546 |

STEP NUMBER 5
VARIABLE ENTERED 6

MULTIPLE R 0.2329
STD. ERROR OF EST. 0.5191

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 22.447 | 4.489 | 16.659 |
| RESIDUAL | 1454 | 391.303 | 0.269 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.02524 ) | | | | | | |
| 055 3 | -0.15727 | 0.05932 | 7.0292 | 037 1 | 0.18637 | 0.9386 | 52.2130 |
| 056 4 | -0.01611 | 0.05825 | 0.0598 | 039 2 | 0.28149 | 0.8673 | 124.9108 |
| 056A 6 | 0.18690 | 0.06914 | 8.2330 | 059 5 | 0.24849 | 0.8533 | 95.4930 |
| 056C 7 | -0.06037 | 0.05535 | 0.9320 | G 37039 8 | 0.29631 | 0.8568 | 139.6566 |
| 40658 12 | 0.96710 | 0.08925 | 48.3704 | G 38044 9 | 0.24588 | 0.8628 | 93.5476 |
| | | | | 42043 10 | 0.12768 | 0.9505 | 24.0649 |
| | | | | 45046 11 | 0.11989 | 0.9795 | 21.1585 |
| | | | | (F) 13 | 0.72424 | 0.8136 | 1600.7017 |
| | | | | (P) 14 | 0.14223 | 0.9514 | 39.2216 |
| | | | | 33035 15 | 0.21165 | 0.8966 | 68.0438 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

Table 5-27. (Continued)

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 49658 | 12. | 0.1937 | 0.0375 | 0.0375 | 56.7316 | 1 |
| 2 | 0598 | 6 | 0.2717 | 0.0607 | 0.0117 | 17.6835 | 2 |
| 3 | 055 | 3 | 0.2718 | 0.0539 | 0.0046 | 7.0638 | 3 |
| 4 | 059 | 7 | 0.2720 | 0.0562 | 0.0023 | 3.3753 | 4 |
| 5 | 056 | 5 | 0.2720 | 0.0563 | 0.0000 | 0.0540 | 5 |

## Table 5-28. Encounter of Restrictions times Nature of Restrictions

SUB-PROBLEM 3
DEPENDENT VARIABLE [illegible]
MAXIMUM NUMBER OF STEPS 17
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 9

MULTIPLE R 0.2891
STD. ERROR OF EST. 0.2851

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 10.819 | 10.819 | 132.969 |
| RESIDUAL | 1494 | 119.471 | 0.081 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.17220 ) | | | | | | | |
| 0 37+38 9 | 0.16187 | 0.01403 | 132.9689 | 037 | 1 | 0.01099 | 0.9475 | 2.3294 |
| | | | | 039 | 2 | -0.03998 | 0.0991 | 2.3294 |
| | | | | 055 | 3 | -0.05799 | 0.9004 | 4.8918 |
| | | | | 056 | 4 | -0.07058 | 0.9936 | 7.2858 |
| | | | | 059 | 5 | 0.09345 | 0.9851 | 12.8180 |
| | | | | 050A | 6 | 0.06590 | 0.9257 | 6.1473 |
| | | | | 050C | 7 | 0.05169 | 0.9750 | 3.8976 |
| | | | | G3[illegible] | 8 | 0.03817 | 0.8238 | 2.1229 |
| | | | | 45046 | 11 | 0.12574 | 0.9862 | 23.3751 |
| | | | | 49+58 | 12 | 0.09850 | 0.9703 | 14.2562 |
| | | | | (E) | 13 | 0.07749 | 0.3498 | 8.7803 |
| | | | | (P) | 14 | 0.64683 | 0.9390 | 1046.6597 |
| | | | | 33035 | 15 | 0.03241 | 0.8856 | 1.5304 |
| | | | | 40+41 | 16 | 0.07618 | 0.8837 | 8.4936 |

STEP NUMBER 2
VARIABLE ENTERED 12

MULTIPLE R 0.3043
STD. ERROR OF EST. 0.2840

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 11.949 | 5.954 | 74.217 |
| RESIDUAL | 1493 | 117.372 | 0.081 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.12618 ) | | | | | | | |
| 0 37+38 9 | 0.15258 | 0.01419 | 115.7992 | 037 | 1 | 0.04468 | 0.5464 | 2.9080 |
| 49+58 12 | 0.17981 | 0.04762 | 14.2542 | 039 | 2 | -0.04468 | 0.0979 | 2.9081 |
| | | | | 055 | 3 | -0.05965 | 0.9002 | 5.1916 |
| | | | | 056 | 4 | -0.0590[illegible] | 0.9781 | 5.0819 |
| | | | | 059 | 5 | 0.07900 | 0.8671 | 9.1303 |
| | | | | 050A | 6 | 0.06693 | 0.9368 | 3.2099 |
| | | | | 050C | 7 | 0.04729 | 0.9727 | 3.2[illegible]6 |
| | | | | G3[illegible] | 9 | 0.03121 | 0.8194 | 1.4176 |
| | | | | 45046 | 11 | 0.12290 | 0.9850 | 22.3003 |
| | | | | (E) | 13 | 0.06929 | 0.3830 | 6.2244 |
| | | | | (P) | 14 | 0.64406 | 0.9316 | 1039.6709 |
| | | | | 33035 | 15 | 0.02986 | 0.8850 | 1.2976 |
| | | | | 40+41 | 16 | 0.06281 | 0.8450 | 6.7585 |

Table 5-28. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 14

MULTIPLE R 0.3101
STD. ERROR OF EST. 0.2835

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 12.693 | 4.144 | 51.599 |
| RESIDUAL | 1454 | 116.959 | 0.080 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.12344 ) | | | | | | | |
| 0 37+38 A | 0.16518 | 0.01496 | 99.3491 | 037 | 1 | 0.04513 | 0.5464 | 2.9650 |
| 40+58 12 | 0.16301 | 0.04904 | 11.5044 | 039 | 2 | -0.04513 | 0.0979 | 2.9650 |
| 40+41 14 | 0.03504 | 0.01499 | 5.7585 | 059 | 3 | -0.05032 | 0.9001 | 5.1312 |
| | | | | 056 | 4 | -0.05773 | 0.9776 | 4.8580 |
| | | | | 059 | 5 | 0.04827 | 0.8298 | 4.8835 |
| | | | | 050A | 6 | 0.04478 | 0.8056 | 2.9195 |
| | | | | 050C | 7 | 0.04798 | 0.9727 | 3.3533 |
| | | | | 038+44 | 9 | 0.02111 | 0.7967 | 0.6475 |
| | | | | 45+46 | 11 | 0.11716 | 0.9760 | 20.2216 |
| | | | | (F) | 13 | 0.02631 | 0.1525 | 1.0062 |
| | | | | (P) | 14 | 0.64237 | 0.9192 | 1020.7665 |
| | | | | 33+35 | 15 | 0.02071 | 0.8650 | 0.6737 |

STEP NUMBER 4
VARIABLE ENTERED 3

MULTIPLE R 0.3152
STD. ERROR OF EST. 0.2831

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 12.843 | 3.211 | 40.042 |
| RESIDUAL | 1453 | 116.468 | 0.080 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.15192 ) | | | | | | | |
| 056 3 | -0.07069 | 0.03094 | 5.1312 | 037 | 1 | 0.04569 | 0.5463 | 3.0375 |
| 0 37+38 A | 0.13067 | 0.01562 | 70.0050 | 039 | 2 | -0.04569 | 0.0978 | 3.0376 |
| 40+58 12 | 0.16672 | 0.04899 | 11.7778 | 056 | 4 | -0.06898 | 0.9492 | 6.9416 |
| 40+41 14 | 0.03572 | 0.01496 | 5.6977 | 059 | 5 | 0.05593 | 0.7835 | 4.5360 |
| | | | | 050A | 6 | 0.02634 | 0.7848 | 1.0093 |
| | | | | 050C | 7 | 0.05900 | 0.9474 | 2.2116 |
| | | | | 038+44 | 9 | 0.01017 | 0.7686 | 0.1501 |
| | | | | 45+46 | 11 | 0.11468 | 0.9715 | 19.2810 |
| | | | | (F) | 13 | 0.01251 | 0.1438 | 0.2274 |
| | | | | (P) | 14 | 0.64088 | 0.9145 | 1012.0711 |
| | | | | 33+35 | 15 | 0.00955 | 0.8334 | 0.1325 |

STEP NUMBER 5
VARIABLE ENTERED 4

MULTIPLE R 0.3219
STD. ERROR OF EST. 0.2825

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 13.397 | 2.679 | 33.569 |
| RESIDUAL | 1452 | 115.894 | 0.080 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.21302 ) | | | | | | | |
| 056 3 | -0.08418 | 0.03136 | 7.2150 | 037 | 1 | 0.04444 | 0.5461 | 2.8713 |
| 056 4 | -0.07924 | 0.03007 | 6.9416 | 039 | 2 | -0.04444 | 0.0978 | 2.8714 |
| 0 37+38 A | 0.11267 | 0.01560 | 72.7615 | 059 | 5 | 0.05390 | 0.7827 | 4.2280 |
| 40+58 12 | 0.14952 | 0.04925 | 9.0847 | 050A | 6 | 0.02895 | 0.7838 | 1.2174 |
| 40+41 14 | 0.03477 | 0.01494 | 5.4174 | 050C | 7 | 0.06215 | 0.8656 | 5.6266 |
| | | | | 038+44 | 9 | 0.01771 | 0.7676 | 0.2345 |
| | | | | 45+46 | 11 | 0.11195 | 0.9697 | 18.4152 |
| | | | | (F) | 13 | 0.01501 | 0.1437 | 0.3270 |
| | | | | (P) | 14 | 0.63913 | 0.9049 | 1002.0243 |
| | | | | 33+35 | 15 | 0.01104 | 0.8330 | 0.1769 |

Table 5-28. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 7

MULTIPLE R 0.3272
STD. ERROR OF EST. 0.2821

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 13.844 | 2.307 | 29.001 |
| RESIDUAL | 1491 | 115.446 | 0.080 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.19416 ) | | | 037 | 1 | 0.04318 | 0.5457 | 2.7083 |
| 055 3 | -0.07558 | 0.03150 | 5.7561 | 039 | 2 | -0.04318 | 0.0978 | 2.7084 |
| 056 4 | -0.10113 | 0.03141 | 10.3644 | 059 | 5 | 0.05250 | 0.7822 | 4.0070 |
| 050C 7 | 0.06194 | 0.02611 | 5.6266 | 050A | 6 | -0.00723 | 0.5903 | 0.0072 |
| 0 37+38 8 | 0.12967 | 0.01563 | 68.8172 | 38+49 | 9 | 0.00897 | 0.7648 | 0.1166 |
| 49+58 12 | 0.13917 | 0.04837 | 8.2795 | 45+46 | 11 | 0.11094 | 0.9694 | 18.0685 |
| 40+41 16 | 0.03491 | 0.01492 | 5.4792 | (E) | 13 | 0.01052 | 0.1429 | 0.1604 |
| | | | | (P) | 14 | 0.63806 | 0.9976 | 995.6701 |
| | | | | 33+35 | 15 | 0.00767 | 0.8305 | 0.0853 |

STEP NUMBER 7
VARIABLE ENTERED 9

MULTIPLE R 0.3273
STD. ERROR OF EST. 0.2822

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 13.854 | 1.979 | 24.830 |
| RESIDUAL | 1490 | 115.437 | 0.080 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.19238 ) | | | 037 | 1 | 0.04232 | 0.5075 | 2.5993 |
| 055 3 | -0.07370 | 0.03199 | 5.3091 | 039 | 2 | -0.04232 | 0.0909 | 2.5993 |
| 056 4 | -0.10131 | 0.03143 | 10.3924 | 059 | 5 | 0.05173 | 0.7627 | 3.8881 |
| 050C 7 | 0.06140 | 0.02617 | 5.5046 | 050A | 6 | -0.00357 | 0.5778 | 0.0185 |
| 0 37+38 8 | 0.12807 | 0.01632 | 61.5857 | 45+46 | 11 | 0.11067 | 0.9677 | 17.9668 |
| 38+49 9 | 0.00953 | 0.02791 | 0.1166 | (E) | 13 | 0.00483 | 0.0680 | 0.0493 |
| 49+58 12 | 0.13832 | 0.04844 | 8.1528 | (P) | 14 | 0.63819 | 0.9064 | 995.6625 |
| 40+41 16 | 0.03404 | 0.01514 | 5.0557 | 33+35 | 15 | 0.00583 | 0.7899 | 0.0493 |

STEP NUMBER 8
VARIABLE ENTERED 15

MULTIPLE R 0.3274
STD. ERROR OF EST. 0.2822

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 13.858 | 1.732 | 21.744 |
| RESIDUAL | 1489 | 115.433 | 0.080 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.18910 ) | | | 037 | 1 | 0.04232 | 0.5075 | 2.5975 |
| 055 3 | -0.07267 | 0.03233 | 5.0540 | 039 | 2 | -0.04232 | 0.0909 | 2.5975 |
| 056 4 | -0.10132 | 0.03144 | 10.3862 | 059 | 5 | 0.05150 | 0.7601 | 3.8503 |
| 050C 7 | 0.06115 | 0.02620 | 5.4473 | 050A | 6 | -0.00401 | 0.5746 | 0.0233 |
| 0 37+39 8 | 0.12754 | 0.01650 | 59.7578 | 45+46 | 11 | 0.11058 | 0.9674 | 17.9266 |
| 38+49 9 | 0.00813 | 0.02863 | 0.0806 | (E) | 13 | -0.00041 | 0.0000 | 0.0002 |
| 49+58 12 | 0.13838 | 0.04846 | 8.1535 | (P) | 14 | 0.63819 | 0.9061 | 994.9983 |
| 33+35 15 | 0.00510 | 0.02299 | 0.0493 | | | | | |
| 40+41 16 | 0.03364 | 0.01525 | 4.8688 | | | | | |

**Table 5-28. (Continued)**

STEP NUMBER 9
VARIABLE ENTERED 6

MULTIPLE R 0.3274
STD. ERROR OF EST. 0.2723

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 13.960 | 1.540 | 19.318 |
| RESIDUAL | 1449 | 115.431 | 0.080 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.19112 ) | | | | | | | |
| 055 | 3 | -0.07412 | 0.03369 | 4.8405 | 037 | 1 | 0.04227 | 0.5074 | 2.5904 |
| 056 | 4 | -0.10195 | 0.03172 | 10.3288 | 039 | 2 | -0.04227 | 0.5999 | 2.5905 |
| 050A | 6 | -0.00552 | 0.03616 | 0.0233 | 059 | 5 | 0.05173 | 0.7386 | 3.8824 |
| 050C | 7 | 0.06342 | 0.03013 | 4.4317 | 45946 | 11 | 0.11114 | 0.9624 | 18.1051 |
| 0 37+9 | 8 | 0.12763 | 0.01651 | 59.7267 | (E) | 13 | -0.00641 | 0.0000 | 0.0002 |
| 38+44 | 9 | 0.00868 | 0.02887 | 0.0905 | (P) | 14 | 0.63933 | 0.9035 | 1000.3388 |
| 49+5R | 12 | 0.13986 | 0.04944 | 8.0936 | | | | | |
| 33+35 | 15 | 0.00537 | 0.02306 | 0.0541 | | | | | |
| 49+41 | 16 | 0.03367 | 0.01525 | 4.8722 | | | | | |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 0 37+9 8 | | 0.2893 | 0.0837 | 0.0837 | 132.9689 | 1 |
| 2 | 49+5R 12 | | 0.3043 | 0.0926 | 0.0089 | 14.2542 | 2 |
| 3 | 49+41 15 | | 0.3101 | 0.0962 | 0.0036 | 5.7585 | 3 |
| 4 | 055 3 | | 0.3152 | 0.0993 | 0.0032 | 5.1312 | 4 |
| 5 | 056 4 | | 0.3219 | 0.1036 | 0.0043 | 6.9416 | 5 |
| 6 | 050C 7 | | 0.3272 | 0.1071 | 0.0035 | 5.6766 | 6 |
| 7 | 38+44 9 | | 0.3273 | 0.1072 | 0.0001 | 0.1166 | 7 |
| 8 | 33+35 15 | | 0.3274 | 0.1072 | 0.0000 | 0.0493 | 8 |
| 9 | 050A 6 | | 0.3274 | 0.1072 | 0.0000 | 0.0233 | 9 |

## Table 5-29. Problem Index

```
SUB-PROBLEM  10
DEPENDENT VARIABLE          P
MAXIMUM NUMBER OF STEPS     37
F-LEVEL FOR INCLUSION       0.000000
F-LEVEL FOR DELETION        3.000000
TOLERANCE LEVEL             0.001000


STEP NUMBER   1
VARIABLE ENTERED   6

MULTIPLE R                  0.1715
STD. ERROR OF EST.          0.2637

ANALYSIS OF VARIANCE
                 DF     SUM OF SQUARES     MEAN SQUARE     F RATIO
REGRESSION        1              3.070           3.070      44.146
RESIDUAL       1456            101.249           0.070

                VARIABLES IN EQUATION                    .  VARIABLES NOT IN EQUATION
VARIABLE      COEFFICIENT  STD. ERROR   F TO REMOVE       .  VARIABLE   PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                         .
(CONSTANT        0.12753 1                               .
050A    6        0.17009      0.02560      44.1461      .  037    1        0.13462       0.9612      26.8540
                                                         .  039    2        0.20418       0.9340      61.2979
                                                         .  055    3       -0.08567       0.8520      10.7578
                                                         .  056    4       -0.06159       0.9934       5.5400
                                                         .  059    5        0.21222       0.9331      69.6221
                                                         .  050C   7       -0.01395       0.7285       0.2670
                                                         .  0 37+39 8       0.21335       0.9257      69.3890
                                                         .  38+44  9       0.12429       0.9053      22.8254
                                                         .  42+43 10       0.66401       0.9805    1147.4099
                                                         .  45+46 11       0.83245       0.9843    3284.0379
                                                         .  48+58 12       0.08304       0.9418      10.1026
                                                         .  (E)   13       0.23504       0.8891      85.0824
                                                         .  33+35 15       0.09807       0.9357      14.1284
                                                         .  40+41 16       0.17844       0.9770      47.4497


STEP NUMBER   2
VARIABLE ENTERED   3

MULTIPLE R                  0.1912
STD. ERROR OF EST.          0.2629

ANALYSIS OF VARIANCE
                 DF     SUM OF SQUARES     MEAN SQUARE     F RATIO
REGRESSION        2              3.813           1.906      27.600
RESIDUAL       1455            100.506           0.069

                VARIABLES IN EQUATION                    .  VARIABLES NOT IN EQUATION
VARIABLE      COEFFICIENT  STD. ERROR   F TO REMOVE       .  VARIABLE   PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                         .
(CONSTANT        0.22186 1                               .
055     3       -0.09685      0.02953      10.7578      .  037    1        0.12395       0.9409      22.6857
050A    6        0.13421      0.02764      23.9285      .  039    2        0.19030       0.8868      54.6313
                                                         .  056    4       -0.07747       0.9650       8.7785
                                                         .  059    5        0.19830       0.8809      59.5135
                                                         .  050C   7       -0.01356       0.7285       0.2672
                                                         .  0 37+39 8       0.19943       0.8736      60.2240
                                                         .  38+44  9       0.10995       0.8701      17.7933
                                                         .  42+43 10       0.66120       0.9710    1129.4268
                                                         .  45+46 11       0.83273       0.9827    3289.0122
                                                         .  48+58 12       0.08852       0.9385      11.4831
                                                         .  (E)   13       0.22175       0.8378      75.1944
                                                         .  33+35 15       0.08290       0.8982      10.0616
                                                         .  40+41 16       0.17434       0.9737      45.5782
```

Table 5-29. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 12

MULTIPLE R 0.2100
STD. ERROR OF EST. .2619

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 4.601 | 1.534 | 22.348 |
| RESIDUAL | 1456 | 99.719 | 0.069 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.19725 ) | | | | | | | |
| 055 3 | -0.10268 | 0.02967 | 12.1394 | 037 | 1 | 0.12063 | 0.9389 | 21.3869 |
| 050A 6 | 0.11143 | 0.02861 | 15.4484 | 039 | 2 | 0.18028 | 0.8691 | 48.8113 |
| 49458 12 | 0.15133 | 0.04466 | 11.4831 | 056 | 4 | -0.04718 | 0.9499 | 6.5874 |
| | | | | 059 | 5 | 0.18646 | 0.8543 | 52.3347 |
| | | | | 050C | 7 | -0.00802 | 0.7256 | 0.0936 |
| | | | | 0 37639 | 8 | 0.19014 | 0.8583 | 54.5036 |
| | | | | [illegible] | 9 | 0.10345 | 0.8642 | 15.7188 |
| | | | | 42043 | 10 | 0.65789 | 0.9570 | 1104.8044 |
| | | | | 45946 | 11 | 0.83383 | 0.9819 | 3315.7848 |
| | | | | (E) | 13 | 0.21069 | 0.8142 | 67.4962 |
| | | | | 33035 | 15 | 0.08003 | 0.8970 | 9.3664 |
| | | | | 40441 | 16 | 0.16242 | 0.9463 | 39.3681 |

STEP NUMBER 4
VARIABLE ENTERED 4

MULTIPLE R 0.2200
STD. ERROR OF EST. 0.2614

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 5.051 | 1.263 | 18.481 |
| RESIDUAL | 1455 | 99.268 | 0.068 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.25091 ) | | | | | | | |
| 055 3 | -0.11516 | 0.02982 | 14.9183 | 037 | 1 | 0.12129 | 0.9288 | 21.6813 |
| 056 4 | -0.07139 | 0.02781 | 6.5874 | 039 | 2 | 0.18374 | 0.8675 | 50.7307 |
| 050A 6 | 0.11464 | 0.02838 | 16.3219 | 059 | 5 | 0.18499 | 0.8535 | 51.4526 |
| 49458 12 | 0.13690 | 0.04493 | 9.2961 | 050C | 7 | 0.01406 | 0.6525 | 0.2872 |
| | | | | 0 37639 | 8 | 0.19327 | 0.8571 | 56.3410 |
| | | | | [illegible] | 9 | 0.10628 | 0.8630 | 16.5884 |
| | | | | 42043 | 10 | 0.65651 | 0.9535 | 1099.8955 |
| | | | | 45946 | 11 | 0.83356 | 0.9800 | 3305.9145 |
| | | | | (E) | 13 | 0.21306 | 0.8136 | 69.0499 |
| | | | | 33035 | 15 | 0.08172 | 0.8966 | 9.7627 |
| | | | | 40441 | 16 | 0.16192 | 0.9461 | 39.0923 |

STEP NUMBER 5
VARIABLE ENTERED 7

MULTIPLE R 0.2205
STD. ERROR OF EST. 0.2614

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 5.070 | 1.014 | 14.835 |
| RESIDUAL | 1454 | 99.248 | 0.068 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.25114 ) | | | | | | | |
| 055 3 | -0.11610 | 0.02987 | 15.1033 | 037 | 1 | 0.12110 | 0.9286 | 21.5958 |
| 056 4 | -0.07438 | 0.02934 | 6.7776 | 039 | 2 | 0.18356 | 0.8673 | 50.5965 |
| 050A 6 | 0.10582 | 0.03281 | 10.4057 | 059 | 5 | 0.18529 | 0.8533 | 51.5865 |
| 050C 7 | 0.01496 | 0.02788 | 0.2872 | 0 37639 | 8 | 0.19307 | 0.8568 | 56.1795 |
| 49458 12 | 0.13749 | 0.04495 | 9.3554 | [illegible] | 9 | 0.10653 | 0.8628 | 16.6569 |
| | | | | 42043 | 10 | 0.65683 | 0.9505 | 1100.9744 |
| | | | | 45946 | 11 | 0.83418 | 0.9795 | 3319.6685 |
| | | | | (E) | 13 | 0.21317 | 0.8136 | 69.0761 |
| | | | | 33035 | 15 | 0.08177 | 0.8966 | 9.7681 |
| | | | | 40441 | 16 | 0.16223 | 0.9457 | 39.2216 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 050A 6 | | 0.1715 | 0.0294 | 0.0294 | 44.1461 | 1 |
| 2 | 055 3 | | 0.1912 | 0.0366 | 0.0071 | 10.7578 | 2 |
| 3 | 49458 12 | | 0.2100 | 0.0441 | 0.0075 | 11.4831 | 3 |
| 4 | 056 4 | | 0.2200 | 0.0484 | 0.0043 | 6.5874 | 4 |
| 5 | 050C 7 | | 0.2205 | 0.0486 | 0.0002 | 0.2872 | 5 |

## Table 5-30. Encounter of Difficulties times Nature of Difficulties

```
SUB-PROGRAM    7
DEPENDENT VARIABLE          QA5Q16
MAXIMUM NUMBER OF STEPS       32
F-LEVEL FOR INCLUSION      0.000000
F-LEVEL FOR DELETION       0.000000
TOLERANCE LEVEL            0.001000


STEP NUMBER    1
VARIABLE ENTERED   16

MULTIPLE R                 0.1423
STD. ERROR OF EST.         0.3973

ANALYSIS OF VARIANCE
                  DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
REGRESSION         1          4.749          4.749        30.094
RESIDUAL        1456        229.784          0.158

                VARIABLES IN EQUATION                          .                    VARIABLES NOT IN EQUATION
VARIABLE      COEFFICIENT   STD. ERROR   F TO REMOVE           .    VARIABLE     PARTIAL CORR.    TOLERANCE    F TO ENTER
                                                               .
(CONSTANT        0.30200 )                                     .
40641 16         0.10714      0.01953      30.0944            .    037     1       0.02236         0.9513        0.7281
                                                               .    039     2       0.08104         0.8928        9.6195
                                                               .    055     3      -0.07033         0.9875        7.2[illegible]
                                                               .    056     4      -0.02704         0.9999        1.1369
                                                               .    059     5       0.15913         0.9000       37.4030
                                                               .    059A    6       0.10594         0.9770       16.5159
                                                               .    059C    7       0.02675         0.9973        1.0421
                                                               .    0 37039 8       0.07304         0.9837        7.9903
                                                               .    .[illegible]    9       0.07338         0.9147        7.8771
                                                               .     42043 10       0.13289         0.9729       26.1560
                                                               .     44058 12       0.02439         0.9425        1.1738
                                                               .     (E)   13       0.99116         0.4756       12.1928
                                                               .     (P)   14       0.83177         0.9601     3764.5411
                                                               .     33035 15       0.05508         0.9375        4.4273


STEP NUMBER    2
VARIABLE ENTERED    6

MULTIPLE R                 0.1768
STD. ERROR OF EST.         0.3942

ANALYSIS OF VARIANCE
                  DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
REGRESSION         2          7.328          3.664        23.466
RESIDUAL        1455        227.205          0.156

                VARIABLES IN EQUATION                          .                    VARIABLES NOT IN EQUATION
VARIABLE      COEFFICIENT   STD. ERROR   F TO REMOVE           .    VARIABLE     PARTIAL CORR.    TOLERANCE    F TO ENTER
                                                               .
(CONSTANT        0.21913 )                                     .
059C    6        0.15772      0.03981      16.5159            .    037     1       0.00448         0.9239        0.0292
40641 16         0.08606      0.01965      23.3829            .    039     2       0.04973         0.8504        5.2061
                                                               .    055     3      -0.03326         0.8491        1.6103
                                                               .    056     4      -0.03717         0.9928        2.0121
                                                               .    059     5       0.13959         0.8617       28.8930
                                                               .    059C    7      -0.03336         0.7277        1.6196
                                                               .    0 37039 8       0.05048         0.8338        3.7153
                                                               .    [illegible]     9       0.04591         0.8436        3.0718
                                                               .     42043 10       0.12199         0.9587       21.9669
                                                               .     44058 12       0.00539         0.9165        0.0423
                                                               .     (E)   13       0.06099         0.4246        5.2696
                                                               .     (P)   14       0.82981         0.9397     3215.0249
                                                               .     33035 15       0.03220         0.8898        1.3090
```

Table 5-30. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 8

MULTIPLE R 0.1836
STD. ERROR OF EST. 0.3948

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 7.908 | 2.636 | 16.911 |
| RESIDUAL | 1456 | 226.525 | 0.156 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.22555 ) | | |
| 050A 6 | 0.13943 | 0.03992 | 12.2917 |
| G 37+39 8 | 0.04100 | 0.02127 | 3.7153 |
| 40+41 16 | 0.04247 | 0.02969 | 15.8892 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 037 | 1 | -0.03611 | 0.5472 | 1.8975 |
| 039 | 2 | 0.03611 | 0.0980 | 1.8975 |
| 055 | 3 | -0.02223 | 0.8038 | 0.7183 |
| 056 | 4 | -0.04091 | 0.9478 | 2.4365 |
| 059 | 5 | 0.13185 | 0.8195 | 25.7057 |
| 050C | 7 | -0.03502 | 0.7270 | 1.7834 |
| 438+++ | 9 | 0.03184 | 0.7621 | 1.4747 |
| 42+43 | 10 | 0.11355 | 0.9076 | 18.9781 |
| 49+58 | 12 | 0.00202 | 0.9124 | 0.0059 |
| (E) | 13 | 0.03276 | 0.1440 | 1.5607 |
| (P) | 14 | 0.83426 | 0.9131 | 3376.4229 |
| 33+35 | 15 | 0.02085 | 0.8398 | 0.6321 |

STEP NUMBER 4
VARIABLE ENTERED 4

MULTIPLE R 0.1880
STD. ERROR OF EST. 0.3946

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 8.287 | 2.072 | 13.305 |
| RESIDUAL | 1455 | 226.146 | 0.156 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.26513 ) | | |
| 056 4 | -0.06427 | 0.04118 | 2.4365 |
| 050A 6 | 0.14348 | 0.03998 | 12.8792 |
| G 37+39 8 | 0.04336 | 0.02131 | 4.1390 |
| 40+41 16 | 0.08103 | 0.02070 | 15.3235 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 037 | 1 | -0.03684 | 0.5470 | 1.9728 |
| 039 | 2 | 0.03684 | 0.0980 | 1.9728 |
| 055 | 3 | -0.02913 | 0.7834 | 1.2333 |
| 059 | 5 | 0.13124 | 0.8193 | 25.4490 |
| 050C | 7 | -0.02331 | 0.6565 | 0.7895 |
| 438+++ | 9 | 0.03587 | 0.7604 | 1.5581 |
| 42+43 | 10 | 0.11098 | 0.9029 | 18.1063 |
| 49+58 | 12 | -0.00359 | 0.8954 | 0.0188 |
| (E) | 13 | 0.03516 | 0.1435 | 1.7972 |
| (P) | 14 | 0.83417 | 0.9084 | 3321.6902 |
| 33+35 | 15 | 0.02260 | 0.8384 | 0.7418 |

STEP NUMBER 5
VARIABLE ENTERED 9

MULTIPLE R 0.1909
STD. ERROR OF EST. 0.3945

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 8.547 | 1.709 | 10.983 |
| RESIDUAL | 1452 | 225.886 | 0.156 | |

VARIABLES IN EQUATION

| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|
| (CONSTANT | 0.26384 ) | | |
| 056 4 | -0.06683 | 0.04121 | 2.6293 |
| 050A 6 | 0.13235 | 0.04089 | 10.4766 |
| G 37+39 8 | 0.03447 | 0.02239 | 2.3695 |
| Q 38+++ 9 | 0.05056 | 0.03914 | 1.6681 |
| 40+41 16 | 0.07651 | 0.02099 | 13.2872 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| 037 | 1 | -0.04724 | 0.5104 | 3.2451 |
| 039 | 2 | 0.04724 | 0.0914 | 3.2451 |
| 055 | 3 | -0.02525 | 0.7721 | 0.9257 |
| 059 | 5 | 0.12741 | 0.7956 | 23.9450 |
| 050C | 7 | -0.02242 | 0.6541 | 0.7295 |
| 42+43 | 10 | 0.11051 | 0.9026 | 17.9409 |
| 49+58 | 12 | -0.00405 | 0.8953 | 0.0238 |
| (E) | 13 | 0.01546 | 0.0696 | 0.3469 |
| (P) | 14 | 0.83397 | 0.9073 | 3314.2618 |
| 33+35 | 15 | 0.01546 | 0.7969 | 0.3469 |

Table 5-30. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 3

MULTIPLE R 0.1925
STD. ERROR OF EST. 0.3945

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 8.691 | 1.448 | 9.306 |
| RESIDUAL | 1451 | 225.942 | 0.156 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.29325 ) | | | | | | |
| 056 3 | -0.04490 | 0.04656 | 0.9257 | 037 1 | -0.04616 | 0.5094 | 3.0960 |
| 056 4 | -0.07303 | 0.04171 | 3.0446 | 039 2 | 0.04616 | 0.0912 | 3.0960 |
| 059A 6 | 0.13019 | 0.04285 | 7.0455 | 059 5 | 0.12496 | 0.7708 | 23.0082 |
| 0 37439 8 | 0.03956 | 0.02276 | 1.0325 | 050C 7 | -0.02101 | 0.6519 | 0.6405 |
| 9 | 0.04599 | 0.03943 | 1.3601 | 42943 10 | 0.10941 | 0.9003 | 17.5603 |
| 40441 16 | 0.07719 | 0.02109 | 13.4499 | 49458 12 | -0.00232 | 0.8910 | 0.0078 |
| | | | | (E) 13 | 0.01258 | 0.0676 | 0.2296 |
| | | | | (P) 14 | 0.83398 | 0.9052 | 3312.2102 |
| | | | | 33035 15 | 0.01258 | 0.7859 | 0.2296 |

STEP NUMBER 7
VARIABLE ENTERED 7

MULTIPLE R 0.1936
STD. ERROR OF EST. 0.3946

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 8.790 | 1.256 | 8.066 |
| RESIDUAL | 1450 | 225.743 | 0.156 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.29752 ) | | | | | | |
| 056 3 | -0.04264 | 0.04664 | 0.8366 | 037 1 | -0.04592 | 0.5093 | 3.0617 |
| 056 4 | -0.06170 | 0.04405 | 1.9619 | 039 2 | 0.04592 | 0.0912 | 3.0617 |
| 059A 6 | 0.13906 | 0.04962 | 8.0201 | 059 5 | 0.12464 | 0.7705 | 22.8647 |
| 059C 7 | -0.03369 | 0.04209 | 0.6405 | 42943 10 | 0.11072 | 0.8978 | 17.9829 |
| 0 37439 8 | 0.03106 | 0.02277 | 1.8602 | 49458 12 | -0.00279 | 0.8906 | 0.0113 |
| 9 | 0.04535 | 0.03944 | 1.3221 | (E) 13 | 0.01260 | 0.0676 | 0.2299 |
| 40441 16 | 0.07670 | 0.02101 | 13.3303 | (P) 14 | 0.83452 | 0.9051 | 3312.0847 |
| | | | | 33035 15 | 0.01260 | 0.7859 | 0.2299 |

STEP NUMBER 8
VARIABLE ENTERED 15

MULTIPLE R 0.1960
STD. ERROR OF EST. 0.3947

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 8.826 | 1.103 | 7.063 |
| RESIDUAL | 1449 | 225.707 | 0.156 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.28345 ) | | | | | | |
| 056 3 | -0.06002 | 0.04698 | 0.7255 | 037 1 | -0.04595 | 0.5093 | 3.0637 |
| 056 4 | -0.06197 | 0.04407 | 1.9773 | 039 2 | 0.04595 | 0.0912 | 3.0637 |
| 059A 6 | 0.13825 | 0.04956 | 7.7820 | 059 5 | 0.12428 | 0.7694 | 22.7147 |
| 059C 7 | -0.03370 | 0.04210 | 0.6406 | 42943 10 | 0.11067 | 0.8977 | 17.9546 |
| 0 37439 8 | 0.02941 | 0.02301 | 1.6451 | 49458 12 | -0.00254 | 0.8902 | 0.0094 |
| 9 | 0.04131 | 0.04035 | 1.0484 | (E) 13 | 0.00035 | 0.0000 | 0.0002 |
| 33035 15 | 0.01545 | 0.03224 | 0.2299 | (P) 14 | 0.83449 | 0.9049 | 3321.1188 |
| 40441 16 | 0.07955 | 0.02115 | 12.7572 | | | | |

Table 5-20. (Continued)

STEP NUMBER 9
VARIABLE ENTERED 12

MULTIPLE R 0.1960
STD. ERROR OF EST. 0.3948

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 9.928 | 0.981 | 5.293 |
| RESIDUAL | 1440 | 279.795 | 0.194 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.20490 3 | | | | | | |
| 055 3 | -0.03971 | 0.04711 | 0.7104 | 037 1 | -0.04618 | 0.5574 | 3.0931 |
| 04C 2 | -0.06245 | 0.04436 | 1.9017 | 038 2 | 0.04418 | 0.0909 | 3.0931 |
| 05A 4 | 0.13971 | 0.05056 | 7.5819 | 059 5 | 0.12549 | 0.7396 | 23.1533 |
| 05C 7 | -0.05177 | 0.04717 | 0.4631 | 42043 10 | 0.11314 | 0.8928 | 18.1051 |
| 0 37+3 8 | 0.07969 | 0.02309 | 1.4532 | (F) 13 | 0.00035 | 0.0000 | 0.0002 |
| 38+3 9 | 0.04141 | 0.04037 | 1.0521 | (P) 14 | 0.03524 | 0.9935 | 3339.3591 |
| 40+58 12 | -0.09464 | 0.04913 | 3.7344 | | | | |
| 33035 15 | 0.01930 | 0.03275 | 0.3279 | | | | |
| 40+41 16 | 0.07581 | 0.02133 | 12.6339 | | | | |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 40+41 16 | | 0.1423 | 0.0203 | 0.0203 | 30.0944 | 1 |
| 2 | 055A 4 | | 0.1768 | 0.0312 | 0.0110 | 16.5159 | 2 |
| 3 | 0 37+3 8 | | 0.1836 | 0.0337 | 0.0025 | 3.7153 | 3 |
| 4 | 046 6 | | 0.1880 | 0.0353 | 0.0016 | 2.4343 | 4 |
| 5 | | 9 | 0.1869 | 0.0349 | 0.0011 | 1.6691 | 5 |
| 6 | 055 3 | | 0.1925 | 0.0371 | 0.0006 | 0.9257 | 6 |
| 7 | 059C 7 | | 0.1934 | 0.0375 | 0.0004 | 0.6405 | 7 |
| 8 | 33035 15 | | 0.1940 | 0.0376 | 0.0002 | 0.2299 | 8 |
| 9 | 40+58 12 | | 0.1960 | 0.0376 | 0.0000 | 0.0004 | 9 |

## Table 5-31. Number of Personnel Supervised by User plus User's Equivalent GS Rating

[illegible] 6
DEPENDENT VARIABLE Y(Q19-Q58)
[illegible] NUMBER OF STEPS 20
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 2

MULTIPLE R 0.3450
STD. ERROR OF EST. 0.1477

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 4.377 | 4.377 | 200.697 |
| RESIDUAL | 1485 | 32.388 | 0.022 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.81632 ) | | | | | | | |
| Q48 2 | 0.42517 | 0.03001 | 200.5969 | Q10 | 1 | -0.07189 | 0.9864 | 7.7087 |
| | | | | Q55 | 3 | -0.07062 | 0.9969 | 7.4392 |
| | | | | Q56 | 4 | -0.06850 | 0.9785 | 6.9966 |
| | | | | Q63 | 5 | 0.14816 | 0.9984 | 33.3072 |
| | | | | Q58A | 6 | 0.26837 | 0.9989 | 115.1770 |
| | | | | Q58C | 7 | 0.13706 | 0.9731 | 28.4132 |
| | | | | 2*7 | 8 | 0.01405 | 1.0000 | 0.3026 |
| | | | | 3*4 | 9 | -0.24842 | 1.0000 | 3.5165 |
| | | | | 5*6 | 10 | 0.14836 | 0.9949 | 33.4086 |
| | | | | 8*9 | 11 | -0.04460 | 0.9978 | 2.9582 |
| | | | | 51*52 | 13 | 0.13279 | 0.9195 | 26.6358 |
| | | | | (F) | 14 | 0.01426 | 0.9993 | 0.3016 |

STEP NUMBER 2
VARIABLE ENTERED 6

MULTIPLE R 0.4277
STD. ERROR OF EST. 0.1421

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 6.710 | 3.355 | 165.652 |
| RESIDUAL | 1484 | 30.055 | 0.020 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | -0.06874 ) | | | | | | | |
| Q48 2 | 0.43559 | 0.02996 | 276.5968 | Q10 | 1 | -0.08406 | 0.9853 | 10.5547 |
| Q58A 6 | 0.16457 | 0.01365 | 115.1770 | Q55 | 3 | 0.03833 | 0.8454 | 2.1818 |
| | | | | Q56 | 4 | -0.09286 | 0.9727 | 12.9993 |
| | | | | Q63 | 5 | 0.09553 | 0.9512 | 13.6574 |
| | | | | Q58C | 7 | -0.00457 | 0.7052 | 0.0310 |
| | | | | 2*7 | 8 | 0.03582 | 0.9953 | 1.9054 |
| | | | | 3*4 | 9 | -0.09126 | 0.9795 | 12.4545 |
| | | | | 5*6 | 10 | 0.12864 | 0.9863 | 24.9555 |
| | | | | 8*9 | 11 | 0.02754 | 0.9795 | 1.1272 |
| | | | | 51*52 | 13 | 0.16396 | 0.9152 | 46.9703 |
| | | | | (F) | 14 | 0.03423 | 0.9944 | 1.7395 |

**Table 5-31. (Continued)**

STEP NUMBER 3
VARIABLE ENTERED 13

MULTIPLE R 0.4522
STD. ERROR OF EST. 0.1404

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 7.519 | 2.506 | 127.046 |
| RESIDUAL | 1493 | 29.767 | 0.020 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | -0.02519 ) | | | | | | | |
| 048 | 2 | 0.24975 | 0.03967 | 42.9733 | 010 | 1 | -0.00915 | 0.9843 | 0.5020 |
| 055A | 4 | 0.15442 | 0.01351 | 130.2231 | 055 | 3 | 0.04324 | 0.8468 | 2.3781 |
| 51+52 | 13 | 0.24389 | 0.03990 | 40.9243 | 056 | 4 | -0.00761 | 0.9727 | 17.8768 |
| | | | | | 063 | 5 | 0.08112 | 0.9423 | 9.9168 |
| | | | | | 050C | 7 | -0.00836 | 0.7360 | 0.3967 |
| | | | | | 2+7 | 8 | 0.04595 | 0.9621 | 3.1223 |
| | | | | | 3X4 | 9 | -0.03674 | 0.8749 | 1.8986 |
| | | | | | 5+6 | 10 | 0.13203 | 0.9441 | 21.4577 |
| | | | | | 8+9 | 11 | 0.03459 | 0.9248 | 2.3356 |
| | | | | | (F) | 14 | 0.03853 | 0.9539 | 2.7028 |

STEP NUMBER 4
VARIABLE ENTERED 4

MULTIPLE R 0.4597
STD. ERROR OF EST. 0.1399

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 7.770 | 1.942 | 99.287 |
| RESIDUAL | 1492 | 29.095 | 0.020 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.01544 ) | | | | | | | |
| 048 | 2 | 0.24744 | 0.03956 | 38.3599 | 010 | 1 | -0.02199 | 0.5107 | 0.7162 |
| 056 | 4 | -0.05222 | 0.01455 | 12.8748 | 055 | 3 | 0.02782 | 0.8199 | 1.1469 |
| 055A | 6 | 0.15811 | 0.01351 | 136.8875 | 063 | 5 | 0.08471 | 0.9412 | 10.7041 |
| 51+52 | 13 | 0.24272 | 0.03796 | 40.9247 | 050C | 7 | 0.02206 | 0.6344 | 0.7214 |
| | | | | | 2+7 | 8 | 0.04519 | 0.9020 | 3.0300 |
| | | | | | 3X4 | 9 | -0.08990 | 0.9725 | 12.0470 |
| | | | | | 5+6 | 10 | 0.12249 | 0.9709 | 22.9152 |
| | | | | | 8+9 | 11 | 0.02157 | 0.9098 | 0.6891 |
| | | | | | (F) | 14 | 0.02650 | 0.9816 | 1.2935 |

STEP NUMBER 5
VARIABLE ENTERED 3

MULTIPLE R 0.4604
STD. ERROR OF EST. 0.1399

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 7.792 | 1.558 | 79.663 |
| RESIDUAL | 1491 | 29.073 | 0.020 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.00466 ) | | | | | | | |
| 048 | 2 | 0.24616 | 0.03968 | 37.8563 | G10 | 1 | -0.02051 | 0.5091 | 0.6228 |
| 055 | 3 | 0.01698 | 0.01586 | 1.1469 | 063 | 5 | 0.09191 | 0.9956 | 12.6079 |
| 056 | 4 | -0.04949 | 0.01477 | 11.2277 | 050C | 7 | 0.02043 | 0.6341 | 0.6182 |
| 055A | 6 | 0.16413 | 0.01466 | 125.7602 | 2+7 | 8 | 0.04466 | 0.9916 | 2.9572 |
| 51+52 | 13 | 0.24386 | 0.03795 | 41.2872 | 3X4 | 9 | -0.08648 | 0.9549 | 11.2823 |
| | | | | | 5+6 | 10 | 0.12223 | 0.9702 | 22.4474 |
| | | | | | 8+9 | 11 | 0.00897 | 0.6791 | 0.1191 |
| | | | | | (F) | 14 | 0.02625 | 0.9746 | 1.0204 |

Table 5-31. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 7

MULTIPLE R 0.4607
STD. ERROR OF EST. 0.1399

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 7.804 | 1.301 | 66.472 |
| RESIDUAL | 1480 | 28.961 | 0.020 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.00297 ) | | | | | | | |
| 048 7 | 0.24780 | 0.03996 | 38.4599 | 010 | 1 | -0.02243 | 0.5051 | 0.7444 |
| 063 5 | 0.01623 | 0.01589 | 1.0434 | 063 | 5 | 0.09279 | 0.9042 | 12.8439 |
| 056 4 | -0.05338 | 0.01558 | 11.7431 | 247 | 8 | 0.04406 | 0.9907 | 2.9764 |
| 050A 6 | 0.12725 | 0.01705 | 85.0912 | 3X4 | 9 | -0.08654 | 0.9543 | 11.1605 |
| 090C 7 | 0.01171 | 0.01489 | 0.6182 | 5+6 | 10 | 0.12302 | 0.9691 | 22.7268 |
| 51+52 13 | 0.24308 | 0.03787 | 40.9862 | 8+9 | 11 | 0.00781 | 0.6769 | 0.0901 |
| | | | | (F) | 14 | 0.02666 | 0.9742 | 1.0520 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 048 2 | | 0.3450 | 0.1191 | 0.1191 | 200.6969 | 1 |
| 2 | 050A 6 | | 0.4272 | 0.1825 | 0.0634 | 115.1770 | 2 |
| 3 | 51+52 13 | | 0.4522 | 0.2045 | 0.0220 | 40.9703 | 3 |
| 4 | 056 4 | | 0.4597 | 0.2113 | 0.0069 | 12.8768 | 4 |
| 5 | 063 5 | | 0.4604 | 0.2119 | 0.0006 | 1.1469 | 5 |
| 6 | 090C 7 | | 0.4607 | 0.2123 | 0.0003 | 0.6182 | 6 |

## Table 5-32. User's Highest Degree

```
SUB-PROBLEM    1
DEPENDENT VARIABLE          Q50A
MAXIMUM NUMBER OF STEPS      28
F-LEVEL FOR INCLUSION       0.000000
F-LEVEL FOR DELETION        0.000000
TOLERANCE LEVEL             0.001000


 STEP NUMBER    1
 VARIABLE ENTERED    -

 MULTIPLE R                 0.0336
 STD. ERROR OF EST.         0.2700

 ANALYSIS OF VARIANCE
                  DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
    REGRESSION     1           0.122          0.122        1.674
    RESIDUAL    1485         108.664          0.073
```

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.58058 | | | | | | | |
| Q4A 2 | -0.07112 | 0.05497 | 1.6740 | Q10 | 1 | 0.03371 | 0.9864 | 1.6888 |
| | | | | Q55 | 3 | -0.38984 | 0.9969 | 265.9478 |
| | | | | Q56 | 4 | 0.07708 | 0.9785 | 8.8691 |
| | | | | Q63 | 5 | 0.21738 | 0.9984 | 73.6053 |
| | | | | Q50C | 7 | 0.52469 | 0.9731 | 563.7443 |
| | | | | 2+7 | 8 | -0.06846 | 1.0000 | 6.9882 |
| | | | | 3X4 | 9 | 0.14304 | 1.0000 | 30.9958 |
| | | | | 5+6 | 10 | 0.09307 | 0.9949 | 12.9658 |
| | | | | 8+9 | 11 | -0.26168 | 0.9978 | 109.0852 |
| | | | | 49+58 | 12 | 0.26837 | 0.8909 | 115.1770 |
| | | | | 51+52 | 13 | -0.09130 | 0.51[illegible] | 12.4743 |
| | | | | (F) | 14 | -0.06945 | 0.9993 | 7.1923 |

```
F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION


 SUMMARY TABLE
```

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | Q4A | 2 | 0.0336 | 0.0011 | 0.0011 | 1.6740 | 1 |

## Table 5-33. Field of User's Highest Degree

```
SUB-PROBLM    2
 DEPENDENT VARIABLE          Q50C
 MAXIMUM NUMBER OF STEPS      28
 F-LEVEL FOR INCLUSION      0.000000
 F-LEVEL FOR DELETION       0.000000
 TOLERANCE LEVEL            0.001000


 STEP NUMBER    1
 VARIABLE ENTERED    2

 MULTIPLE R              0.1640
 STD. ERROR OF EST.      0.3020

 ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
      REGRESSION    1         3.746          3.746       41.055
      RESIDUAL   1485       135.482          0.091

          VARIABLES IN EQUATION                    .   VARIABLES NOT IN EQUATION
 VARIABLE     COEFFICIENT   STD. ERROR  F TO REMOVE  .   VARIABLE   PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                    .
 (CONSTANT        0.77168 )                         .
 Q4A     2       -0.39339     0.06138     41.0548   .     Q10     1     0.25090      0.9864      99.6925
                                                    .     Q55     3    -0.20281      0.9969      63.6609
                                                    .     Q5E     4     0.30432      0.9705     152.0142
                                                    .     Q63     5     0.09558      0.9984      10.9488
                                                    .     Q50A    6     0.52469      0.9989     563.7443
                                                    .     2+7     8    -0.01370      1.0000       0.2788
                                                    .     3X4     9     0.07174      1.0000       7.6770
                                                    .     5+6    10    -0.00986      0.9969       0.1444
                                                    .     8+9    11    -0.12053      0.9978      21.8752
                                                    .     49+58  12     0.13706      0.8809      28.4132
                                                    .     51+52  13    -0.03044      0.5195       1.3764
                                                    .     (F)    14    -0.07787      0.9993       9.0532

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION


 SUMMARY TABLE
 STEP      VARIABLE          MULTIPLE      INCREASE    F VALUE TO     NUMBER OF INDEPENDENT
 NUMBER  ENTERED  REMOVED     R     RSQ     IN RSQ    ENTER OR REMOVE   VARIABLES INCLUDED
    1      Q4A     2        0.1640  0.0269   0.0269      41.0548              1
```

## Table 5-34. Job Experience of User plus Company Experience of User

```
SUB-PROBLEM    3
DEPENDENT VARIABLE          2(Q51+Q52)
MAXIMUM NUMBER OF STEPS     28
F-LEVEL FOR INCLUSION       0.000000
F-LEVEL FOR DELETION        0.000000
TOLERANCE LEVEL             0.001000


 STEP NUMBER    1
 VARIABLE ENTERED    2

 MULTIPLE R                0.6931
 STD. ERROR OF EST.        0.0961

 ANALYSIS OF VARIANCE
                 DF    SUM OF SQUARES    MEAN SQUARE    F RATIO
      REGRESSION    1          12.677         12.677   1373.269
      RESIDUAL   1495          13.793          0.009

                VARIABLES IN EQUATION                 .          VARIABLES NOT IN EQUATION
 VARIABLE      COEFFICIENT  STD. ERROR  F TO REMOVE    .   VARIABLE   PARTIAL CORR.   TOLERANCE   F TO ENTER
                                                       .
 (CONSTANT        -0.19745 )                           .
 048     2         0.72354     0.01952   1373.2693     .   010     1    -0.03365     0.9864      1.6821
                                                       .   055     3     0.01139     0.9969      0.1925
                                                       .   056     4    -0.01496     0.9785      0.3321
                                                       .   063     5     0.07429     0.9984      8.7366
                                                       .   050A    6    -0.09130     0.9989     12.4743
                                                       .   050C    7    -0.03044     0.9731      1.3764
                                                       .   2+7     8    -0.05032     1.0000      3.7671
                                                       .   3X4     9     0.01191     1.0000      0.2971
                                                       .   5+6    10    -0.02343     0.9949      0.8149
                                                       .   8+9    11    -0.02814     0.9978      1.1764
                                                       .   49+58  12     0.13279     0.8809     26.6358
                                                       .   (F)    14    -0.01647     0.9993      0.4026

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION


SUMMARY TABLE

 STEP          VARIABLE          MULTIPLE          INCREASE      F VALUE TO      NUMBER OF INDEPENDENT
 NUMBER    ENTERED  REMOVED      R       RSQ       IN RSQ      ENTER OR REMOVE    VARIABLES INCLUDED

    1      048   2             0.6931   0.4805     0.4805       1373.2693                1
```

## Table 5-35. Kind of Work Position

SUB-PROBLEM 4
DEPENDENT VARIABLE Q55
MAXIMUM NUMBER OF STEPS 28
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 6

MULTIPLE R 0.3909
STD. ERROR OF EST. 0.2327

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 14.498 | 14.498 | 267.312 |
| RESIDUAL | 1485 | 80.388 | 0.054 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.58422 ) | | |
| Q5CA | 6 | -0.36506 | 0.02231 | 267.8117 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.16119 | 0.9986 | 39.5846 |
| Q48 | 2 | 0.04623 | 0.9989 | 3.1786 |
| Q56 | 4 | -0.17650 | 0.9934 | 47.7185 |
| Q63 | 5 | -0.19615 | 0.9535 | 59.3830 |
| Q50C | 7 | -0.00578 | 0.7267 | 0.0495 |
| 2+7 | 8 | 0.02273 | 0.9953 | 0.7669 |
| 3X4 | 9 | -0.14621 | 0.9796 | 32.4182 |
| 5+6 | 10 | 0.05147 | 0.9918 | 3.9415 |
| 8+9 | 11 | 0.51144 | 0.9309 | 525.6797 |
| 49+58 | 12 | 0.05249 | 0.9423 | 4.0096 |
| 51+52 | 13 | 0.01305 | 0.9971 | 0.2528 |
| (F) | 14 | 0.10345 | 0.9951 | 16.0538 |

STEP NUMBER 2
VARIABLE ENTERED 2

MULTIPLE R 0.3932
STD. ERROR OF EST. 0.2325

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 14.669 | 7.335 | 135.692 |
| RESIDUAL | 1484 | 80.216 | 0.054 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.53254 ) | | |
| Q48 | 2 | 0.08428 | 0.04727 | 3.1786 |
| Q5CA | 6 | -0.36372 | 0.02230 | 265.9478 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.15706 | 0.9853 | 37.5090 |
| Q56 | 4 | -0.17181 | 0.9727 | 45.1084 |
| Q63 | 5 | -0.19886 | 0.9512 | 61.0586 |
| Q50C | 7 | 0.00221 | 0.7052 | 0.0072 |
| 2+7 | 8 | 0.02276 | 0.9953 | 0.7687 |
| 3X4 | 9 | -0.14672 | 0.9795 | 32.6271 |
| 5+6 | 10 | 0.04820 | 0.9863 | 3.4531 |
| 8+9 | 11 | 0.51057 | 0.9295 | 522.9108 |
| 49+58 | 12 | 0.03833 | 0.8175 | 2.1818 |
| 51+52 | 13 | -0.02640 | 0.5152 | 1.0339 |
| (F) | 14 | 0.10244 | 0.9944 | 15.7272 |

Table 5-35. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 13

MULTIPLE R 0.3939
STD. ERROR OF EST. 0.2325

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 14.725 | 4.908 | 90.808 |
| RESIDUAL | 1483 | 80.161 | 0.054 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.52109 ) | | | | | | | |
| Q4R | 2 | 0.13053 | 0.06560 | 3.9593 | Q10 | 1 | -0.15800 | 0.9843 | 37.9454 |
| Q50A | 6 | -0.36589 | 0.02240 | 266.7609 | Q56 | 4 | -0.17209 | 0.9727 | 45.2274 |
| 51+52 | 13 | -0.06412 | 0.06306 | 1.0339 | Q63 | 5 | -0.19730 | 0.9423 | 60.0249 |
| | | | | | Q50C | 7 | 0.00275 | 0.7049 | 0.0112 |
| | | | | | 2+7 | 8 | 0.02130 | 0.9921 | 0.6727 |
| | | | | | 3X4 | 9 | -0.14615 | 0.9789 | 32.3474 |
| | | | | | 5+6 | 10 | 0.04782 | 0.9861 | 3.3971 |
| | | | | | 8+9 | 11 | 0.51007 | 0.9268 | 521.1658 |
| | | | | | 49+58 | 12 | 0.04326 | 0.7955 | 2.7781 |
| | | | | | (F) | 14 | 0.10190 | 0.9939 | 15.5485 |

STEP NUMBER 4
VARIABLE ENTERED 7

MULTIPLE R 0.3939
STD. ERROR OF EST. 0.2326

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 14.726 | 3.681 | 68.063 |
| RESIDUAL | 1482 | 80.160 | 0.054 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.51999 ) | | | | | | | |
| Q4R | 2 | 0.13150 | 0.06626 | 3.9387 | Q10 | 1 | -0.16312 | 0.9099 | 41.5124 |
| Q50A | 6 | -0.36726 | 0.02631 | 194.8381 | Q56 | 4 | -0.18202 | 0.8781 | 50.7465 |
| Q50C | 7 | 0.00249 | 0.02348 | 0.0112 | Q63 | 5 | -0.19733 | 0.9410 | 60.0043 |
| 51+52 | 13 | -0.06426 | 0.06309 | 1.0373 | 2+7 | 8 | 0.02173 | 0.9913 | 0.6680 |
| | | | | | 3X4 | 9 | -0.14614 | 0.9789 | 32.3709 |
| | | | | | 5+6 | 10 | 0.04813 | 0.9814 | 3.4383 |
| | | | | | 8+9 | 11 | 0.51013 | 0.9264 | 520.9831 |
| | | | | | 49+58 | 12 | 0.04328 | 0.7955 | 2.7793 |
| | | | | | (F) | 14 | 0.10215 | 0.9916 | 15.6160 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | Q50A | 6 | 0.3909 | 0.1528 | 0.1528 | 267.8117 | 1 |
| 2 | Q4R | 2 | 0.3932 | 0.1546 | 0.0018 | 3.1746 | 2 |
| 3 | 51+52 | 13 | 0.3939 | 0.1552 | 0.0006 | 1.0339 | 3 |
| 4 | Q50C | 7 | 0.3939 | 0.1552 | 0.0000 | 0.0112 | 4 |

## Table 5-36. Field of Work Position

SUB-PROBLEM 5
DEPENDENT VARIABLE 056
MAXIMUM NUMBER OF STEPS 28
F-LEVEL FOR INCLUSION 0.000100
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 7

MULTIPLE R 0.3215
STD. ERROR OF EST. 0.2395

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 9.818 | 9.818 | 171.167 |
| RESIDUAL | 1485 | 85.179 | 0.057 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.50979 ) | | | | | | | |
| 050C 7 | 0.26955 | 0.02059 | 171.1666 | 010 | 1 | 0.67189 | 0.9298 | 1221.1433 |
| | | | | 048 | 2 | -0.10041 | 0.9791 | 15.1145 |
| | | | | 055 | 3 | -0.13658 | 0.9504 | 28.2110 |
| | | | | 063 | 5 | 0.01871 | 0.9946 | 0.5197 |
| | | | | 050A | 6 | -0.10772 | 0.7267 | 17.4212 |
| | | | | 2+7 | 8 | -0.01031 | 0.9998 | 0.1578 |
| | | | | 3X4 | 9 | 0.07067 | 0.9951 | 7.4489 |
| | | | | 5+6 | 10 | -0.12445 | 0.9995 | 23.3638 |
| | | | | 8+9 | 11 | -0.15720 | 0.9940 | 37.6024 |
| | | | | 49+58 | 12 | -0.14479 | 0.9951 | 31.7758 |
| | | | | 51+52 | 13 | -0.07325 | 0.9817 | 8.0044 |
| | | | | (F) | 14 | -0.09791 | 0.9934 | 14.3634 |

STEP NUMBER 2
VARIABLE ENTERED 6

MULTIPLE R 0.3373
STD. ERROR OF EST. 0.2382

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 10.806 | 5.403 | 95.240 |
| RESIDUAL | 1484 | 84.191 | 0.057 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.56232 ) | | | | | | | |
| 050A 6 | -0.11181 | 0.02679 | 17.4212 | 010 | 1 | 0.66755 | 0.9157 | 1192.1008 |
| 050C 7 | 0.31722 | 0.02368 | 179.4619 | 048 | 2 | -0.09446 | 0.9893 | 13.3502 |
| | | | | 055 | 3 | -0.19687 | 0.9472 | 52.4757 |
| | | | | 063 | 5 | 0.04204 | 0.9518 | 2.6261 |
| | | | | 2+7 | 8 | -0.01820 | 0.9946 | 0.4915 |
| | | | | 3X4 | 9 | 0.08527 | 0.9796 | 10.8616 |
| | | | | 5+6 | 10 | -0.11307 | 0.9853 | 19.2042 |
| | | | | 8+9 | 11 | -0.18850 | 0.9308 | 54.6361 |
| | | | | 49+58 | 12 | -0.12330 | 0.9381 | 22.8926 |
| | | | | 51+52 | 13 | -0.07604 | 0.9812 | 8.6239 |
| | | | | (F) | 14 | -0.10208 | 0.9923 | 15.6172 |

Table 5-36. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 2

MULTIPLE R 0.3488
STD. ERROR OF EST. 0.2372

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 11.558 | 3.853 | 68.472 |
| RESIDUAL | 1483 | 83.440 | 0.056 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.65524 ) | | | 010 | 1 | 0.66554 | 0.9112 | 1178.4245 |
| 048 2 | -0.17889 | 0.04896 | 13.3502 | 055 | 3 | -0.18153 | 0.8454 | 50.5012 |
| 050A 6 | -0.10575 | 0.02673 | 15.6527 | 063 | 5 | 0.04628 | 0.9501 | 3.1808 |
| 050C 7 | 0.30219 | 0.02394 | 159.3523 | 2+7 | 8 | -0.01788 | 0.9946 | 0.4738 |
| | | | | 3X4 | 9 | 0.08629 | 0.9795 | 11.1185 |
| | | | | 5+6 | 10 | -0.10790 | 0.9816 | 17.4575 |
| | | | | 8+9 | 11 | -0.18553 | 0.9291 | 52.8309 |
| | | | | 49+58 | 12 | -0.09623 | 0.8175 | 13.8506 |
| | | | | 51+52 | 13 | -0.01515 | 0.5156 | 0.3403 |
| | | | | (F) | 14 | -0.10102 | 0.9921 | 15.2786 |

STEP NUMBER 4
VARIABLE ENTERED 13

MULTIPLE R 0.3491
STD. ERROR OF EST. 0.2373

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 11.577 | 2.894 | 51.416 |
| RESIDUAL | 1482 | 83.420 | 0.056 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.64841 ) | | | | | | | |
| 048 2 | -0.15171 | 0.06760 | 5.0372 | 010 | 1 | 0.66552 | 0.9099 | 1177.4988 |
| 050A 6 | -0.10714 | 0.02684 | 15.9327 | 055 | 3 | -0.18202 | 0.8448 | 50.7465 |
| 050C 7 | 0.30247 | 0.02395 | 159.5173 | 063 | 5 | 0.04799 | 0.9410 | 3.4191 |
| 51+52 13 | -0.03794 | 0.06436 | 0.3403 | 2+7 | 8 | -0.01878 | 0.9913 | 0.5226 |
| | | | | 3X4 | 9 | 0.08671 | 0.9789 | 11.2206 |
| | | | | 5+6 | 10 | -0.10813 | 0.9814 | 17.5209 |
| | | | | 8+9 | 11 | -0.18466 | 0.9264 | 53.4617 |
| | | | | 49+58 | 12 | -0.09504 | 0.7955 | 13.4988 |
| | | | | (F) | 14 | -0.10139 | 0.9916 | 15.3813 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 050C | 7 | 0.3215 | 0.1034 | 0.1034 | 171.1666 | 1 |
| 2 | 050A | 6 | 0.3373 | 0.1138 | 0.0104 | 17.4212 | 2 |
| 3 | 048 | 2 | 0.3488 | 0.1217 | 0.0079 | 13.3502 | 3 |
| 4 | 51+52 | 13 | 0.3491 | 0.1219 | 0.0002 | 0.3403 | 4 |

## Table 5-37. Interviewer's Assessment of User's Information Needs

SUB-PROBLEM 8
DEPENDENT VARIABLE Q55
MAXIMUM NUMBER OF STEPS 32
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 15

MULTIPLE R 0.3448
STD. ERROR OF EST. 0.2647

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 13.760 | 13.760 | 196.392 |
| RESIDUAL | 1456 | 102.013 | 0.070 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.43225 ) | | | | | | | |
| 33035 15 | 0.26853 | 0.01916 | 196.3923 | Q37 | 1 | 0.19658 | 0.9298 | 58.4860 |
| | | | | Q39 | 2 | 0.22294 | 0.9068 | 76.0972 |
| | | | | Q55 | 3 | -0.23845 | 0.9237 | 87.7170 |
| | | | | Q56 | 4 | -0.01148 | 0.9952 | 0.1918 |
| | | | | Q50A | 6 | 0.18848 | 0.9357 | 53.5944 |
| | | | | Q50C | 7 | 0.06384 | 0.9821 | 5.9547 |
| | | | | 0 37+39 | 8 | 0.25180 | 0.8856 | 98.4999 |
| | | | | 38+39 | 9 | 0.23997 | 0.8600 | 86.9051 |
| | | | | 42+43 | 10 | 0.14868 | 0.9839 | 32.0916 |
| | | | | 45+46 | 11 | 0.17411 | 0.9922 | 45.4853 |
| | | | | 49+58 | 12 | 0.19116 | 0.9930 | 55.1868 |
| | | | | (E) | 13 | 0.33392 | 0.5915 | 182.5957 |
| | | | | (P) | 14 | 0.21413 | 0.9812 | 69.9192 |
| | | | | 40+41 | 16 | 0.23893 | 0.9375 | 88.0902 |

STEP NUMBER 2
VARIABLE ENTERED 8

MULTIPLE R 0.4180
STD. ERROR OF EST. 0.2563

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 20.228 | 10.114 | 154.022 |
| RESIDUAL | 1455 | 95.545 | 0.066 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.15598 ) | | | | | | | |
| 0 37+39 8 | 0.18799 | 0.01340 | 98.4999 | Q37 | 1 | 0.04690 | 0.5459 | 3.2059 |
| 33035 15 | 0.20220 | 0.01971 | 105.3045 | Q39 | 2 | -0.04690 | 0.0978 | 3.2058 |
| | | | | Q55 | 3 | -0.18823 | 0.8679 | 53.4104 |
| | | | | Q56 | 4 | -0.02751 | 0.9916 | 1.1009 |
| | | | | Q50A | 6 | 0.14445 | 0.8963 | 30.9872 |
| | | | | Q50C | 7 | 0.03468 | 0.9677 | 1.7513 |
| | | | | 38+39 | 9 | 0.17044 | 0.7629 | 43.5003 |
| | | | | 42+43 | 10 | 0.08810 | 0.9154 | 11.3728 |
| | | | | 45+46 | 11 | 0.15632 | 0.9836 | 36.4181 |
| | | | | 49+58 | 12 | 0.15945 | 0.9695 | 37.9298 |
| | | | | (E) | 13 | 0.22708 | 0.2311 | 76.0558 |
| | | | | (P) | 14 | 0.16873 | 0.9349 | 42.6073 |
| | | | | 40+41 | 16 | 0.18098 | 0.8632 | 46.2376 |

Table 5-37. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 3

MULTIPLE R 0.4516
STD. ERROR OF EST. 0.2518

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 23.613 | 7.871 | 124.183 |
| RESIDUAL | 1454 | 92.[illegible] | 0.063 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.5588 ) | | | | | | | |
| 055 3 | -0.20481 | 0.02407 | 53.4104 | 037 | 1 | 0.05120 | 0.5457 | 3.8196 |
| 0 37039 8 | 0.10857 | 0.01358 | 63.9465 | 039 | 2 | -0.05120 | 0.0977 | 3.8195 |
| 33035 15 | 0.17501 | 0.01972 | 78.7221 | 056 | 4 | -0.06056 | 0.9644 | 5.3497 |
| | | | | 050A | 6 | 0.09330 | 0.8137 | 12.7591 |
| | | | | 050C | 7 | 0.00720 | 0.9465 | 0.0754 |
| | | | | [illegible] | 9 | 0.14801 | 0.7477 | 37.5445 |
| | | | | 42043 | 10 | 0.07971 | 0.9128 | 9.2901 |
| | | | | 45046 | 11 | 0.15126 | 0.9818 | 34.0202 |
| | | | | 49058 | 12 | 0.16631 | 0.9691 | 41.3308 |
| | | | | (F) | 13 | 0.22334 | 0.2307 | 76.2846 |
| | | | | (P) | 14 | 0.16035 | 0.9314 | 38.3472 |
| | | | | 40041 | 16 | 0.18909 | 0.9627 | 53.8771 |

STEP NUMBER 4
VARIABLE ENTERED 16

MULTIPLE R 0.4921
STD. ERROR OF EST. 0.2473

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 26.909 | 6.727 | 109.994 |
| RESIDUAL | 1453 | 88.866 | 0.061 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.56187 ) | | | | | | | |
| 055 3 | -0.20982 | 0.02754 | 58.0601 | 037 | 1 | 0.05625 | 0.5455 | 4.6094 |
| 0 37039 8 | 0.08914 | 0.01389 | 33.2983 | 039 | 2 | -0.05625 | 0.0977 | 4.6093 |
| 33035 15 | 0.15291 | 0.01961 | 60.7200 | 056 | 4 | -0.05317 | 0.9625 | 4.1171 |
| 40041 16 | 0.09808 | 0.01309 | 53.8771 | 050A | 6 | 0.08578 | 0.8118 | 10.7622 |
| | | | | 050C | 7 | 0.00974 | 0.9466 | 0.1377 |
| | | | | [illegible] | 9 | 0.12412 | 0.7320 | 22.7179 |
| | | | | 42043 | 10 | 0.06719 | 0.9079 | 6.5846 |
| | | | | 45046 | 11 | 0.13471 | 0.9712 | 26.8370 |
| | | | | 49058 | 12 | 0.14334 | 0.9494 | 30.4611 |
| | | | | (F) | 13 | 0.12412 | 0.0441 | 22.7183 |
| | | | | (P) | 14 | 0.14109 | 0.9178 | 29.4905 |

STEP NUMBER 5
VARIABLE ENTERED 12

MULTIPLE R 0.4982
STD. ERROR OF EST. 0.2468

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 29.735 | 5.947 | 95.871 |
| RESIDUAL | 1452 | 87.039 | 0.060 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.60378 ) | | | | | | | |
| 055 3 | -0.21240 | 0.02727 | 60.6820 | 037 | 1 | 0.06333 | 0.5444 | 5.8438 |
| 0 37039 8 | 0.07172 | 0.01383 | 26.8812 | 039 | 2 | -0.06333 | 0.0975 | 5.8437 |
| 49058 12 | 0.22911 | 0.04151 | 30.4611 | 056 | 4 | -0.03664 | 0.9487 | 1.9505 |
| 33035 15 | 0.15188 | 0.01941 | 61.1996 | 050A | 6 | 0.05677 | 0.7740 | 4.6908 |
| 40041 16 | 0.08577 | 0.01309 | 42.9077 | 050C | 7 | 0.00241 | 0.9441 | 0.0085 |
| | | | | [illegible] | 9 | 0.11802 | 0.7300 | 20.4957 |
| | | | | 42043 | 10 | 0.05514 | 0.9006 | 4.4244 |
| | | | | 45046 | 11 | 0.13315 | 0.9708 | 26.1907 |
| | | | | (F) | 13 | 0.11802 | 0.0440 | 20.4961 |
| | | | | (P) | 14 | 0.13336 | 0.9138 | 26.2715 |

Table 5-37. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 9

MULTIPLE R 0.5006
STD. ERROR OF EST. 0.2432

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 29.947 | 4.991 | 84.392 |
| RESIDUAL | 1451 | 85.926 | 0.059 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.49238 ) | | | | | | |
| 055 3 | -0.19419 | 0.02738 | 50.2966 | 037 1 | 0.03421 | 0.5080 | 1.6990 |
| 0 37+39 8 | 0.05572 | 0.01419 | 15.4218 | 039 2 | -0.03421 | 0.0910 | 1.4990 |
| 38+44 9 | 0.11149 | 0.02463 | 20.4957 | 056 4 | -0.04077 | 0.9477 | 2.4144 |
| 49+50 12 | 0.21936 | 0.04129 | 28.2221 | 050A 6 | 0.07149 | 0.7549 | 7.5009 |
| 33+35 15 | 0.13180 | 0.01979 | 44.3563 | 050F 7 | -0.02552 | 0.9410 | 0.9277 |
| 40+41 16 | 0.07765 | 0.01313 | 34.9791 | 42+43 10 | 0.05455 | 0.9014 | 4.3272 |
| | | | | 45+46 11 | 0.12993 | 0.9495 | 24.8999 |
| | | | | (E) 13 | 0.00093 | 0.9000 | 0.0013 |
| | | | | (P) 14 | 0.13056 | 0.9129 | 25.1387 |

STEP NUMBER 7
VARIABLE ENTERED 6

MULTIPLE R 0.5098

STD. ERROR OF EST. 0.2431

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 30.095 | 4.299 | 72.759 |
| RESIDUAL | 1450 | 85.478 | 0.059 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.47114 ) | | | | | | |
| 055 3 | -0.18073 | 0.02766 | 39.7654 | 037 1 | 0.03457 | 0.5080 | 1.7339 |
| 050A 6 | 0.04281 | 0.02707 | 2.5009 | 039 2 | -0.03457 | 0.0910 | 1.7338 |
| 0 37+39 8 | 0.05447 | 0.01421 | 14.6779 | 056 4 | -0.04207 | 0.9469 | 2.5696 |
| 38+44 9 | 0.10619 | 0.02484 | 18.2712 | 050C 7 | -0.02772 | 0.7241 | 1.1140 |
| 49+50 12 | 0.20530 | 0.04222 | 23.6459 | 42+43 10 | 0.05359 | 0.9000 | 4.1736 |
| 33+35 15 | 0.12911 | 0.01985 | 42.2970 | 45+46 11 | 0.12746 | 0.9448 | 23.9303 |
| 40+41 16 | 0.07767 | 0.01312 | 35.0327 | (E) 13 | 0.00094 | 0.0000 | 0.0013 |
| | | | | (P) 14 | 0.12815 | 0.9088 | 24.1934 |

STEP NUMBER 8
VARIABLE ENTERED 4

MULTIPLE R 0.5111
STD. ERROR OF EST. 0.2429

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 30.244 | 3.781 | 64.054 |
| RESIDUAL | 1449 | 85.527 | 0.059 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.50189 ) | | | | | | |
| 055 3 | -0.18732 | 0.02694 | 41.9305 | 037 1 | 0.03334 | 0.5075 | 1.6115 |
| 056 4 | -0.04151 | 0.02589 | 2.5496 | 039 2 | -0.03334 | 0.0909 | 1.6114 |
| 050A 6 | 0.04411 | 0.02707 | 2.6560 | 050C 7 | -0.01519 | 0.6516 | 0.5344 |
| 0 37+39 8 | 0.05514 | 0.01420 | 15.0701 | 42+43 10 | 0.05080 | 0.8955 | 3.7471 |
| 38+44 9 | 0.10731 | 0.02484 | 18.6634 | 45+46 11 | 0.12577 | 0.9628 | 23.2737 |
| 49+50 12 | 0.19678 | 0.04253 | 21.4088 | (E) 13 | 0.00095 | 0.0000 | 0.0013 |
| 33+35 15 | 0.12945 | 0.01984 | 42.5623 | (P) 14 | 0.12948 | 0.9037 | 23.1625 |
| 40+41 16 | 0.07701 | 0.01312 | 34.4458 | | | | |

Table 5-37. (Continued)

STEP NUMBER 0
VARIABLE ENTERED 7

MULTIPLE R 0.5113
STD. ERROR OF EST. 0.2430

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 30.246 | 3.363 | 56.968 |
| RESIDUAL | 1440 | 85.507 | 0.059 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| CONSTANT | | 0.50168 | | | | | | | |
| OSC | 3 | -0.18636 | 0.02899 | 41.3251 | 037 | 1 | 0.03351 | 0.5074 | 1.6268 |
| OSG | 4 | -0.03451 | 0.02730 | 1.7882 | 039 | 2 | -0.03351 | 0.5074 | 1.6267 |
| OSC2 | 5 | 0.05299 | 0.03112 | 2.8900 | 42043 | 10 | 0.05173 | 0.9978 | 3.8874 |
| OSCC | 7 | -0.01499 | 0.02593 | 0.3344 | 45044 | 11 | 0.12549 | 0.9474 | 23.1533 |
| 0 37:3 | 8 | 0.05538 | 0.01421 | 15.1885 | (E) | 13 | 0.00096 | 0.0000 | 0.0013 |
| | 9 | 0.10733 | 0.02485 | 18.5527 | 0C | 14 | 0.12572 | 0.0035 | 23.2383 |
| 49058 | 12 | 0.19623 | 0.04255 | 21.2680 | | | | | |
| 33035 | 15 | 0.12945 | 0.01295 | 62.5634 | | | | | |
| 42041 | 16 | 0.07485 | 0.01313 | 34.2849 | | | | | |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 33035 15 | | 0.3448 | 0.1189 | 0.1189 | 198.3923 | 1 |
| 2 | 0 37:3 8 | | 0.4180 | 0.1747 | 0.0559 | 98.4999 | 2 |
| 3 | OSC 3 | | 0.4516 | 0.2040 | 0.0292 | 53.4184 | 3 |
| 4 | 42041 16 | | 0.4821 | 0.2324 | 0.0285 | 53.0771 | 4 |
| 5 | 49058 12 | | 0.4982 | 0.2482 | 0.0158 | 30.4611 | 5 |
| 6 | [illegible] 9 | | 0.5086 | 0.25.7 | 0.0105 | 20.4957 | 6 |
| 7 | OSCC 6 | | 0.5093 | 0.2599 | 0.0013 | 2.5089 | 7 |
| 8 | OSC 4 | | 0.5111 | 0.2613 | 0.0013 | 2.5696 | 8 |
| 9 | OSC2 7 | | 0.5113 | 0.2614 | 0.0002 | 0.3344 | 9 |

## Table 5-38. Interviewer's Assessment of Difficulty in Use of Information plus Interviewer's Assessment of Difficulty in Acquisition of Information

SUB-PROBLM 12
DEPENDENT VARIABLE ½(Q61+Q62)
MAXIMUM NUMBER OF STEPS 64
F-LEVEL FOR INCLUSION 0.000000
F- EVEL FOR DELETION 0.000000
TI RANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 19

MULTIPLE R 0.2393
STD. ERROR OF EST. 0.2440

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 14.844 | 14.844 | 249.406 |
| RESIDUAL | 4107 | 244.440 | 0.060 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | |
|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.54780 ) | | | | | | | |
| 8+9 19 | -0.29658 | 0.01878 | 249.4064 | Q10 | 1 | -0.02340 | 0.9679 | 2.2490 |
| | | | | Q32 | 2 | 0.10305 | 0.9919 | 44.0746 |
| | | | | Q55 | 3 | -0.09582 | 0.6875 | 38.0493 |
| | | | | Q56 | 4 | -0.03996 | 0.9638 | 6.5658 |
| | | | | Q12 | 5 | 0.09934 | 0.9964 | 40.9272 |
| | | | | Q13 | 6 | 0.09353 | 0.9854 | 36.2372 |
| | | | | Q14 | 7 | 0.07977 | 0.9997 | 26.2934 |
| | | | | Q15 | 8 | -0.00347 | 0.9998 | 0.0495 |
| | | | | Q17 | 9 | -0.11917 | 0.9942 | 59.1508 |
| | | | | Q16 | 10 | -0.01686 | 0.9872 | 1.1678 |
| | | | | Q23 | 11 | 0.12579 | 0.9726 | 66.0186 |
| | | | | Q26 | 12 | 0.05941 | 0.9996 | 14.5428 |
| | | | | Q27 | 13 | 0.05601 | 0.9986 | 12.9205 |
| | | | | Q28 | 14 | 0.03219 | 0.9596 | 4.2602 |
| | | | | Q29 | 15 | -0.00067 | 0.9715 | 0.0018 |
| | | | | 2+7 | 16 | -0.05411 | 0.9996 | 12.0562 |
| | | | | 3X4 | 17 | 0.03793 | 0.9619 | 5.9149 |
| | | | | 5+6 | 18 | 0.09076 | 1.0000 | 34.1059 |
| | | | | 49+58 | 20 | 0.09054 | 0.9984 | 33.9379 |
| | | | | 14+15 | 22 | 0.03761 | 1.0000 | 5.9147 |
| | | | | 14+17 | 23 | -0.04250 | 0.9947 | 7.4299 |
| | | | | 18+26 | 24 | 0.12372 | 0.9834 | 63.8254 |
| | | | | 20+27 | 25 | 0.12487 | 0.9868 | 65.0351 |
| | | | | 21+24 | 26 | 0.01626 | 0.9972 | 1.0864 |
| | | | | 22+25 | 27 | 0.08039 | 0.9912 | 34.7047 |
| | | | | (E) | 28 | 0.24329 | 0.9559 | 93.3225 |
| | | | | (P) | 29 | 0.11724 | 0.9793 | 57.2702 |
| | | | | (F) | 30 | 0.02459 | 0.9761 | 2.4844 |
| | | | | (I) | 31 | 0.05137 | 0.9874 | 10.8652 |
| | | | | 30+31 | 32 | 0.01556 | 0.9998 | 0.9943 |

STEP NUMBER 2
VARIABLE ENTERED 25

MULTIPLE R 0.2682
STD. ERROR OF EST. 0.2421

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 18.855 | 9.328 | 159.165 |
| RESIDUAL | 4106 | 240.629 | 0.059 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.48474 ) | | | | | | | |
| 8+9 19 | -0.27921 | 0.01876 | 221.5457 | Q10 | 1 | -0.02321 | 0.9679 | 2.2135 |
| 20+27 25 | 0.08447 | 0.01047 | 65.0351 | Q32 | 2 | 0.09370 | 0.9851 | 36.3616 |
| | | | | Q55 | 3 | -0.08546 | 0.6818 | 30.2031 |
| | | | | Q56 | 4 | -0.03837 | 0.9636 | 6.0518 |
| | | | | Q12 | 5 | 0.07757 | 0.9602 | 24.8524 |
| | | | | Q13 | 6 | 0.07276 | 0.9533 | 21.8493 |

Table 5-38. (Continued)

| | | | | | |
|---|---|---|---|---|---|
| | Q14 | 7 | 0.05866 | 0.9672 | 14.1724 |
| | Q15 | 8 | 0.00156 | 0.9982 | 0.0099 |
| | Q17 | 9 | -0.08593 | 0.9025 | 30.5402 |
| | Q16 | 10 | -0.01655 | 0.9872 | 1.1251 |
| | Q23 | 11 | 0.08358 | 0.8183 | 28.8781 |
| | Q26 | 12 | -0.00633 | 0.7306 | 0.1644 |
| | Q27 | 13 | -0.02161 | 0.6539 | 1.9179 |
| | Q28 | 14 | 0.02753 | 0.9581 | 3.1126 |
| | Q29 | 15 | -0.00358 | 0.9710 | 0.0525 |
| | 2*7 | 16 | -0.05623 | 0.9994 | 13.0221 |
| | 3X4 | 17 | 0.02660 | 0.9535 | 2.9073 |
| | 5*6 | 18 | 0.08813 | 0.9993 | 32.1338 |
| | 49*58 | 20 | 0.08613 | 0.9967 | 30.6821 |
| | 14*15 | 22 | 0.03049 | 0.9965 | 3.8201 |
| | 14*17 | 23 | -0.02748 | 0.9795 | 3.1022 |
| | 18*26 | 24 | 0.03349 | 0.2711 | 4.6096 |
| | 21*24 | 26 | -0.01839 | 0.9240 | 1.3885 |
| | 22*25 | 27 | 0.04174 | 0.8828 | 7.1645 |
| | (E) | 28 | 0.22655 | 0.7261 | 222.0900 |
| | (P) | 29 | 0.10883 | 0.9736 | 49.1993 |
| | (F) | 30 | 0.02290 | 0.9759 | 2.1547 |
| | (I) | 31 | 0.04809 | 0.9866 | 9.5140 |
| | 30*31 | 32 | 0.02172 | 0.9975 | 1.9376 |

STEP NUMBER 3
VARIABLE ENTERED 18

MULTIPLE R 0.2814
STD. ERROR OF EST. 0.2412

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 20.524 | 6.841 | 117.626 |
| RESIDUAL | 4105 | 238.760 | 0.058 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.40378 ) | | | | | | | |
| 5*6 18 | 0.11681 | 0.02061 | 32.1338 | Q10 | 1 | -0.00999 | 0.9955 | 0.4099 |
| 8*9 19 | -0.27972 | 0.01869 | 224.0340 | Q32 | 2 | 0.09294 | 0.9849 | 35.7582 |
| 20*27 25 | 0.08289 | 0.01044 | 63.0437 | Q55 | 3 | -0.08699 | 0.6817 | 31.2956 |
| | | | | Q56 | 4 | -0.02674 | 0.9458 | 2.9360 |
| | | | | Q12 | 5 | 0.07302 | 0.9572 | 22.0016 |
| | | | | Q13 | 6 | 0.06968 | 0.9519 | 20.0229 |
| | | | | Q14 | 7 | 0.05640 | 0.9664 | 13.0971 |
| | | | | Q15 | 8 | -0.00142 | 0.9971 | 0.0083 |
| | | | | Q17 | 9 | -0.08633 | 0.9025 | 30.8188 |
| | | | | Q16 | 10 | -0.02273 | 0.9826 | 2.1212 |
| | | | | Q23 | 11 | 0.07656 | 0.8123 | 24.1988 |
| | | | | Q26 | 12 | -0.00925 | 0.7298 | 0.3508 |
| | | | | Q27 | 13 | -0.02269 | 0.6539 | 2.1147 |
| | | | | Q28 | 14 | 0.02278 | 0.9552 | 2.1316 |
| | | | | Q29 | 15 | .01015 | 0.9480 | 0.4231 |
| | | | | 2*7 | 16 | -0.06486 | 0.9910 | 17.3384 |
| | | | | 3X4 | 17 | 0.02599 | 0.9535 | 2.7745 |
| | | | | 49*58 | 20 | 0.07324 | 0.9711 | 22.1357 |
| | | | | 14*15 | 22 | 0.02700 | 0.9948 | 2.9947 |
| | | | | 14*17 | 23 | -0.02930 | 0.9791 | 3.5262 |
| | | | | 18*26 | 24 | 0.02875 | 0.2702 | 3.3950 |
| | | | | 21*24 | 26 | -0.02415 | 0.9203 | 2.3959 |
| | | | | 22*25 | 27 | 0.03664 | 0.8796 | 5.5170 |
| | | | | (E) | 28 | 0.21711 | 0.9076 | 203.0236 |
| | | | | (P) | 29 | 0.10361 | 0.9693 | 44.5321 |
| | | | | (F) | 30 | 0.01408 | 0.9698 | 1.0617 |
| | | | | (I) | 31 | 0.05019 | 0.9861 | 10.3639 |
| | | | | 30*31 | 32 | 0.01796 | 0.9956 | 1.3238 |

Table 5-38. (Continued)

STEP NUMBER 4
VARIABLE ENTERED 3

MULTIPLE R 0.2935
STD. ERROR OF EST. 0.2403

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 22.331 | 5.583 | 96.694 |
| RESIDUAL | 4104 | 236.953 | 0.058 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.41635 ) | | |
| Q55 | 3 | -0.10049 | 0.01796 | 31.2956 |
| 5*6 | 18 | 0.11836 | 0.02053 | 33.2253 |
| 8*9 | 19 | -0.21076 | 0.02233 | 89.0891 |
| 20*27 | 25 | 0.07753 | 0.01044 | 55.1152 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.01690 | 0.9398 | 1.1725 |
| Q32 | 2 | 0.09329 | 0.9849 | 36.0214 |
| Q56 | 4 | -0.03685 | 0.9340 | 5.5779 |
| Q12 | 5 | 0.04496 | 0.9519 | 10.4774 |
| Q13 | 6 | 0.04105 | 0.9413 | 15.3478 |
| Q14 | 7 | 0.05937 | 0.9654 | 14.5110 |
| Q15 | 8 | -0.00243 | 0.9969 | 0.0242 |
| Q17 | 9 | -0.08445 | 0.9019 | 29.4703 |
| Q16 | 10 | -0.02337 | 0.9826 | 2.2415 |
| Q23 | 11 | 0.07386 | 0.8113 | 22.5070 |
| Q26 | 12 | -0.01122 | 0.7294 | 0.9169 |
| Q27 | 13 | -0.02371 | 0.6538 | 2.3080 |
| Q28 | 14 | 0.02446 | 0.9549 | 2.4564 |
| Q29 | 15 | 0.00220 | 0.9400 | 0.0199 |
| 2*7 | 16 | -0.06077 | 0.9885 | 15.2071 |
| 3X4 | 17 | 0.01892 | 0.9469 | 1.4695 |
| 49*58 | 20 | 0.07157 | 0.9706 | 21.1223 |
| 14*15 | 22 | 0.02767 | 0.9948 | 3.1431 |
| 14*17 | 23 | -0.02590 | 0.9775 | 2.7549 |
| 18*26 | 24 | 0.02501 | 0.2697 | 2.5671 |
| 21*24 | 26 | -0.02685 | 0.9195 | 2.9606 |
| 22*25 | 27 | 0.03408 | 0.8787 | 4.7721 |
| (E) | 28 | 0.20218 | 0.8462 | 176.8634 |
| (P) | 29 | 0.09847 | 0.9651 | 40.1729 |
| (F) | 30 | 0.01954 | 0.9684 | 1.9664 |
| (I) | 31 | 0.04685 | 0.9845 | 9.0246 |
| 30*31 | 32 | 0.01732 | 0.9955 | 1.2313 |

STEP NUMBER 5
VARIABLE ENTERED 20

MULTIPLE R 0.3013
STD. ERROR OF EST. 0.2397

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 23.545 | 4.709 | 81.959 |
| RESIDUAL | 4103 | 235.739 | 0.057 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.39569 ) | | |
| Q55 | 3 | -0.07862 | 0.01792 | 33.2777 |
| 5*6 | 18 | 0.10305 | 0.02075 | 24.6631 |
| 8*9 | 19 | -0.20894 | 0.02228 | 87.9578 |
| 49*58 | 20 | 0.11321 | 0.02463 | 21.1223 |
| 20*27 | 25 | 0.07585 | 0.01042 | 52.9331 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.00961 | 0.9298 | 0.3789 |
| Q32 | 2 | 0.09336 | 0.9849 | 36.3680 |
| Q56 | 4 | -0.02941 | 0.9232 | 3.5505 |
| Q12 | 5 | 0.05935 | 0.9395 | 14.4997 |
| Q13 | 6 | 0.05427 | 0.9318 | 12.1184 |
| Q14 | 7 | 0.05540 | 0.9621 | 12.6262 |
| Q15 | 8 | -0.00254 | 0.9969 | 0.0264 |
| Q17 | 9 | -0.08587 | 0.9017 | 30.3252 |
| Q16 | 10 | -0.03044 | 0.9735 | 3.8053 |
| Q23 | 11 | 0.07272 | 0.8110 | 21.8080 |
| Q26 | 12 | -0.01520 | 0.7273 | 0.9477 |
| Q27 | 13 | -0.02804 | 0.6515 | 3.2267 |
| Q28 | 14 | 0.01880 | 0.9487 | 1.4499 |
| Q29 | 15 | 0.01081 | 0.9268 | 0.4793 |
| 2*7 | 16 | -0.06114 | 0.9884 | 15.3896 |
| 3X4 | 17 | 0.02394 | 0.9425 | 2.3522 |
| 14*15 | 22 | 0.02557 | 0.9938 | 2.6830 |
| 14*17 | 23 | -0.02956 | 0.9751 | 3.5882 |
| 18*26 | 24 | 0.02375 | 0.2696 | 2.3154 |
| 21*24 | 26 | -0.02937 | 0.9184 | 3.5421 |
| 22*25 | 27 | 0.03011 | 0.8758 | 3.7222 |
| (E) | 28 | 0.19199 | 0.8097 | 156.9816 |
| (P) | 29 | 0.09098 | 0.9520 | 34.2354 |
| (F) | 30 | 0.01849 | 0.9681 | 1.4030 |
| (I) | 31 | 0.04486 | 0.9836 | 8.2703 |
| 30*31 | 32 | 0.01486 | 0.9943 | 0.9066 |

Table 5-38. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 6

MULTIPLE R 0.3058
STD. ERROR OF EST. 0.2394

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 24.239 | 4.040 | 70.504 |
| RESIDUAL | 4102 | 235.045 | 0.057 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.38926 ) | | | | | | | |
| Q55 3 | -0.09210 | 0.01800 | 25.1913 | Q10 | 1 | -0.00915 | 0.9298 | 0.3433 |
| Q13 6 | 0.03687 | 0.01059 | 12.1184 | Q32 | 2 | 0.09059 | 0.9818 | 33.9344 |
| 5+6 18 | 0.10134 | 0.02073 | 23.8958 | Q56 | 4 | -0.03035 | 0.9229 | 3.7822 |
| 8+9 19 | -0.20699 | 0.02226 | 85.4955 | Q12 | 5 | 0.03087 | 0.5128 | 3.9115 |
| 49+58 20 | 0.10457 | 0.02473 | 17.8859 | Q14 | 7 | 0.04794 | 0.9409 | 9.4483 |
| 20+27 25 | 0.06968 | 0.01056 | 43.5354 | Q15 | 8 | -0.00103 | 0.9962 | 0.0043 |
| | | | | Q17 | 9 | -0.07920 | 0.8854 | 25.8861 |
| | | | | Q16 | 10 | -0.03292 | 0.9716 | 4.4483 |
| | | | | Q23 | 11 | 0.06970 | 0.8081 | 20.0192 |
| | | | | Q26 | 12 | -0.01925 | 0.7234 | 1.5195 |
| | | | | Q27 | 13 | -0.03191 | 0.6484 | 4.1805 |
| | | | | Q28 | 14 | 0.01749 | 0.9481 | 1.2555 |
| | | | | Q29 | 15 | 0.02153 | 0.9266 | 2.5453 |
| | | | | 2+7 | 16 | -0.05921 | 0.9870 | 14.4276 |
| | | | | 3X4 | 17 | 0.00331 | 0.8029 | 0.0451 |
| | | | | 14+15 | 22 | 0.02282 | 0.9912 | 2.1374 |
| | | | | 14+17 | 23 | -0.02929 | 0.9751 | 3.5211 |
| | | | | 18+26 | 24 | 0.01835 | 0.2668 | 1.3811 |
| | | | | 21+24 | 26 | -0.03330 | 0.9139 | 4.5526 |
| | | | | 22+25 | 27 | 0.02349 | 0.8619 | 2.2649 |
| | | | | (E) | 28 | 0.18981 | 0.8077 | 153.2708 |
| | | | | (P) | 29 | 0.08687 | 0.9453 | 31.1821 |
| | | | | (F) | 30 | 0.01792 | 0.9680 | 1.3173 |
| | | | | (I) | 31 | 0.02875 | 0.8788 | 3.3929 |
| | | | | 30+31 | 32 | 0.01573 | 0.9941 | 1.0155 |

STEP NUMBER 7
VARIABLE ENTERED 10

MULTIPLE R 0.3074
STD. ERROR OF EST. 0.2393

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 24.494 | 3.499 | 61.118 |
| RESIDUAL | 4101 | 234.790 | 0.057 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.40110 ) | | | | | | | |
| Q55 3 | -0.09209 | 0.01799 | 25.2036 | Q10 | 1 | -0.01144 | 0.9254 | 0.5365 |
| Q13 6 | 0.03786 | 0.01060 | 12.7637 | Q32 | 2 | 0.09098 | 0.9817 | 34.2228 |
| Q16 10 | -0.02838 | 0.01346 | 4.4485 | Q56 | 4 | -0.03222 | 0.9202 | 4.2597 |
| 5+6 18 | 0.10359 | 0.02075 | 24.9270 | Q12 | 5 | 0.03159 | 0.5125 | 4.0948 |
| 8+9 19 | -0.20227 | 0.02236 | 81.8382 | Q14 | 7 | 0.04837 | 0.9408 | 9.6149 |
| 49+58 20 | 0.10936 | 0.02482 | 19.4090 | Q15 | 8 | -0.00131 | 0.9961 | 0.0070 |
| 20+27 25 | 0.06931 | 0.01056 | 43.0997 | Q17 | 9 | -0.07893 | 0.8853 | 25.7057 |
| | | | | Q23 | 11 | 0.06856 | 0.8070 | 19.3652 |
| | | | | Q26 | 12 | -0.01944 | 0.7233 | 1.5495 |
| | | | | Q27 | 13 | -0.03150 | 0.6483 | 4.0728 |
| | | | | Q28 | 14 | 0.02309 | 0.9237 | 2.1869 |
| | | | | Q29 | 15 | 0.00735 | 0.9112 | 0.2215 |
| | | | | 2+7 | 16 | -0.05960 | 0.9869 | 14.6148 |
| | | | | 3X4 | 17 | 0.00283 | 0.8028 | 0.0329 |
| | | | | 14+15 | 22 | 0.02281 | 0.9912 | 2.1357 |
| | | | | 14+17 | 23 | -0.02881 | 0.9749 | 3.4061 |
| | | | | 18+26 | 24 | 0.01668 | 0.2661 | 1.1406 |
| | | | | 21+24 | 26 | -0.03357 | 0.9138 | 4.6255 |
| | | | | 22+25 | 27 | 0.02329 | 0.8619 | 2.2261 |
| | | | | (E) | 28 | 0.19156 | 0.8061 | 156.1752 |
| | | | | (P) | 29 | 0.08748 | 0.9450 | 31.0213 |
| | | | | (F) | 30 | 0.01877 | 0.9674 | 1.4455 |
| | | | | (I) | 31 | 0.03068 | 0.8759 | 3.8635 |
| | | | | 30+31 | 32 | 0.01401 | 0.9912 | 0.8045 |

Table 5-38. (Continued)

STEP NUMBER 8
VARIABLE ENTERED 4

MULTIPLE R 0.3089
STD. ERROR OF EST. 0.2392

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 24.738 | 3.092 | 54.054 |
| RESIDUAL | 4100 | 234.546 | 0.057 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.43134 ) | | |
| Q55 | 3 | -0.09630 | 0.01810 | 28.3141 |
| Q56 | 4 | -0.03174 | 0.01538 | 4.2537 |
| Q13 | 6 | 0.03827 | 0.01060 | 13.0476 |
| Q16 | 10 | -0.02990 | 0.01347 | 4.9257 |
| 5+6 | 18 | 0.09863 | 0.02088 | 22.3156 |
| 8+9 | 19 | -0.20679 | 0.02246 | 84.7838 |
| 49+58 | 20 | 0.10402 | 0.02494 | 17.3935 |
| 20+27 | 25 | 0.06884 | 0.01056 | 42.5274 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.01439 | 0.4953 | 0.8494 |
| Q32 | 2 | 0.09096 | 0.9817 | 34.1934 |
| Q12 | 5 | 0.03119 | 0.5124 | 3.9922 |
| Q14 | 7 | 0.04907 | 0.9404 | 9.8952 |
| Q15 | 8 | -0.00055 | 0.9955 | 0.0012 |
| Q17 | 9 | -0.07830 | 0.8849 | 25.2831 |
| Q23 | 11 | 0.06865 | 0.8070 | 19.4073 |
| Q26 | 12 | -0.01935 | 0.7233 | 1.5354 |
| Q27 | 13 | -0.03104 | 0.6482 | 3.9540 |
| Q28 | 14 | 0.02144 | 0.9211 | 1.8851 |
| Q29 | 15 | 0.02681 | 0.6881 | 2.9494 |
| 2+7 | 16 | -0.05912 | 0.9867 | 14.3761 |
| 3X4 | 17 | 0.00435 | 0.8010 | 0.0776 |
| 14+15 | 22 | 0.02377 | 0.9903 | 2.3165 |
| 14+17 | 23 | -0.02787 | 0.9740 | 3.1856 |
| 18+26 | 24 | 0.01622 | 0.2661 | 1.0793 |
| 21+24 | 26 | -0.03386 | 0.9138 | 4.7039 |
| 22+25 | 27 | 0.02281 | 0.8617 | 2.1332 |
| (E) | 28 | 0.19397 | 0.8032 | 160.2460 |
| (P) | 29 | 0.08571 | 0.9415 | 30.3361 |
| (F) | 30 | 0.01672 | 0.9633 | 1.1456 |
| (I) | 31 | 0.03117 | 0.8757 | 3.9873 |
| 30+31 | 32 | 0.01296 | 0.9902 | 0.6886 |

STEP NUMBER 9
VARIABLE ENTERED 22

MULTIPLE R 0.3097
STD. ERROR OF EST. 0.2391

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 24.870 | 2.763 | 48.320 |
| RESIDUAL | 4099 | 234.414 | 0.057 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.42545 ) | | |
| Q55 | 3 | -0.09673 | 0.01810 | 28.5736 |
| Q56 | 4 | -0.03242 | 0.01538 | 4.4420 |
| Q13 | 6 | 0.03745 | 0.01061 | 12.4617 |
| Q16 | 10 | -0.02991 | 0.01347 | 4.9320 |
| 5+6 | 18 | 0.09744 | 0.02089 | 21.7559 |
| 8+9 | 19 | -0.20696 | 0.02245 | 84.9587 |
| 49+58 | 20 | 0.10296 | 0.02495 | 17.3322 |
| 14+15 | 22 | 0.02468 | 0.01621 | 2.3155 |
| 20+27 | 25 | 0.06805 | 0.01057 | 41.4791 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.01567 | 0.4939 | 1.0065 |
| Q32 | 2 | 0.09151 | 0.9812 | 34.6058 |
| Q12 | 5 | 0.02929 | 0.5088 | 3.5193 |
| Q14 | 7 | 0.04370 | 0.5860 | 7.9399 |
| Q15 | 8 | -0.04370 | 0.2367 | 7.8399 |
| Q17 | 9 | -0.07828 | 0.8849 | 25.2675 |
| Q23 | 11 | 0.06687 | 0.8010 | 18.4383 |
| Q26 | 12 | -0.01977 | 0.7231 | 1.6322 |
| Q27 | 13 | -0.03167 | 0.6477 | 4.1137 |
| Q28 | 14 | 0.02054 | 0.9197 | 1.7295 |
| Q29 | 15 | 0.02761 | 0.6874 | 3.1255 |
| 2+7 | 16 | -0.06019 | 0.9849 | 14.9003 |
| 3X4 | 17 | 0.00488 | 0.8006 | 0.0975 |
| 14+17 | 23 | -0.04081 | 0.8178 | 6.8355 |
| 18+26 | 24 | 0.01614 | 0.2661 | 1.0677 |
| 21+24 | 26 | -0.03506 | 0.9116 | 5.0443 |
| 22+25 | 27 | 0.02128 | 0.8579 | 1.8571 |
| (E) | 28 | 0.19261 | 0.7952 | 157.8886 |
| (P) | 29 | 0.08602 | 0.9413 | 30.5475 |
| (F) | 30 | 0.01724 | 0.9628 | 1.2181 |
| (I) | 31 | 0.03110 | 0.8757 | 3.9673 |
| 30+31 | 32 | 0.01476 | 0.9847 | 0.8936 |

Table 5-38. (Continued)

STEP NUMBER 10
VARIABLE ENTERED 27

MULTIPLE R 0.3104
STD. ERROR OF EST. 0.2391

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 24.976 | 2.498 | 43.683 |
| RESIDUAL | 4098 | 234.308 | 0.057 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.41493 ) | | |
| Q55 | 3 | -0.09625 | 0.01813 | 28.2839 |
| Q56 | 4 | -0.03205 | 0.01538 | 4.3612 |
| Q13 | 5 | 0.03565 | 0.01069 | 11.1254 |
| Q16 | 10 | -0.02978 | 0.01347 | 4.8883 |
| 5*6 | 18 | 0.09619 | 0.02091 | 21.1646 |
| 8*9 | 19 | -0.20606 | 0.02246 | 84.1697 |
| 49*58 | 20 | 0.10154 | 0.02497 | 16.5424 |
| 14*15 | 22 | 0.02321 | 0.01625 | 2.0403 |
| 20*27 | 25 | 0.06349 | 0.01108 | 32.8224 |
| 22*25 | 27 | 0.02323 | 0.01705 | 1.8571 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | 0.01626 | 0.4935 | 1.0838 |
| Q32 | 2 | 0.09056 | 0.9787 | 33.8813 |
| Q12 | 5 | 0.02705 | 0.5022 | 3.0007 |
| Q14 | 7 | 0.04236 | 0.5833 | 7.3633 |
| Q15 | 8 | -0.04236 | 0.2356 | 7.3633 |
| Q17 | 9 | -0.07629 | 0.8720 | 23.9851 |
| Q23 | 11 | 0.06466 | 0.7873 | 17.2036 |
| Q26 | 12 | -0.02113 | 0.7204 | 1.8296 |
| Q27 | 13 | -0.03278 | 0.4461 | 4.4069 |
| Q28 | 14 | 0.02127 | 0.9187 | 1.8552 |
| Q29 | 15 | 0.02802 | 0.6872 | 3.2199 |
| 2*7 | 16 | -0.06033 | 0.9849 | 14.9671 |
| 3X4 | 17 | 0.00405 | 0.7994 | 0.0672 |
| 14*17 | 23 | -0.03957 | 0.8147 | 6.4240 |
| 18*26 | 24 | 0.01344 | 0.2614 | 0.7400 |
| 21*24 | 26 | -0.07444 | 0.4223 | 22.8287 |
| (E) | 28 | 0.19269 | 0.7952 | 157.9873 |
| (P) | 29 | 0.08539 | 0.9403 | 30.0926 |
| (F) | 30 | 0.01710 | 0.9628 | 1.1984 |
| (I) | 31 | 0.03058 | 0.8752 | 3.8360 |
| 30*31 | 32 | 0.01334 | 0.9801 | 0.7295 |

STEP NUMBER 11
VARIABLE ENTERED 1

MULTIPLE R 0.3108
STD. ERROR OF EST. 0.2391

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 11 | 25.038 | 2.276 | 39.811 |
| RESIDUAL | 4097 | 234.246 | 0.057 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.40744 ) | | |
| Q10 | 1 | 0.02222 | 0.02135 | 1.0838 |
| Q55 | 3 | -0.09615 | 0.01810 | 28.2219 |
| Q56 | 4 | -0.04700 | 0.02105 | 4.9876 |
| Q13 | 6 | 0.03587 | 0.01069 | 11.2574 |
| Q16 | 10 | -0.02917 | 0.01348 | 4.6878 |
| 5*6 | 18 | 0.09767 | 0.02096 | 21.7222 |
| 8*9 | 19 | -0.20483 | 0.02249 | 82.9396 |
| 49*58 | 20 | 0.10236 | 0.02498 | 16.7917 |
| 14*15 | 22 | 0.02407 | 0.01627 | 2.1895 |
| 20*27 | 25 | 0.06318 | 0.01109 | 32.4729 |
| 22*25 | 27 | 0.02372 | 0.01706 | 1.9342 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q32 | 2 | 0.09013 | 0.9778 | 33.5498 |
| Q12 | 5 | 0.02769 | 0.5015 | 3.1431 |
| Q14 | 7 | 0.04224 | 0.5832 | 7.3224 |
| Q15 | 8 | -0.04224 | 0.2356 | 7.3223 |
| Q17 | 9 | -0.07649 | 0.8719 | 24.1063 |
| Q23 | 11 | 0.06479 | 0.7873 | 17.2660 |
| Q26 | 12 | -0.02151 | 0.7200 | 1.8958 |
| Q27 | 13 | -0.03323 | 0.6457 | 4.5275 |
| Q28 | 14 | 0.02114 | 0.9186 | 1.8309 |
| Q29 | 15 | 0.02377 | 0.5986 | 2.3162 |
| 2*7 | 16 | -0.06027 | 0.9849 | 14.9360 |
| 3X4 | 17 | 0.00435 | 0.7991 | 0.0776 |
| 14*17 | 23 | -0.03980 | 0.8145 | 6.4976 |
| 18*26 | 24 | 0.01367 | 0.2613 | 0.7656 |
| 21*24 | 26 | -0.07466 | 0.4223 | 22.9589 |
| (E) | 28 | 0.19361 | 0.7937 | 159.5119 |
| (P) | 29 | 0.08541 | 0.9403 | 30.1029 |
| (F) | 30 | 0.01688 | 0.9626 | 1.1671 |
| (I) | 31 | 0.03009 | 0.8743 | 3.7111 |
| 30*31 | 32 | 0.01367 | 0.9797 | 0.7651 |

Table 5-38. (Continued)

STEP NUMBER 12
VARIABLE ENTERED 17

MULTIPLE R 0.3108
STD. ERROR OF EST. 0.2391

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 12 | 25.043 | 2.087 | 36.492 |
| RESIDUAL | 4096 | 234.241 | 0.057 | |

| VARIABLES IN EQUATION | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|
| VARIABLE | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | 0.40664 ) | | | | | | | |
| Q10 1 | 0.02233 | 0.02135 | 1.0939 | Q32 | 2 | 0.09015 | 0.9778 | 33.5528 |
| Q55 3 | -0.09594 | 0.01812 | 28.0445 | Q12 | 5 | 0.02748 | 0.4997 | 3.0946 |
| Q56 4 | -0.04729 | 0.02107 | 5.0367 | Q14 | 7 | 0.04233 | 0.5830 | 7.3508 |
| Q13 6 | 0.03465 | 0.01155 | 8.9957 | Q15 | 8 | -0.04233 | 0.2355 | 7.3507 |
| Q16 10 | -0.02913 | 0.01348 | 4.6658 | Q17 | 9 | -0.07651 | 0.0719 | 24.1098 |
| 3X4 17 | 0.00643 | 0.02308 | 0.0776 | Q23 | 11 | 0.06494 | 0.7866 | 17.3439 |
| 5+6 18 | 0.09758 | 0.02096 | 21.6729 | Q26 | 12 | -0.02156 | 0.7200 | 1.9009 |
| 8+9 19 | -0.20618 | 0.02262 | 81.5074 | Q27 | 13 | -0.03326 | 0.6456 | 4.5360 |
| 49+58 20 | 0.10312 | 0.02513 | 15.8359 | Q28 | 14 | 0.02101 | 0.9177 | 1.8090 |
| 14+15 22 | 0.02418 | 0.01628 | 2.2076 | Q29 | 15 | 0.02379 | 0.5986 | 2.3187 |
| 20+27 25 | 0.06313 | 0.01109 | 32.4157 | 2+7 | 16 | -0.06114 | 0.9727 | 15.3630 |
| 22+25 27 | 0.02354 | 0.01707 | 1.9012 | 14+17 | 23 | -0.03977 | 0.8143 | 6.4856 |
| | | | | 18+26 | 24 | 0.01358 | 0.2612 | 0.7555 |
| | | | | 21+24 | 26 | -0.07476 | 0.4221 | 23.0169 |
| | | | | (E) | 28 | 0.19365 | 0.7936 | 159.5525 |
| | | | | (P) | 29 | .08549 | 0.9401 | 33.1479 |
| | | | | (F) | 30 | .01692 | 0.9625 | 1.1727 |
| | | | | (I) | 31 | 0.03023 | 0.8735 | 3.7463 |
| | | | | 30+31 | 32 | 0.01351 | 0.9783 | 0.7475 |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDEN VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 8+9 19 | | 0.2393 | 0.0573 | 0.0573 | 249.4066 | 1 |
| 2 | 20+27 25 | | 0.2682 | 0.0719 | 0.0147 | 65.0351 | 2 |
| 3 | 5+6 18 | | 0.2814 | 0.0792 | 0.0072 | 32.1338 | 3 |
| 4 | Q55 3 | | 0.2935 | 0.0861 | 0.0070 | 31.2956 | 4 |
| 5 | 49+58 20 | | 0.3013 | 0.0908 | 0.0047 | 21.1223 | 5 |
| 6 | Q13 6 | | 0.3058 | 0.0935 | 0.0027 | 12.1184 | 6 |
| 7 | Q16 10 | | 0.3074 | 0.0945 | 0.0010 | 4.4483 | 7 |
| 8 | Q56 4 | | 0.3089 | 0.0954 | 0.0009 | 4.2597 | 8 |
| 9 | 14+15 22 | | 0.3097 | 0.0959 | 0.0005 | 2.3165 | 9 |
| 10 | 22+25 27 | | 0.3104 | 0.0963 | 0.0004 | 1.8571 | 10 |
| 11 | Q10 1 | | 0.3103 | 0.0966 | 0.0002 | 1.0838 | 11 |
| 12 | 3X4 17 | | 0.3108 | 0.0966 | 0.0000 | 0.0776 | 12 |

## Table 5-39. Interviewer's Assessment of Task Creativity

SUB-PROBLM 12
DEPENDENT VARIABLE Q63
MAXIMUM NUMBER OF STEPS 28
F-LEVEL FOR INCLUSION 0.000000
F-LEVEL FOR DELETION 0.000000
TOLERANCE LEVEL 0.001000

STEP NUMBER 1
VARIABLE ENTERED 11

MULTIPLE R 0.2858
STD. ERROR OF EST. 0.3092

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 1 | 12.622 | 12.622 | 132.047 |
| RESIDUAL | 1485 | 141.948 | 0.096 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.83211 ) | | |
| R*9 | 11 | -0.45314 | 0.03943 | 132.0470 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.03051 | 0.9687 | 1.3029 |
| Q48 | 2 | 0.05604 | 0.9978 | 4.6750 |
| Q55 | 3 | -0.12749 | 0.6898 | 24.5183 |
| Q56 | 4 | -0.01185 | 0.9645 | 0.2085 |
| Q50A | 6 | 0.15210 | 0.9309 | 35.1422 |
| Q50C | 7 | 0.04378 | 0.9840 | 2.8494 |
| 2*7 | 8 | -0.01384 | 0.9996 | 0.2843 |
| 3X4 | 9 | 0.14620 | 0.9583 | 32.4103 |
| 5*6 | 10 | 0.08883 | 0.9999 | 11.8019 |
| 49*58 | 12 | 0.15189 | 0.9993 | 35.0452 |
| 51*52 | 13 | 0.08860 | 0.9999 | 11.7417 |
| (F) | 14 | -0.02515 | 0.9770 | 0.9389 |

STEP NUMBER 2
VARIABLE ENTERED 6

MULTIPLE R 0.3208
STD. ERROR OF EST. 0.3057

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 2 | 15.906 | 7.953 | 85.113 |
| RESIDUAL | 1484 | 138.665 | 0.093 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.70868 ) | | |
| Q50A | 6 | 0.18007 | 0.03038 | 35.1422 |
| R*9 | 11 | -0.39018 | 0.04041 | 93.2392 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02939 | 0.9686 | 1.2822 |
| Q48 | 2 | 0.06012 | 0.9974 | 5.3800 |
| Q55 | 3 | -0.08614 | 0.6256 | 11.0868 |
| Q56 | 4 | -0.01714 | 0.9635 | 0.4357 |
| Q50C | 7 | -0.04006 | 0.7266 | 2.3840 |
| 2*7 | 8 | -0.00388 | 0.9953 | 0.0223 |
| 3X4 | 9 | 0.13398 | 0.9498 | 27.1067 |
| 5*6 | 10 | 0.07548 | 0.9908 | 8.4983 |
| 49*58 | 12 | 0.12001 | 0.9408 | 21.6701 |
| 51*52 | 13 | 0.10376 | 0.9919 | 16.1388 |
| (F) | 14 | -0.02054 | 0.9760 | 0.6261 |

Table 5-39. (Continued)

STEP NUMBER 3
VARIABLE ENTERED 9

MULTIPLE R 0.3450
STD. ERROR OF EST. 0.3039

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 3 | 18.395 | 6.132 | 66.775 |
| RESIDUAL | 1483 | 136.176 | 0.092 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.67097 ) | | |
| Q50A | 6 | 0.16519 | 0.03025 | 29.8273 |
| 3X4 | 9 | 0.23571 | 0.04527 | 27.1067 |
| A+9 | 11 | -0.35324 | 0.04068 | 75.3983 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.03196 | 0.7683 | 1.5155 |
| Q48 | 2 | 0.05871 | 0.4971 | 5.1254 |
| Q55 | 3 | -0.07799 | 0.6228 | 9.0703 |
| Q56 | 4 | -0.02409 | 0.9611 | 0.8608 |
| Q50C | 7 | -0.04004 | 0.7265 | 2.3705 |
| 2*7 | 8 | -0.01549 | 0.9881 | 0.3558 |
| 5*6 | 10 | 0.07527 | 0.9007 | 8.4432 |
| 49*58 | 12 | 0.13183 | 0.9353 | 26.2134 |
| 51*52 | 13 | 0.10180 | 0.9915 | 15.5182 |
| (F) | 14 | -0.01993 | 0.9760 | 0.5892 |

STEP NUMBER 4
VARIABLE ENTERED 12

MULTIPLE R 0.3665
STD. ERROR OF EST. 0.3005

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 4 | 20.762 | 5.190 | 57.486 |
| RESIDUAL | 1482 | 133.809 | 0.090 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.62042 ) | | |
| Q50A | 6 | 0.12584 | 0.03096 | 16.5190 |
| 3X4 | 9 | 0.25336 | 0.04503 | 31.6628 |
| A+9 | 11 | -0.35861 | 0.04035 | 78.9759 |
| 49*58 | 12 | 0.26235 | 0.05124 | 26.2134 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.01722 | 0.9558 | 0.4392 |
| Q48 | 2 | 0.01145 | 0.8642 | 0.1940 |
| Q55 | 3 | -0.08303 | 0.6221 | 10.2818 |
| Q56 | 4 | -0.00707 | 0.9448 | 0.0740 |
| Q50C | 7 | -0.03145 | 0.7232 | 1.4662 |
| 2*7 | 8 | -0.02097 | 0.9865 | 0.6518 |
| 5*6 | 10 | 0.05706 | 0.9695 | 4.8368 |
| 51*52 | 13 | 0.05804 | 0.8587 | 5.0067 |
| (F) | 14 | -0.02484 | 0.9747 | 0.9146 |

STEP NUMBER 5
VARIABLE ENTERED 3

MULTIPLE R 0.3745
STD. ERROR OF EST. 0.2995

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 5 | 21.684 | 4.337 | 48.334 |
| RESIDUAL | 1481 | 132.886 | 0.090 | |

VARIABLES IN EQUATION

| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE |
|---|---|---|---|---|
| (CONSTANT | | 0.65397 ) | | |
| Q55 | 3 | -0.12502 | 0.03899 | 10.2818 |
| Q50A | 6 | 0.09499 | 0.03233 | 8.6323 |
| 3X4 | 9 | 0.24402 | 0.04498 | 29.4318 |
| A+9 | 11 | -0.28446 | 0.04440 | 37.5827 |
| 49*58 | 12 | 0.26766 | 0.05111 | 27.4273 |

VARIABLES NOT IN EQUATION

| VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
|---|---|---|---|---|
| Q10 | 1 | -0.02416 | 0.9694 | 0.8645 |
| Q48 | 2 | 0.01326 | 0.8638 | 0.2604 |
| Q56 | 4 | -0.01527 | 0.9359 | 0.3453 |
| Q50C | 7 | -0.03262 | 0.7231 | 1.5768 |
| 2*7 | 8 | -0.01851 | 0.9856 | 0.5072 |
| 5*6 | 10 | 0.06035 | 0.9682 | 5.4104 |
| 51*52 | 13 | 0.05932 | 0.8685 | 5.2265 |
| (F) | 14 | -0.02187 | 0.9734 | 0.7079 |

Table 5-39. (Continued)

STEP NUMBER 6
VARIABLE ENTERED 10

MULTIPLE R 0.3787
STD. ERROR OF EST. 0.2991

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 6 | 22.168 | 3.695 | 41.300 |
| RESIDUAL | 1480 | 132.402 | 0.089 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.59289 ) | | | | | | | |
| 055 | 3 | -0.12834 | 0.03896 | 10.8539 | 010 | 1 | -0.01635 | 0.9328 | 0.3954 |
| 050A | 6 | 0.09012 | 0.03235 | 7.7612 | 048 | 2 | 0.01202 | 0.8634 | 0.2138 |
| 3X4 | 9 | 0.24188 | 0.04492 | 28.9926 | 056 | 4 | -0.00870 | 0.9245 | 0.1120 |
| 5+6 | 10 | 0.10010 | 0.04303 | 5.4104 | 050C | 7 | -0.02841 | 0.7193 | 1.1944 |
| 8+9 | 11 | -0.28527 | 0.04633 | 37.9088 | 2+7 | 8 | -0.02426 | 0.9771 | 0.8707 |
| 49+58 | 12 | 0.25022 | 0.05158 | 23.5316 | 51+52 | 13 | 0.06027 | 0.8584 | 5.3929 |
| | | | | | (F) | 14 | -0.02567 | 0.9697 | 0.9751 |

STEP NUMBER 7
VARIABLE ENTERED 7

MULTIPLE R 0.3796
STD. ERROR OF EST. 0.2991

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 7 | 22.775 | 3.182 | 35.575 |
| RESIDUAL | 1479 | 132.296 | 0.089 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.60260 ) | | | | | | | |
| 055 | 3 | -0.12877 | 0.03896 | 10.9273 | 010 | 1 | -0.00846 | 0.8578 | 0.1107 |
| 050A | 6 | 0.11016 | 0.03718 | 8.7774 | 048 | 2 | 0.00764 | 0.8419 | 0.0862 |
| 050C | 7 | -0.03266 | 0.02989 | 1.1944 | 056 | 4 | 0.00061 | 0.8260 | 0.0005 |
| 3X4 | 9 | 0.24152 | 0.04492 | 28.9075 | 2+7 | 8 | -0.02325 | 0.9758 | 0.7995 |
| 5+6 | 10 | 0.09670 | 0.04314 | 5.0244 | 51+52 | 13 | 0.05805 | 0.8519 | 4.9977 |
| 8+9 | 11 | -0.28429 | 0.04634 | 37.6375 | (F) | 14 | -0.02707 | 0.9675 | 1.0838 |
| 49+58 | 12 | 0.24703 | 0.05166 | 22.8670 | | | | | |

STEP NUMBER 8
VARIABLE ENTERED 8

MULTIPLE R 0.3802
STD. ERROR OF EST. 0.2991

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 8 | 22.347 | 2.793 | 31.224 |
| RESIDUAL | 1478 | 132.224 | 0.089 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.61809 ) | | | | | | | |
| 055 | 3 | -0.12781 | 0.03897 | 10.7548 | 010 | 1 | -0.00858 | 0.8578 | 0.1087 |
| 050A | 6 | 0.10739 | 0.03732 | 8.2830 | 048 | 2 | 0.00730 | 0.8417 | 0.0788 |
| 050C | 7 | -0.03169 | 0.02991 | 1.1229 | 056 | 4 | 0.00045 | 0.8259 | 0.0003 |
| 2+7 | 8 | -0.03929 | 0.04394 | 0.7995 | 51+52 | 13 | 0.05680 | 0.8489 | 4.7805 |
| 3X4 | 9 | 0.24510 | 0.04510 | 29.5318 | (F) | 14 | -0.02640 | 0.9667 | 1.0303 |
| 5+6 | 10 | 0.10039 | 0.04334 | 5.3652 | | | | | |
| 8+9 | 11 | -0.28444 | 0.04634 | 37.6736 | | | | | |
| 49+58 | 12 | 0.24830 | 0.05168 | 23.0809 | | | | | |

Table 5-39. (Continued)

STEP NUMBER 9
VARIABLE ENTERED 1

MULTIPLE R 0.3803
STD. ERROR OF EST. 0.2992

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 9 | 22.356 | 2.484 | 27.790 |
| RESIDUAL | 1477 | 132.214 | 0.090 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.62744 ) | | | | | | | |
| 010 | 1 | -0.01110 | 0.04363 | 0.0087 | 048 | 2 | 0.00707 | 0.8410 | 0.0737 |
| 055 | 3 | -0.12881 | 0.03910 | 10.8516 | 056 | 4 | 0.00783 | 0.4818 | 0.0906 |
| 050A | 6 | 0.10562 | 0.03773 | 7.8471 | 51+52 | 13 | 0.05645 | 0.8469 | 4.7183 |
| 050C | 7 | -0.02978 | 0.03119 | 0.8512 | (F) | 14 | -0.02654 | 0.9464 | 1.0404 |
| 2+7 | 8 | -0.03924 | 0.04396 | 0.7940 | | | | | |
| 3X4 | 9 | 0.24521 | 0.04512 | 29.5474 | | | | | |
| 5+6 | 10 | 0.09872 | 0.04345 | 5.1139 | | | | | |
| 8+9 | 11 | -0.29622 | 0.04667 | 37.6160 | | | | | |
| 49+5R | 12 | 0.24694 | 0.05186 | 22.6705 | | | | | |

STEP NUMBER 10
VARIABLE ENTERED 4

MULTIPLE R 0.3804
STD. ERROR OF EST. 0.2993

ANALYSIS OF VARIANCE

| | DF | SUM OF SQUARES | MEAN SQUARE | F RATIO |
|---|---|---|---|---|
| REGRESSION | 10 | 22.364 | 2.236 | 24.969 |
| RESIDUAL | 1476 | 132.206 | 0.090 | |

| VARIABLES IN EQUATION | | | | | VARIABLES NOT IN EQUATION | | | | |
|---|---|---|---|---|---|---|---|---|---|
| VARIABLE | | COEFFICIENT | STD. ERROR | F TO REMOVE | VARIABLE | | PARTIAL CORR. | TOLERANCE | F TO ENTER |
| (CONSTANT | | 0.62408 ) | | | | | | | |
| 010 | 1 | -0.01966 | 0.04409 | 0.1989 | 048 | 2 | 0.00740 | 0.8396 | 0.0807 |
| 055 | 3 | -0.12811 | 0.03918 | 10.6895 | 51+52 | 13 | 0.05649 | 0.8467 | 4.7384 |
| 056 | 4 | 0.01332 | 0.04424 | 0.0906 | (F) | 14 | -0.02603 | 0.9612 | 1.0004 |
| 050A | 6 | 0.10627 | 0.03779 | 7.9101 | | | | | |
| 050C | 7 | -0.03060 | 0.03179 | 0.9270 | | | | | |
| 2+7 | 8 | -0.03908 | 0.04397 | 0.7900 | | | | | |
| 3X4 | 9 | 0.24456 | 0.04518 | 29.2977 | | | | | |
| 5+6 | 10 | 0.09897 | 0.04367 | 5.1396 | | | | | |
| 8+9 | 11 | -0.28566 | 0.04672 | 37.3890 | | | | | |
| 49+5R | 12 | 0.24789 | 0.05198 | 22.7470 | | | | | |

F-LEVEL INSUFFICIENT FOR FURTHER COMPUTATION

SUMMARY TABLE

| STEP NUMBER | VARIABLE ENTERED | VARIABLE REMOVED | MULTIPLE R | MULTIPLE RSQ | INCREASE IN RSQ | F VALUE TO ENTER OR REMOVE | NUMBER OF INDEPENDENT VARIABLES INCLUDED |
|---|---|---|---|---|---|---|---|
| 1 | 8+9 | 11 | 0.2858 | 0.0817 | 0.0817 | 132.0470 | 1 |
| 2 | 050A | 6 | 0.3208 | 0.1029 | 0.0212 | 35.1422 | 2 |
| 3 | 3X4 | 9 | 0.3440 | 0.1190 | 0.0161 | 27.1067 | 3 |
| 4 | 49+5R | 12 | 0.3665 | 0.1343 | 0.0153 | 26.2134 | 4 |
| 5 | 055 | 3 | 0.3745 | 0.1403 | 0.0060 | 10.7818 | 5 |
| 6 | 5+6 | 10 | 0.3787 | 0.1434 | 0.0031 | 5.4104 | 6 |
| 7 | 050C | 7 | 0.3796 | 0.1441 | 0.0007 | 1.1945 | 7 |
| 8 | 2+7 | 8 | 0.3802 | 0.1446 | 0.0005 | 0.7995 | 8 |
| 9 | 010 | 1 | 0.3803 | 0.1446 | 0.0001 | 0.1087 | 9 |
| 10 | 056 | 4 | 0.3804 | 0.1447 | 0.0001 | 0.0906 | 10 |

# 6. COMPARISON OF PHASE I AND PHASE II DISTRIBUTIONS

## 6.1 INTERPRETATION

Each table presents an abbreviated form of the Phase II question and six columns of information consisting of:

1. The responses to the question are arranged in order according to the detailed structure. That order is expressed in Roman numerals. If there are no Roman numerals, the original response order is used. If the same Roman numeral appears with more than one response, no distinction is made between these responses in the analysis.

2. The description is the one that originally appeared in the Interview Guide or one that is indicative of the grouped answers.

3. The "I" column contains the one-way frequency distribution of Phase I answers to the question.

4. The "I' (I Prime)" column contains the one-way frequency distribution of Phase I answers to the question, which has been adjusted to the Phase II sample size.

5. The "II" column contains the corresponding one-way frequency distribution of Phase II answers to the question.

6. The "$J^2$ Contribution" column contains the respective contributions to a statistic, $J^2$, which is a Chi-square-type statistic. It is discussed in Section 4 of Volume II. During publication, it was discovered that $2J^2$ is approximately distributed as Chi-square ($\chi^2$).* The quantities, $\chi^2 \approx 2J^2$, the degrees of freedom (df) for $\chi^2$ and the range for the probability ($\alpha$) of $\chi^2$ being exceeded, were then added to each table.

---

*If $I_j$ represents the number of Phase I answers in the (modified) $j^{th}$ question-response category, $I_j'$ represents the adjustment of $I_j$ to the Phase II (modified) sample size, $II_j$ represents the number of Phase II answers in the (modified) $j^{th}$ question-response category, $\lambda$ represents the ratio of the (modified) Phase II and Phase I sample sizes, and m represents the number of (modified) question response categories, then:

$$\lambda \approx 1500/1375 \approx 1$$

$$I_j' = \lambda I_j$$

$$J^2 = 1/2 \sum_{j=1}^{m} (II_j - I_j')^2/(II_j + I_j')$$

$$\chi^2 = \sum_{j=1}^{m} (II_j - I_j')^2/(\lambda II_j + I_j') \approx 2J^2 \text{ and}$$

$$df = m-1$$

## 6.2 INDEX

Either of the following two indices may be used to locate the Phase I and Phase II comparison tables:

First Index: Sequenced by Phase II Question

Second Index: Sequenced by Phase I Question

First Index: Sequenced by Phase II Question

First Index: Sequenced by Phase II Question (Cont'd)

First Index: Sequenced by Phase II Question (Cont'd)

Second Index: Sequenced by Phase I Question

Second Index: Sequenced by Phase I Question (Cont'd)

## 6.3 COMPARISONS

Table 6-1
Task Initiator (I-Q15/Q16 vs II-Q2)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Self-Generated | 507 | 575 | 204 | 88.34 |
| II | Joint Decision | 107 | 121 | 120 | 0.00 |
| III | Assigned | 709 | 804 | 176 | 34.95 |
| | TOTAL | 1,323 | 1,500 | 1,500 | 123.29 |

$J^2 = 123.29$, $X^2 \approx 246.58$, df = 2, $\alpha < 0.0005$

Table 6-2
Percentage of Time on Task (I-Q18 vs II-Q4)

| Order | Phase I | Phase 2 | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|---|
| I | 20% or less | 25% or less | 347 | 386 | 330 | 2.19 |
| II | 21-40% | 25-49% | 277 | 308 | 273 | 1.74 |
| III | 41-60% | 50-74% | 268 | 299 | 318 | 0.29 |
| IV | 61-80 | 75-99% | 211 | 235 | 251 | 0.26 |
| V | 81-100% | Full Time | 243 | 271 | 328 | 2.71 |
| | TOTAL | | 1,346 | 1,499 | 1,500 | 7.19 |

$J^2 = 7.19$, $X^2 \approx 14.38$, df = 4, $0.005 < \alpha < 0.01$

Table 6-3
Type of Task (I-Q20 vs II-Q5)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Finding | 573 | 647 | 556 | 4.24 |
| II | Recommendation | 500 | 565 | 661 | 3.76 |
| III | Decision | 251 | 283 | 278 | 0.00 |
| | TOTAL | 1,324 | 1,495 | 1,495 | 8.00 |

$J^2 = 8.0$, $\chi^2 \approx 16.0$, df = 2, $\alpha < 0.0005$

Table 6-4
Formality of Task (Oral, Written) (I-Q21 vs II-Q6A)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Oral | 286 | 348 | 163 | 33.48 |
| II | Written | 935 | 1,136 | 1,321 | 6.96 |
| | TOTAL | 1,221 | 1,484 | 1,484 | 40.44 |

$J^2 = 40.44$, $\chi^2 \approx 80.88$, df = 1, $\alpha < 0.0005$

Table 6-5
Formality of Task (I-Q22 vs II-Q6B)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Formal | 800 | 900 | 1,070 | 7.33 |
| II | Informal | 532 | 599 | 429 | 14.06 |
| | TOTAL | 1,332 | 1,499 | 1,499 | 21.39 |

$J^2 = 21.39$, $\chi^2 \approx 42.78$, df = 1, $\alpha < 0.0005$

Table 6-6
Task Recipient (I-Q23 vs II-Q7)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | To or within DOD or Company | 1,154 | 1,288 | 912 | 32.13 |
| II | Outside DOD or Company | 187 | 209 | 585 | 89.03 |
| | TOTAL | 1,341 | 1,497 | 1,497 | 121.16 |

$J^2 = 121.16$, $\chi^2 \approx 242.32$, df = 1, $\alpha < 0.0005$

Table 6-7
Class of Task (I-Q94 vs II-Q8)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Concepts | 46 | 53 | 129 | 15.87 |
| II | Cost and funding; administrative action | 137 | 158 | 56 | 24.31 |
| III | Designs or design techniques | 211 | 243 | 362 | 11.70 |
| IV | Experimental processes and procedures | 63 | 73 | 75 | 0.01 |
| V | Mathematical aids and formulae; computer programs | 94 | 108 | 94 | 0.49 |
| VI | Performance and characteristics | 239 | 276 | 241 | 1.18 |
| VII | Production processes and procedures | 22 | 25 | 89 | 17.96 |
| VIII | Raw data | 34 | 39 | 24 | 1.79 |
| IX | Specifications | 68 | 78 | 93 | 0.66 |
| X | Technical status | 63 | 73 | 57 | 0.98 |
| XI | Test processes and procedures | 66 | 76 | 86 | 0.31 |
| XII | Utilization | 23 | 26 | 53 | 4.61 |
| XIII | Evaluation | 234 | 270 | 141 | 20.24 |
| | TOTAL | 1,300 | 1,498 | 1,500 | 100.11 |

$J^2 = 100.11$, $\chi^2 \approx 200.22$, df = 12, $\alpha < 0.0005$

Table 6-8
Kind of Task (I-Q14 vs II-Q9)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| A | Research (exploratory development; basic and applied) | 329 | 348 | 476 | 9.94 |
| B | Advanced development | 113 | 119 | 147 | 1.47 |
| C | Engineering development | 174 | 184 | 188 | 0.00 |
| D | Operational (system) development | 243 | 257 | 163 | 10.52 |
| E | Reliability or quality control | 62 | 65 | 69 | 0.00 |
| F | R&D support (test or evaluation) | 357 | 377 | 308 | 3.47 |
| | TOTAL | 1,278 | 1,350 | 1,351 | 25.40 |

$J^2 = 25.40$, $\chi^2 \approx 50.80$, df = 5, $\alpha < 0.0005$

Table 6-9
Field of Task (I-Q12 vs II-Q10)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Production, Management and Social Science | 64 | 71 | 143 | 12.11 |
| | Miscellaneous arts and sciences | 11 | 12 | 10 | 0.09 |
| | Personnel and training | 10 | 11 | 14 | 0.18 |
| | Production and management | 30 | 33 | 102 | 17.63 |
| | Psychology and human engineering | 13 | 15 | 17 | 0.06 |
| II | Medical Sciences | 80 | 89 | 33 | 12.85 |
| | Medical sciences | 80 | 89 | 33 | 12.85 |
| III | Mechanical, Industrial, Civil and Marine Engineering | 111 | 123 | 181 | 1.94 |
| | Ground transportation equipment | 6 | 7 | 94 | 0.00 |
| | Installations and constructions | 21 | 23 | 36 | 1.43 |
| | Military sciences and operations | 22 | 25 | 21 | 0.17 |
| | Photography and other reproductive processes | 12 | 13 | 7 | 0.90 |
| | Quartermaster equipment and supplies | 9 | 10 | 0 | 5.00 |
| | Ships and marine equipment | 38 | 42 | 18 | 4.80 |
| | Transportation | 3 | 3 | 5 | 0.25 |

Table 6-9. (Cont)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| IV | Aeronautics and Space Technology | 197 | 218 | 351 | 15.54 |
| | Aircraft and flight equipment | 77 | 85 | 197 | 22.24 |
| | Guided missiles | 101 | 112 | 128 | 0.53 |
| | Navigation | 19 | 21 | 26 | 0.27 |
| V | Electronics and Electrical Engineering | 284 | 315 | 354 | 1.14 |
| | Communications | 70 | 78 | 35 | 8.16 |
| | Detection | 60 | 67 | 35 | 5.02 |
| | Electrical equipment | 21 | 23 | 29 | 0.35 |
| | Electronics, electronic equipment | 133 | 147 | 255 | 14.51 |
| VI | Chemical Sciences and Material | 235 | 260 | 181 | 7.08 |
| | Chemical warfare equipment and materials | 16 | 18 | 2 | 6.40 |
| | Chemistry | 26 | 29 | 66 | 7.21 |
| | Fuels and combustion | 21 | 23 | 9 | 3.06 |
| | Materials (non-metallic) | 33 | 36 | 56 | 2.17 |
| | Metallurgy | 16 | 18 | 35 | 2.73 |
| | Ordnance | 123 | 136 | 13 | 50.77 |

Table 6-9. (Cont)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| VII | Physical Science | 135 | 150 | 193 | 2.70 |
| | Astronomy, geophysics and geography | 26 | 29 | 13 | 3.05 |
| | Fluid mechanics | 14 | 16 | 44 | 6.53 |
| | Nuclear physics and nuclear chemistry | 29 | 32 | 8 | 7.20 |
| | Nuclear propulsion | 1 | 1 | 3 | 0.50 |
| | Physics | 42 | 47 | 51 | 0.08 |
| | Propulsion systems | 23 | 25 | 74 | 12.13 |
| VIII | Research and Research Equipment (includes computer oriented fields) | 215 | 238 | 131 | 15.51 |
| | Research and research equipment | 215 | 238 | 131 | 15.51 |
| IX | Mathematics | 27 | 30 | 14 | 2.91 |
| | Mathematics | 27 | 30 | 14 | 2.91 |
| | TOTAL | 1,348 | 1,494 | 1,494 | 214.71 71.78 |

Ungrouped: $J^2 = 214.71$, $\chi^2 \approx 429.42$, df = 32, $\alpha < 0.0005$

Grouped: $J^2 = 71.78$, $\chi^2 \approx 143.56$, df = 8, $\alpha < 0.0005$

Table 6-10
Actual Acquisition Time for Information (I-Q35 vs II-Q12)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Blank - Recall | 802 | 986 | 618 | 38.19 |
| II | Less than 1 day | 1,904 | 2,342 | 1,534 | 84.22 |
| III | 1-7 days | 735 | 904 | 1,203 | 21.22 |
| IV | 8-30 days | 492 | 605 | 1,007 | 50.13 |
| V | More than 1 month | 403 | 496 | 971 | 76.90 |
| | TOTAL | 4,336 | 5,333 | 5,333 | 270.66 |

$J^2 = 270.66$, $\chi^2 \approx 541.32$, df = 4, $\alpha < 0.0005$

Table 6-11
Desired Acquisition Time for Information (I-Q36 vs II-Q13)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Blank - Recall | 807 | 923 | 382 | 112.14 |
| II | Less than 1 day | 829 | 948 | 833 | 3.71 |
| III | 1-7 days | 998 | 1,141 | 1,339 | 7.90 |
| IV | 8-30 days | 829 | 948 | 1,387 | 46.68 |
| V | Over 1 month | 1,124 | 1,399 | 1,387 | 0.03 |
| | TOTAL | 4,087 | 5,359 | 5,359 | 170.46 |

$J^2 = 170.46$, $\chi^2 \approx 340.92$, df = 4, $\alpha < 0.0005$

Table 6-12
Location of First Source for Information (I-Q42 vs II-Q14)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Received w/task | 496 | 578 | 576 | 0.00 |
| II | Blank-Recall | 786 | 915 | 1,009 | 2.30 |
| III | Searched own collection | 820 | 955 | 695 | 20.48 |
| IV | Assigned to subordinate | 175 | 204 | 236 | 1.16 |
| V | Asked colleague | 972 | 1,132 | 1,276 | 4.31 |
| VI | Asked supervisor | 93 | 108 | 72 | 3.60 |
| VII | Department files | 608 | 708 | 297 | 84.04 |
| VIII | Requested library search | 243 | 283 | 526 | 36.50 |
| IX | Manufacturer, vendor supplier | 215 | 250 | 320 | 4.30 |
| X | External consultant (includes customer) | 55 | 64 | 146 | 16.01 |
| XI | DOD Information Center | 19 | 22 | 67 | 11.38 |
| | TOTAL | 4,482 | 5,219 | 5,220 | 184.08 |

$J^2 = 184.08$, $\chi^2 \approx 368.16$, df = 10, $\alpha < 0.0005$

Table 6-13
Why First Source Used (I-Q43 vs II-Q15)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Received w/task assignment | 534 | 784 | 580 | 15.26 |
| II | Available, handy, easy to use | 702 | 1,031 | 1,426 | 31.75 |
| III | Found helpful previously | 301 | 442 | 368 | 3.38 |
| IV | Most authoritative | 806 | 1,184 | 1,194 | 0.02 |
| V | Only source known | 180 | 264 | 508 | 38.56 |
| VI | Recalled or was told of source | 1,119 | 1,644 | 1,274 | 23.46 |
| | TOTAL | 3,642 | 5,349 | 5,350 | 112.43 |

$J^2 = 112.43$, $\chi^2 \approx 224.86$, df = 5, $\alpha < 0.0005$

Table 6-14
Actual Composition of Transporting Medium (I-Q28 vs II-Q18)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Previous knowledge | 830 | 1,183 | 1,485 | 17.05 |
| II | Meetings and symposia | 80 | 114 | 209 | 13.97 |
| III | Oral contacts - all other | 1,855 | 2,644 | 2,269 | 14.31 |
| IV | Oral contacts with manufacturers | 341 | 486 | 425 | 2.04 |
| V | Live demonstrations | 49 | 70 | 90 | 1.25 |
| VI | Physical measurement or experiment | 155 | 221 | 298 | 5.71 |
| VII | Personal notes, logs and files | 189 | 269 | 370 | 7.98 |
| VIII | Correspondence, memos, and TWX | 445 | 634 | 676 | 0.67 |
| IX | Drawings and schematics | 248 | 353 | 571 | 25.72 |
| X | Photographs, maps and files | 60 | 86 | 28 | 14.75 |
| XI | Part lists | 19 | 27 | 54 | 4.50 |
| XII | Computer printout | 82 | 117 | 160 | 3.34 |
| XIII | Microfilm or microfiche | | | | 0.00 |
| XIV | Slides or motion pictures | | | | 0.00 |
| XV | System specification document | 119 | 170 | 471 | 70.67 |
| XVI | Newsletters and other mass media | 37 | 53 | 41 | 0.77 |
| XVII | Brochures | 150 | 214 | 211 | 0.01 |

Table 6-14 (Cont)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| XVIII | Catalogs | 104 | 148 | 209 | 5.21 |
| XIX | Standards and codes | 232 | 331 | 118 | 50.52 |
| XX | Directives | 39 | 56 | 86 | 3.17 |
| XXI | Handbooks | 226 | 322 | 254 | 4.01 |
| XXII | Manuals | 314 | 448 | 321 | 10.49 |
| XXIII | Proposals | 59 | 84 | 134 | 5.73 |
| XXIV | Reports | 1,230 | 1,753 | 1,428 | 16.60 |
| XXV | Preprints and reprints | 49 | 70 | 128 | 8.49 |
| XXVI | Journals | 330 | 470 | 499 | 0.43 |
| XXVII | Textbooks | 446 | 636 | 423 | 2.14 |
| | TOTAL | 7,688 | 10,959 | 10,958 | 289.57 |

$J^2 = 289.57$, $\chi^2 \approx 579.14$, df = 24, $\alpha < 0.0005$

Table 6-15
Usual Composition of Transporting Medium (I-Q29 vs II-Q19)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Yes | 3,735 | 5,017 | 5,202 | 1.67 |
| II | No | 255 | 342 | 157 | 34.29 |
| | TOTAL | 3,990 | 5,359 | 5,359 | 35.96 |

$J^2 = 35.96$, $\chi^2 \approx 71.92$, df = 1, $\alpha < 0.0005$

Table 6-16
Actual Volume of Transporting Medium (I-Q32 vs II-Q21)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | All from recall | 786 | 903 | 371 | 111.08 |
| II | One report or document | 1,516 | 1,741 | 1,365 | 22.76 |
| III | A sampling | 1,599 | 1,836 | 2,033 | 5.02 |
| IV | All material available | 752 | 864 | 1,575 | 103.63 |
| | TOTAL | 4,653 | 5,344 | 5,344 | 242.49 |

$J^2 = 242.49$, $\chi^2 \approx 484.98$, df=3, $\alpha < 0.0005$

Table 6-17
Desired Volume of Transporting Medium (I-Q33 vs II-Q22)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | All from recall | 786 | 898 | 373 | 108.43 |
| II | One report or document | 1,611 | 1,841 | 1,625 | 6.73 |
| III | A sampling | 1,240 | 1,417 | 1,154 | 13.45 |
| IV | All material available | 1,050 | 1,200 | 2,205 | 148.31 |
| | TOTAL | 4,687 | 5,356 | 5,357 | 276.92 |

$J^2 = 276.92$, $\chi^2 \approx 553.94$, df = 3, $\alpha < 0.0005$

Table 6-18
Actual Detail of Transporting Medium (I-Q38 vs II-Q24)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | A once over lightly | 859 | 1,194 | 952 | 13.64 |
| II | A specific answer | 1,002 | 1,393 | 2,710 | 211.37 |
| III | A detailed analysis | 1,994 | 2,772 | 1,697 | 129.29 |
| | TOTAL | 3,855 | 5,359 | 5,359 | 354.30 |

$J^2 = 354.30$, $\chi^2 \approx 708.60$, df = 2, $\alpha < 0.0005$

Table 6-19
Desired Detail of Transporting Medium (I-Q39 vs II-Q25)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | A once over lightly | 700 | 964 | 397 | 138.94 |
| II | A specific answer | 1,043 | 1,436 | 2,994 | 273.97 |
| III | A detailed analysis | 2,152 | 2,963 | 1,972 | 99.50 |
| | TOTAL | 3,895 | 5,363 | 5,363 | 512.41 |

$J^2 = 512.41$, $\chi^2 \approx 1024.82$, df = 2, $\alpha < 0.0005$

Table 6-20
Class of Information (I-Q25 vs II-Q28)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Concepts | 379 | 442 | 378 | 2.57 |
| II | Raw data | 215 | 251 | 372 | 11.83 |
| III | Math aids and formulae; computer programs | 269 | 314 | 38[illegible] | 3.80 |
| IV | Designs or design techniques | 191 | 223 | 547 | 68.16 |
| V | Experimental processes and procedures | 134 | 157 | 187 | 1.31 |
| VI | Test process and procedures | 192 | 225 | 235 | 0.00 |
| VII | Specification | 690 | 805 | 813 | 0.00 |
| VIII | Performance and characteristics | 1,277 | 1,490 | 1,349 | 3.70 |
| IX | Production processes and procedures | 75 | 88 | 224 | 29.64 |
| X | Technical status | 517 | 603 | 328 | 41.12 |
| XI | Utilization | 348 | 406 | 189 | 39.87 |
| XII | Cost and funding; administrative action | 143 | 167 | 160 | 0.00 |
| | TOTAL | 4,430 | 5,170 | 5,169 | 202.00 |

$J^2 = 207.01$, $\chi^2 \approx 414.02$, df = 11, $\alpha < 0.0005$

Table 6-21
Field of Information (I-Q26 vs II-Q29)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Production, Management and Social Sciences | 247 | 283 | 617 | 61.98 |
| | Miscellaneous arts and sciences | 26 | 30 | 55 | 3.68 |
| | Personnel and training | 36 | 41 | 58 | 1.46 |
| | Production and management | 156 | 179 | 437 | 54.03 |
| | Psychology and human engineering | 29 | 33 | 67 | 5.78 |
| II | Medical Sciences | 202 | 232 | 95 | 28.70 |
| | Medical sciences | 202 | 232 | 95 | 28.70 |
| III | Mechanical, Industrial, Civil and Marine Engineering | 353 | 405 | 355 | 1.64 |
| | Ground transportation equipment | 21 | 24 | 31 | 0.45 |
| | Installations and construction | 60 | 69 | 146 | 13.79 |
| | Military science and operations | 90 | 103 | 86 | 0.76 |
| | Photography and other reproductive processes | 55 | 63 | 22 | 9.89 |
| | Quartermaster equipment and supplies | 22 | 25 | 4 | 7.60 |
| | Ships and marine equipment | 92 | 106 | 50 | 10.05 |
| | Transportation | 13 | 15 | 16 | 0.02 |

Table 6-21 (Cont)

| Order | Description | I | | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|---|
| IV | Aeronautics and Space Technology | 560 | | 642 | 900 | 21.58 |
| | Aircraft and flight equipment | 233 | 267 | 549 | 48.73 | |
| | Guided missiles | 284 | 326 | 305 | 0.35 | |
| | Navigation | 43 | 49 | 46 | 0.05 | |
| V | Electronic and Electrical Engineering | 1,027 | | 1,177 | 1,291 | 2.63 |
| | Communications | 200 | 229 | 94 | 28.21 | |
| | Detection | 165 | 189 | 96 | 15.17 | |
| | Electrical equipment | 100 | 115 | 133 | 0.65 | |
| | Electronics; Electronic-equipment | 562 | 644 | 968 | 32.56 | |
| VI | Chemical Science and Material | 815 | | 934 | 712 | 14.97 |
| | Chemical warfare equipment materials | 46 | 52 | 13 | 11.70 | |
| | Chemistry | 127 | 146 | 234 | 10.19 | |
| | Fuels and combustion | 68 | 78 | 43 | 5.06 | |
| | Materials (non-metallic) | 161 | 185 | 188 | 0.01 | |
| | Metallurgy | 109 | 125 | 169 | 3.29 | |
| | Ordnance | 304 | 348 | 65 | 96.96 | |

Table 6-21 (Cont)

| Order | Description | | I | | II | | $J^2$ Contribution |
|---|---|---|---|---|---|---|---|
| VII | Physical Science | | 470 | 539 | 747 | | 16.82 |
| | Astronomy; geophysics, and geography | 73 | 85 | 64 | 1.48 | | |
| | Fluid mechanics | 71 | 81 | 157 | 12.13 | | |
| | Nuclear physics and nuclear chemistry | 89 | 102 | 34 | 17.00 | | |
| | Nuclear propulsion | 10 | 11 | 5 | 1.13 | | |
| | Physics | 164 | 188 | 264 | 6.39 | | |
| | Propulsion systems | 63 | 72 | 223 | 38.65 | | |
| VIII | Research and Research Equipment (includes computer related fields) | | 801 | 918 | 448 | | 80.86 |
| | Research and research equipment | 801 | 918 | 448 | 80.86 | | |
| IX | Mathematics | | 179 | 205 | 169 | | 1.73 |
| | Mathematics | 179 | 205 | 169 | 1.73 | | |
| | TOTAL | | 4,654 | 5,335 | 5,334 | 548.51 | 230.91 |

$J^2$ - Grouped = 230.91, $\chi^2 \approx 461.82$, df = 8, $\alpha < 0.0005$

$J^2$ - ungrouped = 548.51, $\chi^2 \approx 1097.02$, df = 32, $\alpha < 0.0005$

Table 6-22
Essentiality of Information to Task (I-Q46 vs II-Q30)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Absolutely essential | 3,064 | 4,457 | 4,187 | 4.22 |
| II | Could have completed w/out | 619 | 901 | 1,171 | 1.76 |
| | TOTAL | 3,683 | 5,358 | 5,358 | 5.98 |

$J^2 = 5.98$, $\chi^2 \approx 11.96$, df = 1, $0.0005 < \alpha < 0.001$

Table 6-23
Extensiveness of Information Use in Task (I-Q47 vs II-Q31)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Not at all | 23 | 32 | 38 | 0.26 |
| II | As a lead to information | 7 | 10 | 47 | 12.01 |
| III | As background | 730 | 1,003 | 617 | 45.99 |
| IV | Directly in task | 3,142 | 4,315 | 4,657 | 6.52 |
| | TOTAL | 3,902 | 5,360 | 5,359 | 64.78 |

$J^2 = 64.78$, $\chi^2 \approx 129.56$, df = 3, $\alpha < 0.0005$

Table 6-24
Discovery of Information Available, But Unknown, During Task (I-Q48 vs II-Q32)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| A | No | 173 | 196 | 304 | 11.66 |
| B | Yes | 1,148 | 1,304 | 1,196 | 2.33 |
| | TOTAL | 1,321 | 1,500 | 1,500 | 13.99 |

$J^2 = 13.99$, $\chi^2 \approx 27.98$, df = 1, $\alpha < 0.0005$

Table 6-25
Use of TAB (I-Q49 vs II-Q37)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Do not know of TAB | 531 | 584 | 649 | 1.71 |
| II | Never | 248 | 273 | 325 | 2.26 |
| III | About every 6 months | 182 | 200 | 203 | 0.01 |
| IV | Once every 2-3 months | 122 | 134 | 117 | 0.58 |
| V | Every issue | 280 | 308 | 206 | 10.12 |
| | TOTAL | 1,363 | 1,499 | 1,500 | 14.68 |

$J^2 = 14.68$, $X^2 \approx 29.36$, df = 4, $\alpha < 0.0005$

Table 6-26
Use of DDC (I-Q50/51 vs II-Q39)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Do not know of DDC | 286 | 313 | 473 | 16.28 |
| II | Know of DDC, but does not use | 444 | 486 | 348 | 11.42 |
| III | Yes, Use DDC | 640 | 701 | 679 | 0.18 |
| | TOTAL | 1,370 | 1,500 | 1,500 | 27.88 |

$J^2 = 27.88$, $X^2 \approx 55.76$, df = 2, $\alpha < 0.0005$

Table 6-27
Use of DOD Specialized Information Centers (I-Q52/53 vs II-Q40)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Do not know of centers | 255 | 282 | 549 | 42.89 |
| II | Use other sources instead | 349 | 387 | 290 | 7.05 |
| III | Yes, use centers | 750 | 831 | 661 | 9.68 |
| | TOTAL | 1,354 | 1,500 | 1,500 | 59.62 |

$J^2 = 59.62$, $X^2 \approx 119.24$, df = 2, $\alpha < 0.0005$

Table 6-28
Use of English Abstracts or Translations (I-Q54 vs II-Q44)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | No | 603 | 662 | 904 | 18.70 |
| II | Yes | 764 | 838 | 596 | 20.42 |
| | TOTAL | 1,367 | 1,500 | 1,500 | 39.12 |

$J^2 = 39.12$, $\chi^2 \approx 78.24$, df = 1, $\alpha < 0.0005$

Table 6-29
Encounter of Difficulties (I-Q56 vs II-Q45)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Yes | 370 | 430 | 861 | 71.94 |
| II | No | 921 | 1,070 | 639 | 54.35 |
| | TOTAL | 1,291 | 1,500 | 1,500 | 126.29 |

$J^2 = 126.29$, $\chi^2 \approx 252.58$, df = 1, $\alpha < 0.0005$

Table 6-30
User's Year of Birth (I-Q2 vs II-Q48)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | 1905 and before | 30 | 33 | 18 | 2.21 |
| II | 1906-1910 | 88 | 96 | 38 | 12.55 |
| III | 1911-1915 | 98 | 107 | 103 | 0.04 |
| IV | 1916-1920 | 199 | 217 | 174 | 2.36 |
| V | 1921-1925 | 271 | 296 | 289 | 0.04 |
| VI | 1926-1930 | 217 | 236 | 334 | 8.42 |
| VII | 1931-1935 | 227 | 248 | 332 | 6.08 |
| VIII | 1936-1940 | 211 | 230 | 180 | 3.05 |
| IX | 1941 and After | 34 | 37 | 32 | 0.00 |
| | TOTAL | 1,375 | 1,500 | 1,500 | 34.75 |

$J^2 = 34.75$, $\chi^2 \approx 61.66$, df = 8, $\alpha < 0.0005$

Table 6-31
Number of Personnel Supervised By User (I-Q3 vs II-Q49)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | 0 | 693 | 759 | 604 | 8.81 |
| II | 1-5 | 431 | 472 | 471 | 0.00 |
| III | 6-10 | 121 | 133 | 202 | 7.02 |
| IV | 11-20 | 59 | 65 | 95 | 2.81 |
| V | 21-90 | 55 | 60 | 106 | 6.37 |
| VI | Over 90 | 10 | 11 | 22 | 1.83 |
| | TOTAL | 1,369 | 1,500 | 1,500 | 26.84 |

$J^2 = 26.84$, $\chi^2 \approx 53.68$, df = 5, $\alpha < 0.0005$

Table 6-32
User's Highest Degree (I-Q4 vs II-Q50A)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | None | 137 | 147 | 196 | 3.50 |
| II | BA | 897 | 961 | 798 | 7.55 |
| III | MA | 225 | 241 | 296 | 2.82 |
| IV | PhD, MD | 116 | 124 | 182 | 5.50 |
| | TOTAL | 1,375 | 1,473 | 1,472 | 19.37 |

$J^2 = 19.37$, $\chi^2 \approx 38.74$, df = 3, $\alpha < 0.0005$

Table 6-33
Year of User's Highest Degree (I-Q5 vs II-Q50B)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Before 1945 | 378 | 412 | 307 | 7.67 |
| II | 1945-1954 | 429 | 468 | 513 | 1.03 |
| III | Since 1954 | 568 | 619 | 679 | 1.39 |
| | TOTAL | 1,375 | 1,499 | 1,499 | 10.09 |

$J^2 = 10.09, \chi^2 \approx 20.18$, df = 2, $\alpha < 0.0005$

Table 6-34
Field of User's Highest Degree (I-Q4 vs II-Q50C)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | No degree | 137 | 149 | 196 | 3.20 |
| II | Other | 130 | 142 | 128 | 0.36 |
| III | Biology | 39 | 43 | 6 | 13.96 |
| IV | Physics | 176 | 192 | 124 | 3.64 |
| V | Chemistry | 155 | 169 | 109 | 6.47 |
| VI | Mathematics | 94 | 102 | 81 | 1.20 |
| VII | Engineering | 629 | 686 | 845 | 8.26 |
| VIII | MD | 15 | 16 | 11 | 0.46 |
| | TOTAL | 1,375 | 1,499 | 1,500 | 37.55 |

$J^2 = 37.55, \chi^2 \approx 75.10$, df = 7, $\alpha < 0.0005$

Table 6-35
Job Experience of User (I-Q8 vs II-Q51)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | 1 year and under | 219 | 255 | 21 | 99.20 |
| II | 1-5 years | 555 | 646 | 459 | 15.82 |
| III | 5 years and over | 601 | 699 | 1,120 | 48.72 |
| | TOTAL | 1,375 | 1,600 | 1,600 | 163.74 |

$J^2 = 163.74$, $X^2 \approx 327.48$, df = 2, $\alpha < 0.0005$

Table 6-36
Type of Work Activity (I-Q9 vs II-Q54)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Detailed scientific or engineering | 786 | 877 | 823 | 0.80 |
| II | Technical evaluation | 399 | 445 | 182 | 55.16 |
| III | Administration | 158 | 176 | 494 | 76.89 |
| | TOTAL | 1,343 | 1,498 | 1,499 | 132.85 |

$J^2 = 132.85$, $X^2 \approx 265.70$, df = 2, $\alpha < 0.0005$

Table 6-37
Kind of Work Position (I-Q10 vs II-Q55)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Research | 371 | 406 | 458 | 1.56 |
| II | Advanced development | 131 | 143 | 146 | 0.01 |
| III | Engineering development | 165 | 180 | 282 | 11.26 |
| IV | Operational system development | 214 | 234 | 139 | 12.10 |
| V | Reliability and quality control | 47 | 51 | 63 | 0.63 |
| VI | R&D Support | 318 | 348 | 274 | 4.40 |
| | TOTAL | 1,246 | 1,362 | 1,362 | 29.96 |

$J^2 = 29.96$, $\chi^2 \approx 59.92$, df = 5, $\alpha < 0.0005$

Table 6-38
Field of Work Position (I-Q11 vs II-Q56)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Behavorial and Social Science | 60 | 66 | 159 | 19.22 |
| | Miscellaneous arts and sciences | 8 | 9 | 17 | 1.23 |
| | Personnel and training | 10 | 11 | 10 | 0.02 |
| | Propulsion systems | 27 | 30 | 120 | 27.00 |
| | Psychology and human engineering | 15 | 16 | 12 | 0.64 |
| II | Medical Sciences | 82 | 90 | 30 | 15.00 |
| | Medical sciences | 82 | 90 | 30 | 15.00 |
| III | Mechanical; Industrial, Civil and Marine Engineering | 113 | 124 | 83 | 3.85 |
| | Ground transportation equipment | 13 | 14 | 5 | 2.13 |
| | Installation and constructions | 16 | 18 | 30 | 1.50 |
| | Military sciences and operations | 20 | 22 | 31 | 0.76 |
| | Photography and other reproductive processes | 6 | 7 | 2 | 1.39 |
| | Quartermaster equipment and supplies | 8 | 9 | 0 | 4.50 |
| | Ships and marine equipment | 48 | 52 | 12 | 12.50 |
| | Transportation | 2 | 2 | 3 | 0.10 |
| IV | Aeronautics and Space Technology | 231 | 253 | 336 | 5.85 |
| | Aircraft and flight equipment | 96 | 105 | 208 | 16.95 |
| | Guided missiles | 117 | 128 | 106 | 1.03 |
| | Navigation | 18 | 20 | 22 | 0.05 |
| V | Electronics and Electrical Engineering | 276 | 302 | 400 | 6.84 |
| | Communications | 68 | 74 | 24 | 12.76 |

Table 6-38 (Cont)

| Order | Description | I | | I' | | II | | $J^2$ Contribution |
|---|---|---|---|---|---|---|---|---|
| | Detection | 64 | 70 | 14 | 18.67 | | | |
| | Electrical equipment | 12 | 13 | 25 | 2.74 | | | |
| | Electronics, electrical equipment | 132 | 145 | 334 | 37.29 | | | |
| VI | Chemical Science and Material | 247 | 270 | 159 | | | | 14.36 |
| | Chemical warfare, equipment and material | 21 | 23 | 3 | 7.69 | | | |
| | Chemistry | 32 | 35 | 74 | 6.98 | | | |
| | Fuels and combustion | 17 | 18 | 6 | 3.00 | | | |
| | Materials (nonmetallic) | 30 | 33 | 39 | 0.25 | | | |
| | Metallurgy | 16 | 18 | 23 | 0.30 | | | |
| | Ordnance | 131 | 143 | 14 | 53.00 | | | |
| VII | Physical Science | 142 | 156 | 187 | | | | 1.40 |
| | Astronomy; geophysics and geography | 34 | 37 | 12 | 6.38 | | | |
| | Fluid mechanics | 12 | 13 | 29 | 3.05 | | | |
| | Nuclear physics and nuclear chemistry | 29 | 32 | 10 | 5.76 | | | |
| | Nuclear propulsion | 2 | 2 | 2 | 0.00 | | | |
| | Physics | 40 | 44 | 60 | 1.23 | | | |
| | Propulsion systems | 25 | 28 | 74 | 10.37 | | | |
| VIII | Research and Research Equipment | 184 | 201 | 114 | | | | 12.01 |
| | Research and research equipment | 184 | 201 | 114 | 12.01 | | | |
| IX | Mathematics | 31 | 34 | 27 | | | | 0.40 |
| | Mathematics | 31 | 34 | 27 | 0.40 | | | |
| | TOTAL | 1,366 | 1,496 | 1,495 | 266.68 | | | 78.93 |

Ungrouped: $J^2 = 266.68$, $\chi^2 \approx 533.36$, df = 32, $\alpha < 0.0005$

Grouped: $J^2 = 78.93$, $\chi^2 \approx 157.86$, df = 8, $\alpha < 0.0005$

Table 6-39
User's Equivalent Government Service (GS) Rating (I-Q1 vs II-Q58)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | GS-6 | 53 | 58 | 0 | 29.00 |
| II | GS-9 | 111 | 121 | 28 | 29.02 |
| III | GS-11 | 210 | 229 | 258 | .86 |
| IV | GS-12 | 313 | 341 | 289 | 2.15 |
| V | GS-13 | 326 | 356 | 286 | 3.82 |
| VI | GS-14 | 223 | 243 | 294 | 2.42 |
| VII | GS-15 | 113 | 123 | 184 | 6.06 |
| VIII | GS-16 and up | 26 | 28 | 161 | 46.80 |
| | TOTAL | 1,375 | 1,499 | 1,500 | 120.13 |

$J^2 = 120.13$, $\chi^2 \approx 240.26$, df = 7, $\alpha < 0.0005$

Table 6-40
Interviewer's Assessment of User's Information Needs (I-Q59 vs II-Q59)

| Order | Description | I | I' | II | $J^2$ Contribution |
|---|---|---|---|---|---|
| I | Insignificant Need | 330 | 360 | 290 | 3.77 |
| II | Moderate Need | 597 | 652 | 728 | 2.09 |
| III | Large Need | 447 | 488 | 482 | 0.02 |
| | TOTAL | 1,374 | 1,500 | 1,500 | 5.88 |

$J^2 = 5.88$, $\chi^2 \approx 11.76$, df = 2, $0.001 < \alpha < 0.005$

# REFERENCES

Reference 1 contains an extensive bibliography of past user-needs studies, and Reference 2 contains a review of recent ones. Reference 7 is entirely devoted to scientific communication.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13 ABSTRACT

The Department of Defense (DOD) has conducted a two-phase study to determine how scientists and engineers in government and industrial research, development, and production activities acquire information for performing work assignments on DOD programs. The Phase I study covered the information needs of DOD personnel engaged in research, development, test, and evaluation (RDT&E) activities.

Phase II of this study investigated the nation's defense industry to determine its information needs, and the flow of scientific and technical information (flow process) inherent in satisfying those needs. It is based on a representative sample of 1500 individuals from approximately 120,000 scientists, engineers, and technical personnel in 83 organizations in the defense industry. Sixty-three questions were asked them regarding the user of scientific and technical information, his scientific or technical task, his utilization of information centers and services and the search and acquistion process. The analysis included compilation of frequency distributions for answers to questions and pairs of questions. In addition the qualitative data have been transformed into numerical form, and models have been specified for relationships among elements of the flow process. The models are estimated from the data by means of regression analysis, to yield significant relationships and factors within the flow process.

The Phase II Final Report describes the results of Phase II, and compares them with those of Phase I. It is presented in three volumes. Volume I contains a nontechnical summary of Phase II, including guidelines for management decisions and recommendations for the future. Volume II describes the technical approach, findings, and recommendations of the study. Volume III presents the reduced data, in the form of frequency distributions and models for relationships among elements of the flow process.

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| 14 KEY WORDS | LINK A | | LINK B | | LINK C | |
|---|---|---|---|---|---|---|
| | ROLE | WT | ROLE | WT | ROLE | WT |
| User Needs | | | | | | |
| Information Requirements | | | | | | |
| Information Centers and Services | | | | | | |
| Flow of Scientific and Technical Information (Flow Process) | | | | | | |
| Structural and Numerical Description of Flow Processes | | | | | | |
| Relationships and Factors within Flow Process | | | | | | |
| Analysis and Optimization of Flow Process | | | | | | |
| Information Storage and Retrieval | | | | | | |
| Defense Documentation Center | | | | | | |
| Technical Abstract Bulletin | | | | | | |
| Scientific and Technical Aerospace Reports | | | | | | |
| Engineering Data | | | | | | |
| STINFO | | | | | | |
| Surveys | | | | | | |
| Critical Incident Technique | | | | | | |
| Interview Guide | | | | | | |
| Defense Industry Population | | | | | | |

END