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EXAMINATION OF THE READINESS OF TWO UNITS OF THE HELENIC NAVY TO IMPLEMENT ACTIVITY BASED COST MANAGEMENT (ABCM)

by

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December 2000

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A growing concern in the Hellenic Navy (HN) about doing the best with the resources provided has initiated an interest of adopting "best practice" methods such as Activity Based Cost Management (ABCM) for understanding and controlling cost. The purpose of this thesis is to examine the readiness of two units of the HN, the Naval Logistic Center (NLC) and the Naval Base of Crete (NBC) to implement ABCM. To examine the readiness of those organizations a questionnaire was used.This questionnaire was designed by the Consortium for Advanced Manufacturing - International (CAM-I). Five respondents from each organization were selected to answer the questionnaire. Although the sample size is small, it is considered adequate for a general indication of readiness. Based on respondents' answers a series of indicators of readiness for a successful ABCM implementation was examined. Major risks to a successful ABCM implementation were identified. Furthermore, managerial actions for facilitating an ABCM implementation are provided. The conclusion is that both organizations could implement successfully an ABCM initiative in the near future if a series of actions takes place.

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EXAMINATION OF THE READINESS OF TWO UNITS OF HELLENIC NAVY TO IMPLEMENT ACTIVITY BASED COST MANAGEMENT

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ABSTRACT

A growing concern in the Hellenic Navy (HN) about doing the best with the resources provided has initiated an interest of adopting "best practice" methods such as Activity Based Cost Management (ABCM) for understanding and controlling cost. The purpose of this thesis is to examine the readiness of two units of the HN, the Naval Logistic Center (NLC) and the Naval Base of Crete (NBC) to implement ABCM. To examine the readiness of those organizations a questionnaire was used. This questionnaire was designed by the Consortium for Advanced Manufacturing - International (CAM-I). Five respondents from each organization were selected to answer the questionnaire. Although the sample size is small, it is considered adequate for a general indication of readiness. Based on respondents' answers a series of indicators of readiness for a successful ABCM implementation was examined. Major risks to a successful ABCM implementation were identified. Furthermore, managerial actions for facilitating an ABCM implementation from literature are provided. The conclusion is that both organizations could implement successfully an ABCM initiative in the near future if a series of actions takes place.

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I. INTRODUCTION

A. OVERVIEW OF THE ABCM

In order to thrive in an environment where "Everything is flux, and change is the only constant" (Heraclitus, 544BC), best practicing organizations have turned to progressive management tools, techniques, and methods to effectively enhance their performance. Understanding, adopting, and implementing leading-edge methodologies can make the difference between success and failure. One of the most useful of these methodologies is the Activity Based Cost Management (ABCM). ABCM uses specific tools and techniques to analyze work activities and assigns resources using business process analysis. Cost is traced to activities (e.g., take order, deliver product) as an alternative to traditional allocation to departments (e.g., sales, production) or to types of cost (e.g., salaries, rent, etc.). ABCM focuses on processes and activities and uses meaningful performance measures to support continuous improvement. (CAM-I, 2000)

B. PURPOSE OF RESEARCH

The Hellenic Ministry of Defense is continually looking for making the best use of the provided financial resources (Apostolakis, 1999). In order to accomplish this task the Hellenic Navy (HN) has based its efforts on traditional accounting and budgeting methods. However, under the traditional methodology an organization restricts in viewing budget as an accounting exercise, focusing more on an aggregate basis rather than on a more specific, actionable basis, where activities would be connected to objectives and strategic goals. (Brimson and Antos, 1999) ABCM promises to fill this gap and connect operational and

financial means toward achieving the organization's vision and strategies. This paper examines the readiness of the HN to switch to ABCM methods. More specifically, this paper tests the readiness of two Units of the HN, the Naval Logistic Center (NLC) and the Naval Base of Crete (NBC) to implement ABCM.

C. RESEARCH QUESTIONS

1. Primary Question

Are the Naval Logistic Center (NLC) and the Naval Base of Crete (NBC) ready to implement ABCM techniques?

2. Secondary Questions

What are the primary obstacles of NLC or NBC to implement ABCM and how could NLC and NBC overcome these obstacles?

D. EXPECTED BENEFITS FROM THIS THESIS

This Thesis provides the HN with crucial assumptions and suggestions about the readiness at two of its units to implement ABCM, namely the Naval Logistic Center (NLC) and the Naval Base of Crete (NBC).

This study is the first stage of a standard ABCM Design Framework, as it is described in the Figure 1, and is the base for any further stage of ABCM implementation. (CAM-I, 2000)

This research highlights what the primary hurdles for implementing ABCM techniques in the NLC and NBC are, and how these hurdles can be overcome.

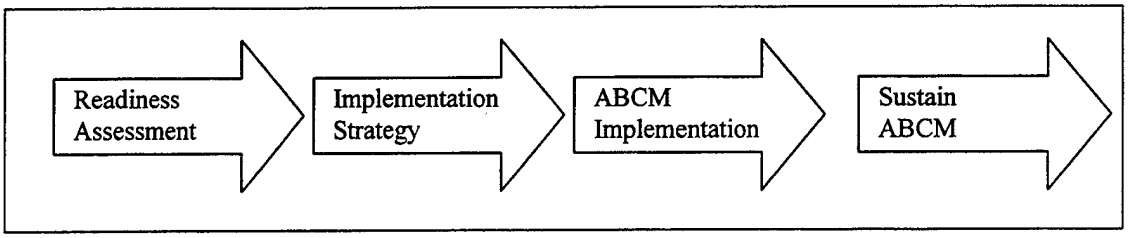

Figure 1. Four-Stage ABCM Development Framework. From Ref. [CAM-I, 2000]

This study gives an opportunity to selected HN personnel, through their involvement in the research, to get an idea of ABCM and diffuse the ABCM concept in the HN environment.

Finally, this study can be a pilot for future examinations about the readiness of any unit of the HN to implement a series of other "best business" practices, such as Total Quality Management (TQM), Material Resource Planning (MRP), Manufacturing Resource Planning (MRP II), and Enterprise Resource Planning (ERP).

E. STRUCTURE OF THIS THESIS

This study is organized in four parts:

1. An overview of the background of ABCM, NLC, and NBC,
2. A description of the methodology of the executed research,
3. An analysis of the results of the research, and
4. Conclusions and recommendations.

The first part provides a brief history of ABCM, and its basic characteristics. This part also includes a model of implementing ABCM and two examples of ABCM implementations. One addresses the implementation of ABCM in the Defense Logistic Agency of the U.S Department Of Defense (DOD), and the other in the U.S Naval Shipyard in Charleston. These examples have been chosen among others because of their

operational resemblance to the examined organizations. Finally, this part gives a short description of the examined organizations, the NLC and the NBC.

The second part deals with the methodology of the research. In particular, the origins and the features of the questionnaires.

The third part struggles with the real data, the answers of the correspondents in the questionnaires. In this part the answers are interpreted and analyzed. Strong, weak, and mixed points in each organization are made clear, while weak and mixed points are scrutinized to find ways for improvement.

The last part presents the conclusion and the recommendations. This part synopsizes the results of the analysis and draws a general way of dealing with the problems that have arisen during the analysis. Finally this part provides suggestions for further research in the direction of implementing ABCM.

II. BACKGROUND

A. INTRODUCTION TO ABCM

The roots of ABCM lie in product costing. Managers did not begin to grasp the value of using activity information to support and drive improvement initiatives and understand its applicability to industries other than advanced manufacturing until the early 1990s. It was this understanding that led to the birth of Activity Based Management. (Miller, 1996)

Management is interested in defining activities performed in their organization, determining what causes work to be performed, identifying where in the organization the activities are performed, and associating consumption of resources to activities and ultimately to individual products or services. (Forrest, 1999) However, traditional financial procedures use information from the General Ledger, which keeps historical information and provides little scope for looking forward. Information is rarely presented in a format to assist the day-to-day business, which is the major focus of operational management and staff. To be managed effectively operational cost needs to be understood, and must be clear to be understood. Clarity can only be achieved by correctly apportioning costs to services and products. Traditional costing systems provide managers with department related cost (e.g., sales, production, administration) but not with the understanding of how cost actually relates to individual products or services. The problem focuses mainly on the allocation of the overhead cost. Allocation under some traditional cost systems is based on variables such as volume of the products, cost of raw materials, cost of direct labor, and occupied area. Those methods of allocation relate the cost to

individual product or services and create distorted costs for organizations that produce a diverse range of products or services. As a result, managers lack information about what causes costs to be incurred. It becomes impossible to know which of several product lines is the most profitable, or as in our case in governmental organizations which alternative activity costs less. (Top-ix-White Papers, 2000)

ABCM was developed by the Consortium for Advanced Manufacturing International (CAM-I). CAM-I is a non-profit organization based in Texas. The organization was founded in 1972. The original purpose of CAM-I was to study and establish systems, methods, equipment standards, and computer platforms so that manufacturing machines and equipment could communicate with each other in the factory of the future. However, CAM-I through its Cost Management Systems (CMS) project developed a new methodology of measuring cost, known as Activity Based Cost Management (ABCM). (Miller, 1996)

ABCM is designed to highlight how costs actually relate to individual products and services. Organizations portray their business as a series of activities, which have a cost attached to each. The total cost of a product or service is the sum of the activities required to deliver that product or service. By measuring activities that a product receives in order to be produced, rather than traditional departmental costs, businesses focus on cross-functional processes in order to identify non value-adding activities and pinpoint the true drivers of cost at each stage. The result is a more refined system of allocating overheads to products and services, according to the demand of each activity by each product or service. (Top-ix-White Papers, 2000)

Viewing an organization from the perspective of ABCM cost can be enlightening. Traditionally, organizations report cost on a functional basis (department, or section) and by expense types (salaries, supplies, travel, etc.). Accounting systems typically report who spends for what but fail to report the cost of activities and processes. A simple illustration of the process-based view of cost, as compared with a typical cost view is displayed in Table 1.

Departmental Cost		**Expense Types Cost**		**Activities Cost**	
Sales	$50,000	Salaries	$400,000	Take Order	$70,000
Production	$350,000	Materials	$125,000	Make Cakes	
Transportation	$100,000	Supplies	$25,000	Mix Butter	$250,000
Administration	$200,000	Depreciation	$88,000	Bake Layers	$150,000
		Rent	$62,000	Frost Cakes	$90,000
				Deliver Cakes	$140,000
Total Cost	**$700,000**		**$700,000**		**$700,000**

Table 1. Process Based View of Cost for "Joe's Cake Shop". After Ref. [Miller, 1996]

As illustrated in Table 1, the total annual cost of Joe's cake shop is $700,000 and is viewed from three perspectives: the departmental/functional, the expense type and the activity based. From each viewpoint, the total cost is the same; it is just a different way of looking at the same total cost structure (Miller, 1996). Each viewpoint is a different sight in a kaleidoscope (Forrest, 1996). As a result, each point of view drives managers to different directions and different actions. For example a manager that follows the departmental way of estimating cost in order to reduce cost may make decisions that focus on departments (e.g., reduce cost of sales department by ten percent). On the other hand, a

manager that estimates cost according to each type of expense in order to reduce cost may concentrate his managerial efforts on manipulating the cost of salaries (e.g., lay-off personnel) or the cost of materials (e.g., find another supplier). Alternatively, a manager that bases his cost estimation on activities in order to reduce cost may center his managerial efforts on finding activities of no value (e.g., waiting time) to reject them from the system and reengineer the whole process in a more effective way.

Furthermore, ABCM focuses on understanding activities and their relationship to achieve strategic goals. ABCM not only helps managers to understand where the money is being spent, but it also helps them understand what work they perform. With this information, management can decide the best use of the organization's resources and which investment to pursue. For example, an Activity Based Budget (ABB), which is a product of ABCM, is more actionable and understandable than a traditional budget. In the Table 2 we see how a budget manager from an insurance company sought to make the budget more useful and meaningful to management using the traditional method. It is difficult for a budget composed of resources (e.g., salaries, supplies, rent) to provide adequate insight to management. It is easier for a manager to react to an ABB because it is based on the work people perform (Brimson and Antos, 1999).

In an activity based budget managers can clearly see which activities their organization performs, which trigger cost, which activities are of no value, and which activities must be reengineered, or rejected to enhance the situation.

Traditional Budget		Activity Based Budget	
Expense Category	**Cost**	**Activity Description**	**Cost**
Salaries	500,000	Process Mail	5,000
Benefits	150,000	Initial Review	350,000
Rent	40,000	Professional Review	50,000
Supplies	60,000	Adjuster Review	60,000
PC	50,000	Create EOB	180,000
Travel	30,000	Create Check	72,000
Consulting	70,000	Answer Questions	42,000
Telephone	30,000	Litigate Claims	150,000
		Manage Department	21,000
Total Cost	**930,000**		**930,000**

Table 2. Comparing an Activity Based Budget (ABB) with a Traditional Budget. From Ref. [Brimson and Antos, 1999].

B. AN IMPLEMENTATION MODEL OF ABCM

Implementing a new ABCM system requires a considerable amount of effort and planning. Like any significant project undertaking, goals must be established, overall requirements must be specified, work must be planned, resources must be identified and earmarked, responsibilities must be assigned, and priorities must be set.

The five basic steps for implementing ABCM according to John Miller (1996) are:

1.Planning,
2.Data gathering,
3.Activity analysis,
4.Activity/product costing, and
5.Document results.

1. Planning

The five-step model begins with detailed planning to define the purpose, objectives, and expectations for each specific ABCM building block. A significant part of this planning includes developing a detailed project plan complete with time line and assigned responsibilities, defining the resources required, and selecting specific people to do the work. It also documents the method that will be used to collect data. (Miller, 1996)

2. Data Gathering and Analysis

Data gathering and analysis is an integral part of each of the five steps reviewed. Planning involves gathering information and data to document the purpose, expectations, and objectives of the implementation effort. Data gathering plays a significant role in the activity analysis. Most of the information required by this step must be gathered from the existing knowledge base in the organization. To complete the activity / product costing step, information about the consumption of resources and activities must be collected and analyzed. Finally, information and data must be analyzed as the basis for the recommendations, conclusions, and next steps contained in the documented report. (Miller, 1996)

3. Activity Analysis

Activity analysis is at the heart of the ABCM implementation. Specifying activities and processes, identifying cost drivers, documenting outputs and outputs measures, analyzing activities from a value added perspective, and developing performance measures each represents major pieces of work that must be performed. (Miller, 1996)

4. Activity/Product Costing

Activity/product costing is the most mechanical part of the five-step model. It involves documenting the cost tracing methodology and base assumptions. A large part of the work required by this step involves the development or use of a software system to export, import, and accept data necessary to calculate activity and product/service cost. (Miller, 1996)

5. Document Results

The final step of the ABCM five-step implementation model involves documenting the work completed, including results, recommendations, and conclusions. This step is exceedingly important but often neglected. To be successful, action must be taken on the knowledge gained. Decisions regarding next steps are required. To be useful, information on actions to be taken and recommended next steps must be documented. (Miller, 1996)

C. TWO RELATIVE EXAMPLES OF ABCM IMPLEMENTATIONS

In this section two ABCM initiatives are presented to illustrate how ABCM works and assists businesses, and how the ABCM affected two organizations operationally similar to NLC and NBC. The first organization, the Defense Logistics Agency (DLA) of the US DOD was chosen because of the operational similarities it has with the Naval Logistic Center of the HN. They both deal with logistics operations and are both military organizations. The second organization, the Naval Shipyard in Charleston, South Carolina was chosen because of the operational similarities it has with the Naval Base of Crete. They are both naval organizations that deal with overhauling, repairing, and decommissioning of combat ships and submarines.

1. Defense Logistic Agency (DLA)

The DLA of the US DOD is responsible for the supply, management, and distribution of over 4 million line items of supply required by all four branches of the U.S. Armed Forces. The DLA, like all agencies associated with DOD, was under pressure to reduce the scope of its operations to correspond with the reduction of U.S military presence. The DLA in 1993 undertook a pilot project at its Defense Industrial Supply Center (DISC) in Philadelphia, Pennsylvania. The DISC completed its implementation over a three-month period, which commenced on April 1, 1993 and was completed on July 1, 1993. The results of this initial pilot effort were successful, and in August of 1993 the agency was directed to undertake ABCM worldwide. All DLA sites were instructed to complete their activity-based analysis and to issue their initial reports, complete with recommendations for improvement, by April 1, 1994. At that time, this implementation was the largest, most significant implementation ever conducted in U.S.A. The DLA business area commanders were responsible to define the activities under their respective command and deliver data relevant to cost and the value of specific activities. (Miller, 1996)

The primary benefit expected from the ABCM was better decisions on activities that could be eliminated or reduced during a period of downsizing/rightsizing and reduction. The activity-based project at the DLA included all activities and processes associated with the supply operations, defense contract management command, and depot warehouses. In addition, the defense reutilization and defense fuels were also included in the project scope. The effort included the activities of the 65,000 employees of the command. (Miller, 1996)

The overall implementation included 20 milestone events over an 18-month period commencing in January 1993. The first milestone event was the ABCM training of DLA's senior level management. The final milestone event was a briefing by each business area commander as to the results of the implementation. (Miller, 1996)

The specific steps involved in the implementation at each site included the following:

a. Define activities. The DLA utilized as much of its existing data as possible in defining activities.
b. Define outputs for the activities. In the agency these were known as work counts.
c. Trace costs to the activities. Detailed cost codes were traced individually to activities.
d. Determine cost drivers. Both internal and external cost drivers were identified.
e. Determine performance measures. Key and significant activities were linked to defined business area performance measures.
f. Perform value analysis and identify areas for improvement. (Miller, 1996)

Results of the DLA implementation efforts were completed by April 1, 1994 and presented to the DLA commander shortly thereafter. Each individual unit prioritized the improvement opportunities and assigned teams to implement the changes and improvement required. The agency continued to report activity-based information on a monthly basis and used the information to support its benchmarking and reengineering initiatives. (Miller, 1996)

In conclusion, by implementing ABCM, DLA obtained a reliable information system to use in order to measure its day-to-day efforts. It is extremely useful for a manager to understand thoroughly and clearly how an action is valued and its benefits. Furthermore, ABCM is the tool that DLA used to identify if its reengineering actions drove cost reduction or not. ABCM is also the benchmarking tool for DLA to identify if any action for improving a situation really produces better results or not. (Miller, 1996)

2. Charleston Naval Shipyard

The Charleston Naval Shipyard (CNS), in South Carolina was one of the eight shipyards owned by the U.S. Navy[1]. Charleston Naval Shipyard overhauled, repaired, and decommissioned combat ships and submarines. Overhauls constituted the lion's share of Charleston's businesses. This involved literally tearing down and rebuilding major parts of a ship, and adding advanced combat and navigation systems. The budget for these large jobs sometimes exceeded $100 million. (Porter and Keboe, 1994)

With the end of the Cold War the shipyard's customer, the U.S Navy placed an emphasis on lower cost in addition to high quality and high speed. Charleston having already streamlined its overhaul process decided that much of the 1992 cost savings through personnel reduction had to come from its support department, mostly indirect costs. The shipyard at that time was able to meet its goals through ABCM. (Porter and Keboe, 1994)

Most organizations take a less scientific approach to controlling indirect costs, usually through traditional budgeting and across-the-board, marginal reductions in funding and personnel. The objective in such situations is simply to reduce the budget or the head count in support departments, with little concern for decreasing the amount of work to be done throughout the business. When staffs shrink but work levels and work methods stay the same, the results are delays, errors, and low morale. (Porter and Keboe, 1994)

Porter and Keboe (1994) argue the managers may not understand how support departments work, or even how they contribute to running an organization. Thus, the managers have no idea where to begin to increase efficiency in these departments. It is far

1. The Base Realignment and Closure Commission (BRAC) closed CNS in 1996.

easier to simply assume that they are too "fat", and suggest cutting their budgets and leaving to departmental managers to decide where to cut. However, Charleston's executive managers used ABCM to gain a better understanding of support departments, so that they could bring real efficiency to them and coordinate their functions with the core business process of overhauling ships. (Porter and Keboe, 1994)

The first task of Charleston was to develop a shipyard activity cost model. To gather data for the model each department was asked to list its business processes. These included departments' core processes, such as preparing job orders in the planning department. Support departments, however, also do work that is not in direct relation to these core processes, such as general administrative chores. The departments were asked to identify these non-core processes also, so that the yard could build a comprehensive cost model of every function. (Porter and Keboe, 1994)

The ABC data helped managers to identify exactly what the support departments did, so as not to lose crucial pieces of the organization during reconstruction of the shipyard. For example, the ABCM data revealed that at least half of all job order planning was done outside the planning department. They found also that every department was spending too much time on activities such as travel vouchers, savings bonds, and other no-value activities. Charleston managers decided to centralize these activities into a "one-stop people shop" where all employees could come and get forms and assistance. ABCM provided data to help identify shops' staffing and equipment needs, and verified the types of activities needed to support it. In short, ABCM turned what could be a very subjective procedure into a data-driven objective discussion of structure and staffing. Even more, it

helped all executives understand how support departments worked, so that they could play an active role in improving them. (Porter and Keboe, 1994)

D. THE EXAMINED ORGANIZATIONS

The examined organizations are the Naval Logistic Center (NLC) and the Naval Base of Crete (NBC).

1. The Naval Logistic Center (NLC)

The Naval Logistic Center (NLC) is located in Scaramanga-Athens, employs about 300 people and is the primary logistic center of the Hellenic Navy. NLC controls inventory, and suggests inventory policy to Headquarters. Its mission is to support ships and shore-units of the HN, during war and peacetime, with parts and other required items in order to keep them operational. Its structure is based on products and functions. There are departments for each category of items (e.g., general, electronics) and there are also departments for functions such as procurement, inventory control, and information technology applications.

NLC deals with about 500,000 Stock Keeping Units (SKU). NLC monitors all SKUs through a central automated database. The database is accessible online by the Central Distribution Center (CDC), and by other two Peripheral Distribution Centers (PDC), which together with the NLC make up the Naval Logistic System.

NLC was a pioneer in integrated computerized logistics in Greece. NLC installed its first automated and integrated logistic system in early 80's. At that time computerized logistics was considered the "best business practice" in Greece. However, since then no other major improvement innovations have taken place.

2. The Naval Base of Crete (NBC)

The Naval Base of Crete (NBC) employs almost 2,000 people, and conducts partial and minor overhaul, repairs and decommissions of combatants. NBC's mission is to provide the HN with a Naval Base capable of hosting, supplying, and repairing the ships of the HN. The NBC consists of function-oriented divisions, such as maintenance, repairs, warehousing, general administration, and personnel.

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III. METHODOLOGY

A. OVERVIEW OF THE RESEARCH

This research used a questionnaire designed by the Consortium for Advanced Manufacturing - International (CAM-I). The questionnaire was used to collect the data because the respondents were located in Greece far from the location of the author in California. Personal interviews were not feasible. The questionnaire method was also selected because it is considered very successful when used by managerial and administrative employees and because it is the most inexpensive method to gather the data needed for a research (Miller, 1996).

On the other hand, questionnaires do not include personal contact. Political and personal issues and problems may not be identified, follow-ups may be needed, and misinterpretation may occur. (Miller, 1996) Furthermore, questionnaires were in English and since the correspondents were Greek, a translation in Greek took place and dangers of mistranslations and misunderstandings were also possible.

Ten respondents, five from each unit, answered the questionnaires. The sample size is considered small (Fink and Kosekoff, 1998), but from the author's perspective the sample represents a range of functions. Thus, the research can provide a general indication of the readiness of NLC and NBC to implement successfully ABCM. The respondents were selected in order to represent different departments from each unit. Most of the respondents were mid-level managers. In particular, in NLC all of the respondents were directors of functional or item type departments. In NBC one of the respondents was

director of a division, one sub-director of another division, while the other three were directors of departments of other divisions of NBC.

B. FEATURES OF THE QUESTIONNAIRE

The questionnaire (Appendix A) consists of three parts: the Respondents' Demographics (Appendix A-I), the Situational Profile (Appendix A-II), and the Change Readiness Assessment (Appendix A-III).

In the Respondent Demographics part respondents were asked to give specific information about personal and organizational features.

In the second part, the Situational Profile, the respondents were asked to give information about the current situation in their organization and areas that they believe ABCM could help.

The third part examines the change readiness of the organizations. In this part the respondents answered a series of questions, which highlighted specific areas. These areas are indicators of organizational readiness for ABCM (CAM-I, 2000). Each indicator (Table 3) has been identified by CAM-I through experience as related to the success or failure of ABCM initiatives and each one is in turn related to a question or questions of the questionnaire.

Finally, because the questionnaire was in English it was translated in Greek in order for the respondents to answer a questionnaire in their native language. The translating method consisted of three steps. First, the author of this study translated the original questionnaire (Q1) in Greek (Q2). Then, in order to validate the translation another Greek student at NPS translated that questionnaire (Q2) back in English (Q3). The

resulting questionnaire (Q3) was checked with the original one (Q1) to make sure that the meanings in each questionnaire (Q1 and Q3) were the same. Lastly, adaptations were made to the Greek translated questionnaire (Q2) so that the latter was closer in the meaning to the original one (Q1).

1. Organization is flat, less bureaucratic, and has a process orientation. 2. Organization's structure is stable and its turnover of employees is relatively low. 3. The ABCM effort is supported by other functional areas, linked to other improvement initiatives and does not have to compete with alternative initiatives for resources. 4. The site has successfully implemented and sustained other improvement initiatives without negatively perceived headcount reductions. 5. Employees at the site perceive management as being open-minded, trustworthy, proactive, effective communicators, team players, and change agents. 6. Employees support the current leadership, are empowered, have a high morale, and strive to improve the organization. 7. The site has effectively used IT to develop systems that are current, accurate, reliable, timely, integrated, and user friendly. 8. Management has a history of following through on improvement initiatives 9. Management uses an effective decision-making process by gathering the necessary information, objectively developing, and considering alternatives, and then acting on those decisions.	10. Management aligns improvement initiatives with the strategic objectives of the organization. 11. Management effectively communicates the purpose and value of system changes and improvement initiatives to all levels of the organization. 12. Management solicits and responds to feedback on new initiatives. 13. Systems satisfy users/customers needs. 14. New improvement initiatives are developed in response to competitive threats. 15. Organizational culture is conducive to change. 16. Key individuals recognize a compelling need for better ABCM information. 17. Improvements are expected at many levels. 18. A senior executive has been identified and is properly positioned within the organization to champion the ABCM initiative. 19. The new initiative receives adequate time, financial, and personnel support, and is accompanied by adequate training. 20. ABCM information is going to be used to support decision-making, and ABCM data are going to be used to support performance measurement and employee compensation.

Table 3. Indicators of Readiness to Implement ABCM. From Ref. [CAM-I, 2000]

C. SCORING THE QUESTIONNAIRE

Respondents for each question checked one of the five available boxes (Appendix A-III). These boxes for each question in the questionnaire range on a scale from low (or disagree, or not at all) to high (or agree, or always). Then all answers were gathered and ninety-eight (98) bar charts per organization were created (Appendix B). Each bar chart was then visually examined focusing on the position and the concentration of the bars. If the bars in a bar chart were concentrated on the side (left or right) that indicated support of the organizational readiness, then the question was considered a strong point. If the bars in the bar chart were concentrated on the side (left or right) that indicated a lack of support of organizational readiness then the question was considered as a weak point. If there was no clear concentration of the bars on one side the question was considered as a mixed point. Therefore, each question was classified as strong, weak, or mixed. The questions then gathered in groups related to specific indicators (e.g. questions three, four, five, and six for the third indicator). Depending on the relative number of weak, strong, and mixed questions for each indicator, the indicator was identified as positive, negative, or indeterminate in relation to a successful ABCM implementation.

IV. ANALYSIS AND DISCUSSION

A. INTRODUCTION

In this section the twenty indicators are analyzed and classified as positive, negative, or indeterminate in terms of supporting a successful ABCM implementation at the NLC.

B. ANALYSIS OF THE NLC QUESTIONNAIRES

1. First Indicator

The first indicator concerns the structure of the organization. The likelihood of a successful implementation is greater when the organization is flat, less bureaucratic, and has a process orientation. (CAM-I, 2000) The question that addresses this indicator is question 1 of appendix A-III. More specifically, this indicator is related to the degree of:

a. Levels of management,
b. Bureaucracy/chain of command,
c. Reorganizations,
d. Decision-making empowerment of employees,
e. Process orientation, and
f. Adequate vertical or horizontal communication.

The number of levels of management is the first issue of concern for a successful ABCM implementation (CAM-I, 2000). According to the bar chart 1a of Appendix B, this issue is considered a mixed point (there is no clear concentration of bars in one side). To improve the situation, NLC's management should de-layer the organization, empower decision-making at lower levels, and make sure that there are ABCM champions in all levels (CAM-I, 2000).

The existence of a rigid bureaucracy chain of command in NLC is an issue of concern (CAM-I, 2000). Since ABCM is an information system based on horizontal communication (Miller, 1996), there is an inconsistency with the vertical hierarchy and communication of a rigid bureaucratic organization (Robbins, 1987). ABCM focuses on processes that take place horizontally in an organization, through different departments. Consequently, a vertical structure of a rigid bureaucratic organization is not likely to be supportive. According to the bar chart 1b of Appendix B, NLC's bureaucracy and chain of command is considered rigid. This issue is considered a weak point for a successful ABCM implementation. To improve the situation, the ABCM project leader of NLC should understand the bureaucratic process and use bureaucracy to support ABCM (e.g., use formal project-strategy plans, convince the senior executive, and educate a great number of employees about ABCM). (CAM-I, 2000)

The degree of frequent re-organizations is an issue of concern. Re-organizations are considered to create unstable conditions in an organization. (CAM-I, 2000) Personnel are taxed by the upheavals and confusion that reorganizations cause. According to the bar chart of 1c of Appendix B, in NLC there is a lack of frequent reorganizations. This issue is considered a strong point. People in NLC have not been buffeted with reorganizations and NLC is apparently a stable organization.

The degree of decision-making empowerment of employees is an issue of concern (CAM-I, 2000). ABCM provides information to all layers of an organization and is considered successful when the use of ABCM is extensive and the decision-making is based on information from ABCM (Foster and Swenson, 1997). According to the bar chart 1d of Appendix B, the existence of decision-making empowerment in NLC is not clear.

This issue is considered a mixed point. To enhance the situation, NLC's management should empower decision-making at lower levels within the organization and eliminate bottlenecks (CAM-I, 2000).

The degree of process orientation is an issue of concern (CAM-I, 2000). According to the bar chart 1e of Appendix B, there is no a clear picture of the process orientation in NLC. This issue is considered a mixed point (the bars are spread across the horizontal axis). The rigid bureaucratic character of NLC does not provide many chances for process orientation. To deal with the problems, NLC's management should empower the ABCM project leader to connect processes through different departments. Given the bureaucratic structure of NLC, the ABCM project leader should understand and use bureaucratic processes and communications, such as formal reports and plans. (CAM-I, 2000)

The degree of adequate vertical and horizontal communication is an issue of concern (CAM-I, 2000). Since ABCM is an information system (Miller, 1996), adequate communication is essential for a flow of information. Without communication information does not move and is not used by other levels of organization. According to the bar chart 1f of Appendix B, there is no clear indication of existence either adequate or inadequate vertical or horizontal communication. This issue is considered a mixed point. To facilitate the situation, NLC's management should focus on the organization needs for communication behind the initiative and explain to all levels how the project can help them to achieve their goals. (CAM-I, 2000)

One strong, four mixed, and one weak points characterize this indicator. Subsequently, this indicator is classified as indeterminate. It is likely the mixed points to be turned into strong ones and move this indicator to the positive zone. The rigid

bureaucracy character of NLC can help a dedicated management to implement a top down plan of restructuring the organization in fewer levels of management, and enrich vertical and horizontal communication. However, orientation process is considered a behavioral issue and is likely to need time to be changed (Schwartz and Davis, 1981).

2. Second Indicator

This indicator concerns the stability of the organizational structure and the degree of employee turnover. The likelihood of a successful implementation is greater when the organizational structure is stable and has relatively low employee turnover. (CAM-I, 2000) The questions that address this indicator are 1b and 2 of Appendix A-III. More specifically, this indicator is related to the degree of:

a. Reorganizations,
b. Turnover in senior and middle management,
c. Turnover in line/staff positions, and
d. Turnover in information technology department.

The degree of frequent reorganizations has been analyzed in the previous paragraph and is considered a strong point that supports a successful ABCM implementation.

The degree of employees' turnover is an issue of concern (CAM-I, 2000). In very large organizations a complete ABCM implementation can take three to five years to complete, while in a small organizations the effort might be accomplished in six months (Miller, 1996). Additionally, the support of high-level managers is considered a crucial factor for a successful implementation of ABCM (Krumwiede, 1998). In the bar chart 2a of Appendix B, the concentration of bars is high on the right side. This indicates a high turnover. The issue of the turnover in senior management is considered a weak point. In

the bar charts 2b, 2c, and 2d of the same appendix no clear conclusion can be reached. These issues are considered mixed points. Consequently, NLC's management is facing a well-defined threat from managerial turnover and possible threats from turnover of employees at other levels. To improve the situation, NLC's management should attempt to retain employees at all levels of the organization and especially the champions of ABCM in high-level positions in NLC, for the required time to implement ABCM. Alternatively, NLC's management should establish a plan for the training and rotation of key staff on the ABCM initiative, in order to create a pool of experienced people in ABCM and decrease the negative effects that a transfer of a key manager could have on the project (CAM-I, 2000).

One strong, three mixed, and a weak point characterize this indicator. Subsequently, this indicator is classified as indeterminate. However, since the turnover of employees concerns transfers that are directed from Headquarters, most of the mixed points seem easily controlled from a high-level management who champions the ABCM initiative. So, mixed points can be turned into strong and this indicator could be moved to the positive zone.

3. Third Indicator

This indicator concerns the relations that ABCM has with other functions and initiatives. ABCM is implemented more successfully if it is supported by other functional areas, is linked with other initiatives, and is not competitive with alternative initiatives for resources (CAM-I, 2000). This indicator is related to questions 3, 4, 5, and 6 of Appendix A-III. More specifically, this indicator is related to the degree that people and departments

of the organization support ABCM, and the degree of link or competition that ABCM faces from other improvement initiatives.

The degree of support by senior, middle management, and line/staff employees is an issue of concern (CAM-I, 2000). Management support is an organizational factor found significant for implementing stages of initiatives (Krumwiede, 1998). Furthermore, in order for ABCM to be successfully implemented, it needs a holistic implementing approach, and integration into the culture of the implementing organization (Miller, 1996). According to the bar charts 3a and 3b of Appendix B, the support by senior and middle managers is not clear. These issues are considered as mixed points. According to the bar chart 3c of Appendix B, the support by line/staff employees is not adequate. This issue is considered as a weak point. To improve the situation, ABCM project leader should explain the value of ABCM to functional managers, treat them as customers, and solicit their feedback in order to determine how they can receive benefits from the initiative Additionally, NLC's management should explain the value of ABCM to all employees and make them to understand how it can be useful to them to meet current and future performance measures. (CAM-I, 2000)

The amount of support by the functional groups of Accounting, Procurement, Operations, Logistics, Engineering, IT, Customer Support, Sales, Marketing, and Program Management are issues of concern (CAM-I, 2000). A successful implementation of ABCM is based on cross-functional cooperation (Foster and Swenson, 1997). If functional groups do not support the ABCM initiative the lack of cooperation is likely to result in the system breaking down. The data in bar charts 4b and 4d of Appendix B indicate that the procurement and the logistics groups support the ABCM initiative. These are considered

strong points. According to the bar charts 4a, 4c, 4f, 4g, 4h, and 4i of Appendix B, the Accounting/Finance, Operation, Information Technology, Customer Service, Sales/Marketing, and Program Management group support is not clear. These issues are considered as mixed points. According to the bar chart 4e of the same appendix the engineering group is not expected to support ABCM. This is a weak point. To improve the situation, NLC's management should create cross-functional teams, define their authority, and focus on helping everyone to understand how ABCM can be useful to every individual. Additionally, NLC's management could perform a pilot study. The identifiable benefits from this pilot study could persuade more individuals about the value of an ABCM implementation. (CAM-I, 2000)

The likelihood of linking ABCM to another improvement initiative in the NLC is an issue of concern (CAM-I, 2000). A series of other initiatives, such as Total Quality Management (TQM), Lean Production Systems (LPS), Job Shop Systems (JOB), and Manufacturing Resources Planning (MRP II) are also process-related innovations and can be associated with ABCM innovations (Krumwiede, 1998). The system solutions proposed for ABCM in any particular functional area must be coordinated with corporate plans and investments in enterprise-wide information systems, such as Enterprise Resource Planning (DoN, 1999). ABCM facilitates the implementation of task related to innovations because its basic function is to provide information about tasks and activities. So, an existing innovation (TQM, LPS, JOB, MRP II, ERP) in an organization is likely to link to ABCM and help the establishment of both. According to the bar chart 5 of Appendix B, the likelihood of ABCM to be linked with other improvement initiatives is low. This issue is considered as a weak point. To improve the situation, NLC's management should examine

ways of linking ABCM to other initiatives. Furthermore, NLC's management should communicate all the initiatives underway in the organization and discuss any redundancies or mutual benefits. (CAM-I, 2000)

Expecting competition with other initiatives for financial, personnel, and IT resources is an issue of concern (CAM-I, 2000). In the last decade, scarcity of personnel resources has been a common phenomenon in western military organizations due to the end of the Cold War (Porter and Keboe, 1994). Furthermore, resources adequacy is considered a crucial factor for a successful ABCM implementation (Anderson and Young, 1997). According to the bar charts 6a and 6c of Appendix B, it is not clear if there is a competition or not for financial and IT resources. These issues are considered as mixed points. According to the bar chart 6b of Appendix B, there is a great competition over personnel resources. This issue is considered a weak point. To enhance the situation, NLC's management should consider decreasing ABCM innovation to just a pilot program to demonstrate the value of ABCM in order to highlight the value of ABCM to the organization (CAM-I, 2000).

Two strong, ten mixed points, and four weak points characterize this indicator. As a consequence this indicator is classified as indeterminate. However, the possibility of moving this indicator into the positive zone seems high. In an organization like NLC the strict chain of command can affect and mobilize people to support and use ABCM results. At the first stages of ABCM implementations (adoption and implementation) centralized decision making and vertical organizational structure are considered important variables for a successful ABCM implementation. (Gosselin, 1997) It is expected that if a high-level manager is a champion of ABCM he/she could communicate benefits from ABCM at all

levels and link ABCM with other functions and initiatives. So, this indicator could be moved to the positive zone.

4. Fourth Indicator

This indicator concerns the results of previous initiatives. The success in implementing ABCM is greater when the site has successfully implemented and sustained other improvement initiatives without negatively perceived headcount reductions (CAM-I, 2000). This indicator is related to questions 8 and 9 of Appendix A-III. More specifically, this indicator is related to the successful implementation of and sustaining previous initiatives and the perception that people in organization have about change initiatives.

The unsuccessful implementation and support of previous improvement initiatives and especially IT initiatives in an organization is an issue of concern (CAM-I, 2000). To a large extent ABCM project is an IT project. It is based on software applications such as the Hyper ABC, the TR/ACM, and the DaCapo Process Manager. (Miller, 1996) Consequently, the success of past IT projects is an indicator of ABCM implementation success. According to bar charts 8a, 8b, 8c, and 8d of Appendix B, implementation and sustainment of improvement initiatives are weak points while implementation and sustainment of IT projects are mixed points. Most organizations find it difficult to conduct innovations internally because they lack experience and expertise. Instead, they use consulting firms specialized in implementing innovations (Miller, 1996). To improve the situation, NLC management should consider approaching the ABCM implementation using a consulting firm. Additionally, NLC's management should have the leaders of Information, Financial, and Operation Department coordinated with the ABCM project

leader and create a schedule that support all the requirements of implementing and sustaining the ABCM initiatives (CAM-I, 2000).

The amount of the opposition that ABCM is expected to receive is an issue of concern. The risk here is employees perceive the ABCM initiative as a means to reduce headcounts (CAM-I, 2000). According to the bar chart 9 of Appendix B, this issue is a mixed point. To improve situation, NLC's management and the ABCM project leader should promote ABCM as an intelligent and employee involved way to approach outsourcing and right-sizing decisions that is far superior to uniform or arbitrary cuts based on geography or seniority. Additionally, NLC's management should communicate that ABCM is not a head count reduction program, but enables better decision-making when management is faced with personnel-related decisions. (CAM-I, 2000)

Three mixed and two negative points characterize this indicator. Consequently, this indicator is identified as a negative variable for implementing successfully an ABCM initiative. If NLC's management hired a consulting company the negative points may be neutralized. Furthermore, a clear communication from management about not seeking a headcount reduction could also reduce the negative perception employees have about change initiatives and move this indicator to the positive zone. However, this indicator is related to individuals' perceptions and is expected to take time for people to change perception (Schwartz and Davis, 1981).

5. Fifth Indicator

This indicator concerns the perception employees have about management. The likelihood of a successful ABCM implementation is greater when employees at the site

perceive management as being open-minded, trustworthy, proactive, effective communicators, team players, and change agents (CAM-I, 2000). The indicator is related to questions 7 and 10 of Appendix A-III. More specifically, this indicator is related to the degree that:

> a. "Protecting turf" in NLC is a barrier for implementing ABCM, and
> b. Management is perceived as having some characteristics (open-mindedness, trustworthiness, etc.) that help initiatives to succeed.

The degree of "protecting turf" in an organization is an issue of concern (CAM-I, 2000). According to the bar chart 7 of Appendix B, there is no clear agreement about the existence of a protecting turf barrier in NLC. This issue is considered a mixed point. To improve the situation, NLC's management has to communicate and create broad employee awareness, especially in groups likely to be affected (CAM-I, 2000).

The perception of managers as being open-minded, trustworthy, proactive, effective at implementing changes, effective communicators, and effective team workers are issues of concern (CAM-I, 2000). A successful implementation of the ABCM initiative requires team managers well respected by employees (Miller, 2000). According to the bar charts 10a, 10b, 10c, 10e, and 10f of Appendix B, managers are not clearly perceived as open-minded, trustworthy, proactive, effective communicators, and effective team workers. These issues are considered as mixed points. According to the bar chart 10d of the same appendix, management is considered not effective at implementing change. This issue is considered as a weak point. To improve the situation, NLC's management should share information with employees as a way of educating each employee regarding how the organization runs. It should also open lines of communication, and convene meetings

between all levels of the organization to demonstrate that management listens (CAM-I, 2000).

Six mixed and one weak point characterizes this indicator. Consequently, this indicator is classified as indeterminate. If communication is improved and management demonstrates specific characteristic the mixed points can be turned into strong ones. However, it is expected to take time for individuals to change their perception (Schwartz and Davis, 1981).

6. Sixth Indicator

The sixth indicator concerns the culture and behavior of employees. When employees support the current leadership, are empowered, have a high morale, and strive to improve their organization, the likelihood of an ABCM successful implementation is greater (CAM-I, 2000). This indicator is related to question 11 of Appendix A-III. More specifically, this indicator is related to the degree employees have a high morale, support the current leadership, feel empowered, have a continuous improvement mindset, place larger organizational goals above work unit/department objectives, and work effectively in a team environment.

The morale of employees, the support they show on the current leadership, the feeling of empowerment they realize as change agents, the continuous improvement mindset they are in, the priority they show on the organizational goals against the unit-department objectives, and the effectiveness they have in team work are issues of concern for a successful implementation of ABCM (CAM-I, 2000). The need for change, the individual commitment and the culture of an organization are all significant factors for a

successful ABCM implementation (Anderson and Young, 1997). According to the bar charts 11a, 11b, 11c, 11d, 11e, and 11f of Appendix B, all of the above issues are considered as mixed points. To deal with the above situation, NLC's management should communicate the benefits of ABCM to employees and focus on their self-interest, make positive suggestions, and discuss potential areas of disconnect that make employees feel powerless to either change or influence their processes with positive suggestions (CAM-I, 2000).

Six mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. If management takes a series of actions as the above mentioned this indicator could be moved to the positive zone. However, as Schwartz and Davis (1981) reported when you take a 100-year-old company and try to change its culture it takes time.

7. Seventh Indicator

The seventh indicator concerns the characteristics of the organization's IT system. The likelihood of success is greater when the site has effectively used IT to develop systems that are current, accurate, reliable, timely, integrated, and user friendly (CAM-I, 2000). This indicator is related to question 12 of Appendix A-III. More specifically, it is related to the characterization of organization's information system as state-of-art, well documented, integrated, accessible, reliable, timely, and user friendly.

The shortage of a state-of-art, well document, integrated, accessible, reliable, timely, and user-friendly information system is an issue of concern (CAM-I, 2000). In the financial literature the impact of information technology (IT) quality on ABCM

implementation is conflicting (Krumwiede, 1998). However, this study accepts that it is easier to link a higher quality IT system with an information system, such as the ABCM. Higher-quality IT systems enable managers more than insufficient IT systems to implement ABCM because the costs of measurements are lower (Cooper, 1988). It is also considered that information systems play a crucial role in the success or failure of the ABCM implementation and the integration of the information system with the ABCM enables the full potential of ABCM (Krumwiede, 1998; Miller, 1996). According to the bar charts 12a, 12d, 12e, and 12f of Appendix B, the issues of the status, the accessibility, the reliability, and the timeliness of the IT system of NLC are all considered as mixed points. According to the bar charts 12b, 12c, and 12g of Appendix B, the documentation, the integration, and the friendliness of the IT system are considered as weak points. To improve the situation, NLC's management should enhance its IT system linking it to the needs of the ABCM implementation (CAM-I, 2000).

Four mixed and three weak point characterize this indicator. Consequently, this indicator is classified in the negative zone. However, a high-level manager who champions ABCM could provide adequate resources for establishing an appropriate IT system, integrate this in ABCM needs, and help this indicator to move to the positive zone.

8. Eighth Indicator

The eighth indicator concerns the involvement in and validation of initiatives by management. The likelihood of success is greater when management has a history of following through on improvement initiatives (CAM-I, 2000). This indicator is related to

questions 13 and 14 of Appendix A-III. More specifically, this indicator is related to the degree the management stayed involved and validated its past improvement initiatives.

The degree of participation in the initiatives and validation of initiatives upon completion to ensure that original objectives are met is an issue of concern (CAM-I, 2000). Management's support is a crucial factor for the success of ABCM (Krumwiede, 1998). Employees pay attention to those matters that management measures and also pay attention (Miller, 1996). So, a participation in and validation of improvement initiatives helps communicate the message that management is really interested in ABCM implementation. According to the bar charts 13 and 14 of Appendix B, the issue of the active involvement is considered as a weak point while the issue of the validation of improvement initiatives as a mixed one. To improve the situation, NLC's management should be involved in the endeavor of the ABCM implementation and validate the results of the implementation. NLC's management should also publish results using defined performance metrics, and conduct employee briefings to disseminate results and obtain feedback. (CAM-I, 2000)

One mixed point and one weak point characterize this indicator. Consequently, this indicator is classified as indeterminate. However, a champion at a high-level in management actively involved and seeking feedback could help this indicator to move to the positive zone.

9. Ninth Indicator

The ninth indicator concerns the decision making process and the use of cost data. The likelihood of success is greater when management uses an effective decision-making process by gathering the necessary information, objectively developing and considering

alternatives, and then acting on those decisions (CAM-I, 2000). This indicator is related to question 15 of Appendix A-III. More specifically, this indicator is related to the degree that:

a. Relevant data are analyzed,
b. Decision alternatives are carefully evaluated,
c. Decisions are timely,
d. Decisions are acted upon, and
e. Decisions are not politically motivated.

The gathering of all relevant data and the evaluation of decision alternatives for a timely and non-political decision-making process is an issue of concern (CAM-I, 2000). According to the bar charts 15a, 15d, and 15e of Appendix B, the issues of gathering all relevant data, making timely decisions, and acting upon decision are considered as strong points. According to the bar charts 15b, 15c, and 15f of the same appendix, the issues of analyzing all relevant data, evaluating alternatives, and not being political motivated in making-decisions are considered as mixed points. The above points suggest that NLC's management would find ABCM extremely helpful as an information tool and that ABCM supports the characteristic of NLC of retrieving all relevant data before making decisions. Also it is expected that these decisions will be timely and acted upon. Since such perceptions are primary factors for the success of implementing ABCM this issue is a strong point of success of an ABCM implementation in NLC (Foster and Swenson, 1997). On the other hand, to improve the situation at the mixed points, NLC's management should educate all decision-makers as to the consequences of not considering all alternatives with simple and easy examples (CAM-I, 2000).

Three strong and three mixed points characterize this indicator. Consequently, this indicator is classified in the positive zone. This indicator highlights an existing positive behavior in decision process, which is aligned with ABCM usage and support the successful ABCM implementation.

10. Tenth Indicator

The likelihood of success is greater when management aligns improvement initiatives with the strategic objectives of the organization (CAM-I, 2000). This indicator is related to question 17 of Appendix A-III. More specifically, it is related to the degree that management aligns change initiatives with the strategic objectives of their organization.

The degree of alignment of significant change initiatives with the strategic objectives is an issue of concern. When organizations do not align improvement initiatives with strategic objectives these initiatives are not likely to succeed (CAM-I, 2000). In a stovepipe structured organization employees do not know if their activities are aligned with organization's strategy. Without a clear view of how activities relate to strategy and goals the disconnection broadens (Brimson and Antos, 1999). According to the bar chart 17 of Appendix B, the initiatives are not clearly aligned with strategic objectives. This issue is considered a mixed point. To improve the situation, NLC's management should identify the strategic goals of organization and how ABCM helps to meet these (CAM-I, 2000).

One mixed point characterizes this indicator. Consequently, this indicator is classified as indeterminate. However, if a high-level manager champions ABCM is likely

ABCM to be aligned with the strategic objectives of NLC and help this indicator to move to the positive zone.

11. Eleventh Indicator

This indicator concerns the communication. The likelihood of success is greater when management effectively communicates the purpose and value of system changes and improvement initiatives to all levels of the organization (CAM-I, 2000). This indicator is related to questions 18 and 30 of Appendix A-III. More specifically, it is related to the degree that management communicates the benefits of initiatives to all levels and particularly the objectives and expectations of ABCM.

The degree that management communicates the benefits of change initiatives, objectives and expectations of an ABCM initiative to all levels are issues of concern (CAM-I, 2000). ABCM requires a holistic effort to be successfully implemented (Miller, 1996). So, all levels of NLC should be able to have the big picture of the effort and the goals of organization. According to the bar chart 18 of Appendix B, the extent that management communicates the benefits of change initiatives to all levels of the organization is not clear. This is a mixed point. According to the bar chart 30 of the same appendix, the extent that management communicates the objectives and expectations of an ABCM initiative to all levels is low. This is a weak point. To improve the situation, NLC's management from the beginning of the initiative should establish a clearly defined and ongoing program of training and information meetings for all levels of organization in order to provide continuing information, and guidance on the purpose, events, initiatives, and time lines for completing the ABCM project (CAM-I, 2000).

One mixed and one weak point characterizes this indicator. Consequently, this indicator is classified in the negative zone. The problem is focused on communication that is provided by management. A management able to plan and execute an appropriate communication schedule could help this indicator to move to the positive zone.

12. Twelfth Indicator

The likelihood of success is greater when management solicits and responds to feedback for new initiatives (CAM-I, 2000). This indicator is related to questions 19 and 20 of Appendix A-III. More specifically, it is related to the degree that management solicits and responds to feedback on new initiatives.

The degree to which management solicits feedback on initiatives and the responses it takes due to this feedback is an issue of consideration (CAM-I, 2000). People pay attention to those matters and measures that are visible, given attention by management, and that affect their paychecks (Miller, 1996). So, management should show its interest in ABCM progress. One way of doing so is to solicit feedback, ask for feedback frequently, and take actions after feedback. According to the bar charts 19 and 20 of Appendix B, the degree to which management solicits, and responds to the feedback are mixed points. To improve the situation, NLC's management should get feedback from any ABCM implementation project it initiates and respond to the feedback to show employees that it is interested in and pays attention to the ABCM implementation.

Two mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. However, if NLC's management solicits and seeks feedback about the ABCM implementation could help this indicator to move to the positive zone.

13. Thirteenth Indicator

This indicator concerns the satisfaction of user/customer. The likelihood of success is greater when initiative satisfies user/customer needs (CAM-I, 2000). This indicator is related to questions 21 and 22 of Appendix A-III. More specifically, it is related to the degree that user and customer needs have driven initiatives and the degree of satisfaction of the user and customers have received from those initiatives.

The degree that in the past customers' and users' needs have driven and been satisfied by previous initiatives is an issue of concern (CAM-I, 2000). Focusing on activity outputs that meet customer and user requirements is helpful. The customer is instrumental in determining the value of an activity and should have the ultimate say in determining the performance criteria of an activity. (Miller, 1996) According to the bar charts 21a, 21b, 22a, and 22b of Appendix B, the issues of how customers' and users' needs have driven and been satisfied by past initiatives are not clear identified. These are considered as mixed points. To improve the situation, NLC's management should codify customers' and users' needs and determine where current information systems are deficient and then demonstrate how ABCM can fill the gaps (CAM-I, 2000).

Four mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. If a high-level manager champions ABCM could implement a customer-focused management and move this indicator to the positive zone. However, because this issue has to do with behavioral issues it is considered to take time to be improved (Schwartz and Davis, 1981).

14. Fourteenth Indicator

This indicator concerns the competitive threats. The likelihood of success is greater when new improvements are developed in response to competitive threats (CAM-I, 2000). This indicator is related to question 23 of Appendix A-III. More specifically, it is related to management reactions to potential and actual competitive threats.

The extent that management reacts to potential and actual threats and encourages innovation is an issue of concern (CAM-I, 2000). The competitive environment and the organization's need for cost data in strategic decisions and cost reduction efforts affect ABCM implementation (Anderson, 1995). If organizations do not respond to competitive threats with new improvement initiatives the risk of ABCM being rejected is greater (CAM-I, 2000). NLC being a military organization has to take into consideration a great number of threats, especially war. However, the threats in this case are oriented to the business characteristics of the organization. According to the bar charts 23a and 23b of Appendix B, the issues of reactions in potential and actual competitive threats are all mixed points. To improve the situation, NLC's management should institute procedures to routinely conduct competitive threat analyses and establish a periodic competitive threat review process (CAM-I, 2000).

Two mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. However, because there is no likelihood of NLC to be privatized or to be replaced by another organization (e.g., Army's Logistic Center) this indicator has a little significance for NLC.

15. Fifteenth Indicator

This indicator concerns the organizational culture. The likelihood of success is greater when the organizational culture is conducive to change (CAM-I, 2000). This indicator is related to questions 24 and 25 of Appendix A-III. More specifically, this indicator is related to the degree that innovation is encouraged and rewarded, while failures resulting from the pursuit of innovation are not punished.

The absence of encouragement, recognition, and reward for innovations is an issue of concern (CAM-I, 2000). Linkage and integration of ABCM to the compensation and reward systems of the organization helps to drive full integration and facilitates a successful ABCM implementation (Miller, 1996). According to the bar chart 24a of Appendix B, the issue of encouragement of innovations is a mixed point. According to the bar chart 24b of the same appendix, the issue of recognition and reward of innovations is a negative point. To improve the situation, NLC's management should link employees' compensation to innovation efforts such as ABCM (CAM-I, 2000).

Not only must the organizations talk for empowerment, but also the employees must actually feel empowered for the program to work. If they make a mistake in trying to satisfy their internal and external customers, the employees must not be overly criticized. Instead, they must be made to feel that even they make a mistake, they will be asked to learn from the mistake to avoid it in the future. (Brimson and Antos, 1999) According to the bar chart 25 of Appendix B, the issue of not punishing failures of employees when they seek innovations is a strong point.

One strong, one mixed, and one weak point characterize this indicator. Consequently, this indicator is classified as indeterminate. NLC's management could adopt

specific characteristics to move this indicator to the positive zone. However, this indicator is related to cultural issues and is expected to take some time before a culture of an organization change (Schwarz and Davis, 1981).

16. Sixteenth Indicator

This indicator concerns the perception that individuals have about ABCM. The likelihood of success is greater when key individuals recognize a compelling need for better ABCM information (CAM-I, 2000). This indicator is related to question 26 of Appendix A-III. More specifically, this indicator is related to the degree that individuals of an organization consider ABCM information system as compelling.

The recognition of a compelling need for a better information system from the respondents is an issue of concern (CAM-I, 2000). According to the bar chart 26 of Appendix B, this issue is a strong point. This point indicates a managerial recognition of ABCM as a useful tool for attaining information. It is reasonable to expect managerial support for the ABCM implementation. Management support has been found a significant factor for ABCM successful implementation in past studies (Krumwiede, 1998).

One strong point characterizes this indicator. Consequently, this indicator is classified as positive.

17. Seventeenth Indicator

This indicator concerns the magnitude of expecting improvements across multiple levels. The likelihood of success is greater when improvements are expected at many levels (e.g. customer satisfaction, improvement of individual and organizational performance) (CAM-I, 2000). This indicator is related to question 27 of Appendix A-III.

More specifically, this indicator is related to the degree of the expectation of improvements due to ABCM in the organization.

The expectation of improvements at many levels is an issue of concern (CAM-I, 2000). According to the bar charts 27a and 27b of Appendix B, there is a great expectation of improvements in the organization's and department's performance. These issues are considered strong points and indicate great possibilities of extensive use of ABCM information system in many levels of NLC. According to the bar charts 27c, 27d, and 27g of the same appendix, the expectations for improvement in individual performance, individual compensation, and customer satisfaction are dispersed. These issues are mixed points. Finally, according to the bar charts 27e and 27f of the same appendix there are no expectations about improvement in advancement opportunities or job security. These issues are weak points. To improve the situation, NLC's management should document and communicate the expected benefits from ABCM at every level. Additionally, NLC's management should link incentive systems at all levels to ABCM performance improvements. (CAM-I, 2000)

Two strong, three mixed, and two weak points characterize this indicator. Consequently, this indicator is classified as indeterminate. If NLC's management communicates the benefits from ABCM at every level this indicator could move to the positive zone. However, it is considered it takes time to change the perception of individuals (Schwartz and Davis, 1981).

18. Eighteenth Indicator

This indicator concerns the existence of a high-level management champion of ABCM. The likelihood of success is greater when a senior officer has been identified and is properly positioned within the organization to champion the ABCM initiative (CAM-I, 2000). This indicator is related to questions 28 and 29 of Appendix A-III. More specifically, it is related to the existence of a senior officer champion of ABCM and how the champion's departure would affect the ABCM initiative.

The existence of an ABCM champion who has the necessary authority and responsibility to affect organizational change and the extent that ABCM initiative would suffer if its champion leaves are issues of concern (CAM-I, 2000). Past studies have found top management support a significant factor for implementing ABCM (Foster and Swenson, 1997). According to the bar charts 28 and 29 of Appendix B, it is not clear if there would be a high-level senior champion of the ABCM initiative. Also it is not clear how his absence would affect the ABCM initiative. So both issues are considered as mixed points. To improve the situation, NLC's management should designate and empower a senior management champion for the ABCM initiative that is a well-known and highly respected leader in the organization. Additionally, the commander of NLC should demonstrate commitment to ABCM and the champion, establishing the individual as a key player and person of influence in the organization (CAM-I, 2000). Mitigation of the affect of the champion leaving the organization can be achieved by ensuring that the champion is not the only high-level manager visibly supporting the effort.

Two mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. However, a high-level manager champion of ABCM authorized with power and influence could help this indicator to move to the positive zone.

19. Nineteenth Indicator

This indicator concerns the resources the ABCM initiative receives. The likelihood of success is greater when the new initiative receives adequate time, financial, and personnel support, and is accompanied by adequate training (CAM-I, 2000). This indicator is related to question 31 of Appendix A-III. More specifically, it is related to the degree that ABCM initiative is provided adequate financial resources, dedicated and capable personnel, time, training, and a good project plan.

The expectation that management will not provide financial and personnel support, adequate time, training, and a good project plan is an issue of concern (CAM-I, 2000). Sufficient resources are critical factors for ABCM successful implementation (Foster and Swenson, 1997; Anderson and Young, 1997). According to the bar charts 31c, 31d, and 31e of Appendix B, the provision of time, training, and a good project plan is not clear. These issues are considered mixed points. According to the bar charts 31a and 31b of the same appendix, the issues about the provision of financial and personnel resources are weak points. To overcome these problems, NLC's management should develop a budget for the ABCM project implementation that includes the necessary resources to implement and sustain the initiative and adequately estimate the personnel requirements. If funding is a problem, NLC's management should also consider linking the ABCM initiative to another well-funded improvement initiative, using a limited scope for a pilot project to

prove the concept, or illustrate to higher authority how other organizations have clearly paid for their projects through the results achieved (CAM-I, 2000).

Three mixed and two weak points characterize this indicator. Consequently, this indicator is classified as indeterminate. However, because of the centralized nature of military organizations, a high-level manager champion of ABCM in Headquarters could provide adequate financial and personnel support in a short period of time and help this indicator to move to the positive zone.

20. Twentieth Indicator

This indicator concerns the use of ABCM. The likelihood of success is greater when ABCM information is used to support decision-making and when ABCM data are used to support performance measurement and employee compensation. This indicator is related to questions 16 and 32 of Appendix A-III. More specifically, it is related to the degree that organizations track and link cost to performance, objectives, and employee compensation and to the degree that ABCM is used to measure performance and reward.

The lack of connection of cost and performance with employees' objectives and compensation, the absence of recognition and reward for innovations, and the low expectation by NLC's personnel of any improvement in personal advancement opportunities and job security from ABCM innovation are issues of concern (CAM-I, 2000). Performance evaluation and compensation linkage was found to be a significant organizational factor in past studies for a successful ABCM implementation (Foster and Swenson, 1997). According to the bar charts 16a, 16b, and 16c of Appendix B, the issues that NLC tracks and links performance to organizational objectives are not clear. They are

considered as mixed points. According to the bar charts 16d and 16e of the same appendix, the issues of tying cost and performance to employee objectives and compensation are considered weak points. To improve the situation, NLC's management should link ABCM and other innovations to compensation decisions and performance measures. NLC's management should also look at the activities that employee compensation are linked to and make sure that they are included in the ABCM model. (CAM-I, 2000) Linkage and integration of ABCM to the compensation and reward systems of the organization will help drive full integration and facilitate a successful ABCM implementation (Miller, 1996).

The disbelief of employees that management will use ABCM to support decision making, to measure the success of ABCM and employees' performance, and incorporate ABCM measures into employees' reward structure is an issue of concern (CAM-I, 2000). ABCM success is measured by the use of ABCM information in decision making, decision actions taken with ABCM information, the dollar improvements resulting from ABCM, and management evaluation as to the overall success of the ABCM (Foster and Swenson, 1997). According to the bar charts 32a, 32b, 32c, 32d, and 32e of Appendix B, the expectations that NLC's management will use ABCM for any of the factors identified in the previous sentence is low. These issues are considered as weak points. To improve the situation, NLC's management should use ABCM to impact on decision-making and performance measures, and link to rewards. Additionally, NLC's management should show the value and successes other organizations have gained from using ABCM by sharing case studies with key decision-makers (CAM-I, 2000).

Three mixed and seven weak points characterize this indicator. Consequently, this indicator is classified into the negative zone. A centralized organization as NLC could apply top-down direction to use ABCM in day-to-day operations and evaluations and so help this indicator to move to the positive zone. However, top down directions alone will not guarantee success. The users must see value at their level and this is expected to take time (Schwartz and Davis, 1981).

C. ANALYSIS OF THE NBC QUESTIONNAIRES

In this section, a series of indicators from the questionnaire (Appendix A-III) relating to NBC are examined. The following methodology is the same as the one used for NLC. First each indicator and the questions that are related to are introduced. Then the responses are examined and classified as strong, weak, or mixed. Next, according to the relative number of strong, weak, or mixed points each indicator is analyzed and classified as positive, negative, or indeterminate in terms of facilitating a successful ABCM implementation. Finally, if an issue or an indicator is classified as weak/negative, or mixed/indeterminate a series of suggestions for enhancing the situation is provided.

1. First Indicator

The first indicator concerns the structure of the organization. The likelihood of a successful implementation is greater when the organization is flat, less bureaucratic, and has a process orientation. (CAM-I, 2000) The question that addresses this indicator is question 1 of Appendix A-III. More specifically, this indicator is related to the degree of:

a. Levels of management,
b. Bureaucracy/chain of command,
c. Reorganizations,

d. Decision-making empowerment of employees,
e. Process orientation, and
f. Adequate vertical or horizontal communication.

The lack of excessive levels of management in an organization is an issue of concern for implementing successfully an ABCM initiative (CAM-I, 2000). ABCM is an information system, which is based on defining cross-functional activities. Activities represent the horizontal view of an organization. (Miller, 1996) According to the bar chart 1a of Appendix B, NBC is a relatively flat organization and this issue is a strong point. The relatively flat organizational schema of NBC is expected to help the successful implementation of ABCM.

The rigid bureaucracy-chain of command is an issue of concern about a successful ABCM implementation (CAM-I, 2000). ABCM is based on processes and activities that run horizontal in an organization. Activities and processes are the common denominator of the horizontal organization (Miller, 1996). On the other hand, a rigid bureaucratic organization is based on vertical hierarchy and communication (Robbins, 1987). According to the bar chart 1b of Appendix B, NBC has a great rigid bureaucracy/chain of command. This issue is a weak point. NBC's bureaucracy chain (vertical) appears to be in contradiction to the horizontal organization and is expected to pose an obstacle to a smooth ABCM implementation. To facilitate the implementation of ABCM, NBC's management should use formal project plan, educate the leaders, and involve the highest levels of the organization in identifying ABCM as an ongoing, programmatic way of doing business (CAM-I, 2000).

The number of re-organizations is an issue of concern (CAM-I, 2000). Implementing a new ABCM information system requires a considerable amount of effort

and planning (Miller, 1996). Frequent reorganizations exhaust the personnel of an organization and create unstable situations. According to the bar chart 1c of Appendix B there are not frequent reorganizations in NBC. This is a strong point. NBC's personnel have not been buffeted with re-organizations.

The lack of decision empowerment is an issue of concern (CAM-I, 2000). ABCM focuses on helping people in an organization to make decisions more easily and make informed decisions. The success of ABCM implementation is usually based on the amount of decision actions taken with ABCM information. (Innes and Mitchell, 1995) According to the bar chart 1d of Appendix B, this issue is a strong point. People in NBC seem empowered to make decisions and the level of decisions based on ABCM is expected to grow.

The lack of process orientation and adequate communication are two more issues of concern (CAM-I, 2000). The basic output of the ABCM system is to provide relevant cost information about each significant activity (Miller, 1996). Activities are part of work processes performed in an organization. Consequently, the lack of process orientation minimizes the usefulness of ABCM, while the lack of communication diminishes the flow of information. The likelihood of a successful ABCM implementation is at risk when there is no process orientation and not adequate vertical and horizontal communication (CAM-I, 2000). According to the bar charts 1e and 1f of Appendix B, the issues of the process orientation and communication are not clearly defined. They are considered mixed points. To facilitate the implementation of ABCM, NBC's management should specify activities and business processes and then to communicate these to employees.

Three strong, two mixed, and one weak points characterize this indicator. Consequently, this indicator is classified as indeterminate. The rigid bureaucracy character of NBC is likely to help management to restructure the organization in a process orientation and enrich vertical and horizontal communication. However, orientation process is considered as a behavioral issue and is likely to need time to be completely adopted (Schwartz and Davis, 1981).

2. Second Indicator

This indicator concerns the stability of the organizational structure and the degree of employee turnover. The likelihood of a successful implementation is greater when the organizational structure is stable and has relatively low employee turnover. (CAM-I, 2000) The questions that address this indicator are 1c and 2 of Appendix A-III. More specifically, this indicator is related to the degree of:

a. Reorganizations,
b. Turnover in senior and middle management,
c. Turnover in line/staff positions, and
d. Turnover in information technology department.

The degree of frequent reorganizations is an issue of concern. This issue has been analyzed in the previous paragraph and is considered a strong point that supports a successful ABCM implementation.

The degree of turnover in senior and middle management, line/staff, and IT employees is an issue of concern (CAM-I, 2000). As mentioned previously, an ABCM implementation requires six months to five years to complete, depending on the size of the organization (Miller, 2000). A low rate of turnover of NBC's personnel will enable NBC to keep the personnel during the implementation. According to the bar charts 2c and 2d of

Appendix B, the turnover in line staff and IT personnel is low. These issues are considered strong points. However, according to the bar charts 2a and 2b of the same appendix, a low turnover of high-level and middle-level management is not indicated. These points are considered as mixed ones. To facilitate the situation, NBC's management should make sure that high-level managers involved in the implementation plan will not be transferred until the successful implementation of ABCM (CAM-I, 2000).

Three strong and two mixed points characterize this indicator. Consequently, this indicator is classified in the positive zone and is expected to support the ABCM implementation in NBC.

3. Third Indicator

This indicator concerns the relations that ABCM has with other functions and initiatives. The implementation of ABCM is more likely to be successful if it is supported by other functional areas, is linked with other initiatives, and it is not competitive with alternative initiatives for resources (CAM-I, 2000). This indicator is related to questions 3, 4, 5, and 6 of Appendix A-III. More specifically, this indicator is related to the degree that people and departments of the organization support ABCM, and the degree of linkage and competition that ABCM has with other improvement initiatives.

The expected support of ABCM by individuals and departments of NBC is an issue of concern (CAM-I, 2000). ABCM is considered a holistic information system (Miller, 2000), and cross-functional support is an important variable for ABCM to be successfully implemented (Foster and Swenson, 1997). ABCM needs the support of all departments because the activities, the focus of ABCM, in a process usually happens in a series of

departments. So, if a part of the personnel or a series of departments do not support the initiative, they represent potential threats. The lack of support is possible to break the chain of information about activities that take place in the organization. According to the bar charts 3a, 3b, 4a, 4c, 4d, and 4f of Appendix B, the senior and middle management, the Accounting/Finance department, the Operations department, the Logistics department, and IT department support ABCM implementation. These issues are considered as strong points. However, according to the bar charts 3c, 4b, 4e, 4g, and 4i of the same appendix, there is no clear support for ABCM from line/staff employees, Procurement, Engineering, Customer Support, and Program Management departments. These issues are considered as mixed points. According to the bar chart 4h of the same appendix, the issue of support of Sales and Marketing department is considered a weak point. To improve the situation, NBC's management should create cross-functional teams, to train individuals function by function so that the value of an ABCM effort will be clear to each function (CAM-I, 2000).

The likelihood that ABCM can be linked to another improvement initiative is an issue of concern (CAM-I, 2000). Linkage to other high-quality initiatives is considered an important factor to facilitate a successful ABCM implementation (Shields, 1995). According to the bar chart 5 of Appendix B, the likelihood of ABCM to be linked to another improvement initiative is not relatively high. This issue is considered a mixed point. To facilitate the situation, NBC's management should communicate all the initiatives underway in the organization and have a meeting to discuss any redundancies or mutual benefits (CAM-I, 2000).

Expecting competition with other initiatives for financial, personnel, and IT resources is an issue of concern (CAM-I, 2000). Resources adequacy is considered a

crucial factor for a successful ABCM implementation (Anderson and Young, 1997). According to the bar charts 6a, 6b, and 6c of Appendix B, it is not clear if there is a competition or not for financial and IT resources. These issues are considered as mixed points. To enhance the situation, NBC's management should consider decreasing ABCM innovation to just a pilot program to demonstrate the value of ABCM in order to highlight the value of ABCM to the organization (CAM-I, 2000).

Six strong, nine mixed, and one negative point characterize this indicator. Consequently, this indicator is classified as indeterminate. However, it is expected that if a high-level manager champions ABCM he or she could communicate benefits from ABCM at all levels and link ABCM with other functions and initiatives and move this indicator to the positive zone.

4. Fourth Indicator

This indicator concerns the results of previous initiatives. The success in implementing ABCM is greater when the site has successfully implemented and sustained previous improvement initiatives without negatively perceived headcount reductions (CAM-I, 2000). This indicator is related to questions 8 and 9 of Appendix A-III. More specifically, this indicator is related to successfully implementing and sustaining previous initiatives and the perception that people in organization have about change initiatives.

The previous success of implementing and sustaining initiatives or IT projects is an issue of concern (CAM-I, 2000). Like any information system, the ABCM information system must be maintained on an ongoing basis. Activities change over time, new activities are added and others are abandoned. (Miller, 1996) According to the bar charts

8a, 8c, and 8d of Appendix B, the issues of successfully implementing and sustaining improvement and IT initiatives are not clear. These issues are considered mixed points. According to the bar chart 8b of the same appendix, there is an indication of sustaining other improvement initiatives. This issue is considered a strong point. To improve the situation, NBC's management should review prior improvement initiatives and the underlying causes of relative success and failures, educate implementation teams regarding the history, and encourage repetition of positive behaviors and avoidance of behaviors that lead to earlier failures (CAM-I, 2000).

The way people view new change initiatives is an issue of concern for a successful ABCM implementation (CAM-I, 2000). Employees usually consider new change initiatives as threats because changes may lead to downsizing and lay offs. The ugly side of ABCM is its use to cut cost, downsize, or restructure operations. (Miller, 1996) According to the bar chart 9 of Appendix B, the negative view of ABCM is possible. This issue is considered a mixed point. To facilitate the situation, NBC's management should communicate clearly as to whether head count reductions are or are not part of the objectives of the organization. If downsizing is in the objectives of NBC's management, it has also to promote ABCM as an intelligent and objective way to approach downsizing decisions. (CAM-I, 2000)

One strong and four mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. A management that emphasizes previous successes in implementing initiatives and clearly rejects headcount reductions may be sufficient to move this indicator to the positive zone. However, this issue is related to cultural issues

and it is expected to take time for individual perceptions to be changed (Schwartz and Davis, 1981).

5. Fifth Indicator

This indicator concerns the perception employees have about management. The likelihood of ABCM successful implementation is greater when employees at the site perceive management as being open-minded, trustworthy, proactive, effective communicators, team players, and change agents (CAM-I, 2000). The indicator is related to questions 7 and 10 of Appendix A-III. More specifically, this indicator is related to the degree that:

> a. "Protecting turf" in NBC is a barrier for implementing ABCM, and
> b. Management is perceived as having some characteristics (open-mindedness, trustworthiness, etc.) that help initiatives to succeed.

The level of "protecting turf" with respect to implementing new initiatives is an issue of concern (CAM-I, 2000). Employees usually consider new change initiatives as threats and react negative to new initiatives (Miller, 1996). According to the bar chart 7 of Appendix B, "protecting turf" is a possible problem. This issue is considered a mixed point. To improve the situation, NBC's management should communicate clear and broadly objectives of the ABCM initiative (CAM-I, 2000).

The evaluation of NBC's managers as trustworthy, open-minded, proactive, effective at implementing change, effective communicators, and effective team workers is an issue of concern. Managers with the above characteristics are more likely to enable their organizations to be effective and implement successfully improvement initiatives. (CAM-I, 2000) According to the bar chart 10b of Appendix B, management is perceived as

trustworthy. This issue is a strong point. According to the bar charts 10a, 10c, 10d, 10e, and 10f of the same appendix, there is not a clear perception of managers as open-minded, proactive, effective executors, communicators, and team workers. These issues are considered as mixed points. To enhance its performance, an organization must have managers with the right skills and knowledge who are motivated to perform effectively (Lawler, 1996). To facilitate the implementation of ABCM, NBC's management should take actions such as sharing information, increasing level of communication, including union participation, putting action plans in place, and objectives in writing (CAM-I, 2000).

One strong point and six mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. If a generally accepted effective individual is placed as leader of ABCM implementation he or she could trade-off negative perceptions and moved this indicator to the positive zone. However, it is expected to take time for individuals to change their perception (Schwartz and Davis, 1981).

6. Sixth Indicator

The sixth indicator concerns the culture and behavior of employees. When employees support the current leadership, are empowered, have a high morale, and strive to improve their organization the likelihood of an ABCM successful implementation is greater (CAM-I, 2000). This indicator is related to question 11 of Appendix A-III. More specifically, this indicator is related to the degree employees have a high morale, support the current leadership, feel empowered, have a continuous improvement mindset, place larger organizational goals above work unit/department objectives, and work effectively in a team environment.

The employees' support of the current leadership team, their feeling of being empowered as change agents, their morale, their mindset about continuous improvement, their placement of organizational goals relative to unit-departmental objectives, and their effectiveness working in a team are issues of concern (CAM-I, 2000). ABCM needs employees who can act as mini-leaders and make decisions using it. ABCM is linked and integrated in the organization when people use the information it provides. (Miller, 1996) Employees that support their leadership are more likely to be easily mobilized and follow top-down initiatives. If employees feel empowered they will provide the momentum that an initiative like ABCM needs to be considered successfully implemented. According to the bar charts 11b and 11c of Appendix B, employees support the current leadership and feel empowered as change agents. These issues are considered as strong points. However, according to the bar charts 11a, 11d, 11e, and 11f of the same appendix, the issues of employees' morale, mindset, goals, and team effectiveness are not clear. These issues are considered as mixed points. To facilitate the implementation of ABCM, NBC's management should link employees' efforts to overall corporate strategy, replace individuals who do not support changes, and include activity-based performance and compensation incentives in formal ABCM plans so that employees begin to see potential personal opportunity in ABCM implementation (CAM-I, 2000).

Two strong and four mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. To move this indicator to the positive zone NBC's management would need to affect and alert behavioral and attitude characteristics of individuals. However, this is not an easy task because it takes time to change the culture of a well-established organization (Schwartz and Davis, 1981).

7. Seventh Indicator

The seventh indicator concerns the characteristics of an organization's IT system. The likelihood of success is greater when the site has effectively used IT to develop systems that are current, accurate, reliable, timely, integrated, and user friendly (CAM-I, 2000). This indicator is related to question 12 of Appendix A-III. More specifically, it is related to the characterization of organization's information system as state-of-art, well documented, integrated, accessible, reliable, timely, and user friendly.

The degree to which NBC's information system is current, accurate, reliable, timely, integrated, and user friendly is an issue of concern (CAM-I, 2000). Organizations with higher quality IT may feel better to implement ABCM than companies with less sophisticated IT systems because the costs of measurement are lower (Cooper, 1988). According to the bar charts 12d, 12e, 12f, and 12g of Appendix B, the information system of NBC is not clearly accessible, reliable, timely, and user friendly. These issues are considered as mixed points. According to the bar charts 12a, 12b, and 12c of the same appendix, the IT system is not state-of-art, well documented, and integrated. These issues are considered as weak points. To facilitate the implementation of ABCM, NBC's management should create a strategic IT plan that defines for each individual what IT projects are planned and what the impact to each functional area will be, and create groups to address users ideas, complaints, and recommendations (CAM-I, 2000). NBC's management should also consider the integration of ABCM's methodology into the IT system to ensure the full potential of benefits will be realized for ABCM (Forrest, 1996).

Four mixed points and three weak points characterize this indicator. Consequently, this indicator is classified in the negative zone. However, a high-level manager champion of ABCM could provide the required IT resources to move this to the positive zone.

8. Eighth Indicator

The eighth indicator concerns the involvement and validation of initiatives by management. The likelihood of success is greater when management has a history of following through on improvement initiatives (CAM-I, 2000). This indicator is related to questions 13 and 14 of Appendix A-III. More specifically, this indicator is related to the degree that management stayed involved and validated its past improvement initiatives.

The degree to which management stayed actively involved in improvement initiatives to completion and validated them upon completion to ensure that original objectives were met is an issue of concern (CAM-I, 2000). As already discussed, management's support is crucial for the success of ABCM (Krumwiede, 1998). However, support is a broad concept not well defined in the previous statement. Considering that an ABCM endeavor is a continuous, never ending process, not just a one-shot effort (Forrest, 1996), the organization's management should be involved continuously in the ABCM implementation and validate the results of this implementation on a regular base. According to the bar charts 13 and 14 of Appendix B, NBC's management is considered actively involved and that it validates improvement initiatives. As a result these issues are strong points and should assist the successful implementation of ABCM in NBC.

Two strong points characterize this indicator. Consequently, this indicator is classified in the positive zone.

9. Ninth Indicator

The ninth indicator concerns the decision making process and the use of cost data. The likelihood of success is greater when management uses an effective decision-making process by gathering the necessary information, objectively developing and considering alternatives, and then acting on those decisions (CAM-I, 2000). This indicator is related to question 15 of Appendix A-III. More specifically, this indicator is related to the degree that:

a. Relevant data are analyzed,
b. Decision alternatives are carefully evaluated,
c. Decisions are timely,
d. Decisions are acted upon, and
e. Decisions are not politically motivated.

The characteristics of the decision-making process are issues of concern (CAM-I, 2000). ABCM is an information system that empowers and supports the existing systems (Miller, 1996). According to the bar chart 15a of Appendix B, NBC's management is interested in gathering all relevant data in order to make a decision. This is considered a strong point. Consequently, ABCM as an information system that focuses on gathering and utilizing information is more likely to be successfully implemented. On the other hand according to the bar charts 15b, 15c, 15d, and 15e of the same appendix, it is not clear if all relevant data are analyzed, carefully evaluated, are timely, and are acted upon. These issues are considered as mixed points. Finally, according to the bar chart 15f of the same appendix, decisions are politically motivated. This is a weak point. To facilitate the implementation of ABCM, NBC's management should educate all decision makers about the benefits of using ABCM through simple and easy to understand examples. NBC's

management should also conduct open book management sessions communicate the need for objectively developing decisions. (CAM-I, 2000)

One strong, four mixed, and one weak point characterize this indicator. Consequently, this indicator is classified as indeterminate. If NBC's management exhibits the benefits of using ABCM to make decisions it is expected to move this indicator to the positive zone. However, this indicator is related to behavior and attitudes people have in making decisions and is likely to take time to be moved to the positive zone (Schwartz and Davis, 1981).

10. Tenth Indicator

The likelihood of success is greater when management aligns improvement initiatives with the strategic objectives of the organization (CAM-I, 2000). This indicator is related to question 17 of Appendix A-III. More specifically, it is related to the degree that management aligns change initiatives with the strategic objectives of their organization.

The extent that management aligns improvement initiatives with strategic objectives is an issue of concern (CAM-I, 2000). According to the bar chart 17 of Appendix B, it is not clear if management aligns significant change initiatives with the strategic objectives. Consequently, this issue is a mixed point. To improve the situation, NBC's management should provide each employee with written strategic goals of the organization and how ABCM help their efforts to meet these objectives (CAM-I, 2000).

One mixed point characterizes this indicator. Consequently, this indicator is classified as indeterminate. However, a high-level manager champion of ABCM is likely

to align ABCM with the strategic objectives of NBC and help this indicator to move to the positive zone.

11. Eleventh Indicator

This indicator concerns communication. The likelihood of success is greater when management effectively communicates the purpose and value of system changes and improvement initiatives to all levels of the organization (CAM-I, 2000). This indicator is related to questions 18 and 30 of Appendix A-III. More specifically, it is related to the degree that management communicates the benefits of initiatives to all levels and particularly the objectives and expectations of ABCM.

The degree that management communicates the benefits of change initiatives, and objectives and expectations of an ABCM initiative to all levels is an issue of concern (CAM-I, 2000). ABCM requires a holistic effort to be successfully implemented (Miller, 1996). The vision and the goals of an organization must be shared and understood by everyone in the business process (Forrest, 1996). So, all levels of NBC should have the big picture of the current situation and where the organization drives. According to the bar charts 18 and 30 of appendix B, management does not communicate clearly the benefits of change and ABCM initiatives to all levels of the organization. These issues are considered as mixed points. To facilitate the situation, NBC's management should establish a clearly defined and ongoing program training and information meetings for all levels of organization in order to provide continuing information, and guidance on the purpose, events, initiatives, and time lines for completing the ABCM project (CAM-I, 2000).

Two mixed points characterize this indicator. Consequently, this indicator is also classified as indeterminate. However, since the problem is focused on communication that is provided by management it is considered that intensive efforts by a manager champion of ABCM to improve the communication process could help this indicator to move to the positive zone.

12. Twelfth Indicator

The likelihood of success is greater when management solicits and responds to feedback for new initiatives (CAM-I, 2000). This indicator is related to questions 19 and 20 of Appendix A-III.

The degree of which management solicits feedback on initiatives and the responses to the feedback is an issue of concern (CAM-I, 2000). People pay attention to those matters and measures that are visible, given attention by management, and that affect their paychecks (Miller, 1996). According to the bar charts 19 and 20 of Appendix B, management is not clearly soliciting feedback for improvement initiatives. These issues are considered as mixed point. To facilitate the implementation of ABCM, NBC's management should get feedback from any ABCM implementation project initiated and then respond to the feedback to demonstrate to employees that it is interested in and paying attention to the ABCM implementation.

Two mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. However, this indicator is likely to move to the positive zone if NBC's management solicits the project and asks feedback.

13. Thirteenth Indicator

This indicator concerns the satisfaction of users/customers. The likelihood of success is greater when initiatives satisfy users'/customers' needs (CAM-I, 2000). This indicator is related to questions 21 and 22 of Appendix A-III. More specifically, it is related to the degree that users' and customers' needs have driven initiatives and the degree of satisfaction the users and customers have received from those initiatives.

The suggestion that customers/users needs have driven and have been satisfied by previous improvement and information initiatives is an issue of concern (CAM-I, 2000). When organizations focus only on accounting results – revenues, cost, and profit – they diminish their chances for survival, as they neglect customers, suppliers, employees, and society in general (Johnson, 1992). According to the bar charts 21a, 21b, and 22a of Appendix B, needs of customer/users have been driven and been satisfied by previous improvement and information initiatives. These issues are considered as strong points. According to the bar chart 22b of the same appendix, users are not clearly satisfied by information systems. This issue is considered a mixed point. To facilitate the implementation of ABCM, NBC's management should ensure that all levels of users/customers are assessed, satisfied, and, if practical, incorporated in the final information system (CAM-I, 2000).

Three strong and one mixed point characterize this indicator. Consequently, this indicator is classified in the positive zone and as a facilitator of the implementation of ABCM in NBC.

14. Fourteenth Indicator

This indicator concerns the competitive threats. The likelihood of success is greater when new improvements are developed in response to competitive threats (CAM-I, 2000). This indicator is related to question 23 of Appendix A-III. More specifically, it is related to management reactions to potential and actual competitive threats.

The extent to which management reacts to potential and actual competitive threats is an issue of concern (CAM-I, 2000). Activities bridge the strategic and operational plans to react to competitive threats. ABCM helps to link and integrate strategies and plans to activities. (Miller, 1996) If an organization does not react to competitive threats, the use of ABCM as a tool to link strategies and activities is not realized and sooner or later is likely to be abandoned. According to the bar charts 23a and 23b of Appendix B, management does not react to potential and actual competitive threats. These issues are considered as weak points. To improve the situation and assist the ABCM implementation, NBC's management should highlight the usefulness of ABCM as a tool to deal with competitive threats. NBC's management should also institute procedures to routinely conduct competitive threat analysis and develop processes to routinely collect information to enable competitive threat analyses (CAM-I, 2000).

Two weak points characterize this indicator. Consequently, this indicator is classified in the negative zone. However, because there is no likelihood of NBC to be privatized or to be replaced by another organization this indicator has a little significance for NBC.

15. Fifteenth Indicator

This indicator concerns the organizational culture. The likelihood of success is greater when the organizational culture is conducive to change (CAM-I, 2000). This indicator is related to questions 24 and 25 of Appendix A-III. More specifically, this indicator is related to the degree that innovations are encouraged and rewarded while failures because of pursuing innovation are not punished.

The lack of recognition and reward of innovations and the punishment of failure are issues of concern (CAM-I, 2000). Rewards and recognition are helpful instruments for motivating actions and efforts in the right direction. Rewards have been found in past research to be important factors for a successful ABCM implementation (Anderson and Young, 1997). Additionally, failures are meant to be learning opportunities and not a cause for disciplinary actions. People learn from mistakes and what to avoid in the future. (Brimson and Antos, 1999) If NBC's management does not motivate employees for the desired outcome, which is the successful implementation of ABCM, employees get the wrong message. They perceive that the management is not really interested in the ABCM project and that the whole effort is not important. According to the bar chart 24a of Appendix B, there is no clear encouragement of past innovations. This is a mixed point. Furthermore, according to the bar charts 24b and 25 of the same appendix, there is a trend not to recognize/reward employees in successful implementations and to punish failures. These issues are considered as weak points. To facilitate the ABCM implementation, NBC's management should strengthen performance criteria and tie them to any ABCM implementation plan. Additionally, NBC's management should avoid any apparent

punishment for individuals who have failed at trying to implement innovations. (CAM-I, 2000)

One mixed and two weak points characterize this indicator. Consequently, this indicator is classified in the negative zone. Directions from top management could help to alter the organization's course (Forrest, 1996) and move this indicator to the positive zone. However, perceptions of individuals (about rewards and punishment) it is expected to take time to be changed (Schwartz and Davis, 1981).

16. Sixteenth Indicator

This indicator concerns the perception of individuals. The likelihood of success is greater when key individuals recognize a compelling need for better ABCM information (CAM-I, 2000). This indicator is related to question 26 of Appendix A-III. More specifically, this indicator is related to the degree that individuals of an organization consider ABCM information system as compelling.

The recognition of a compelling need for ABCM by the personnel of an organization is an issue of concern (CAM-I, 2000). The need for change and the individual commitment to that change are considered as important explanatory variables for a successfully ABCM implementation (Anderson and Young, 1997). Thus, if NBC's personnel understand the need of an ABCM initiative, it is more possible to have a successful ABCM initiative. According to the bar chart 26 of Appendix B, respondents recognize a need for ABCM and this is a strong point. ABCM needs champions in all levels. The recognition of the need for ABCM should facilitate a successful implementation.

One strong point characterizes this indicator. Consequently, this indicator is classified in the positive zone and is expected to facilitate the successful ABCM implementation.

17. Seventeenth Indicator

This indicator concerns the magnitude of expecting improvements across multiple levels. The likelihood of success is greater when improvements are expected at many levels (e.g., customer satisfaction, improvement of individual and organizational performance) (CAM-I, 2000). This indicator is related to question 27 of Appendix A-III. More specifically, this indicator is related to the degree of the expectation of improvements due to ABCM in and around the organization.

The expectation that ABCM will improve customers' satisfaction is an issue of concern (CAM-I, 2000). Customer-focused initiatives are more likely to be implemented successfully. To increase the likelihood of success ABCM has to focus on customers. (Johnson, 1992) According to the bar chart 27g of Appendix B, a significant improvement is expected in customers' satisfaction and this is considered a strong point. This issue is expected to facilitate a successful ABCM implementation.

The expectation that ABCM will improve the organization's and departments' performance, employees' assessment, and job security is an issue of concern (CAM-I, 2000). If individuals in an organization consider ABCM as a useful tool for improving personal, departmental, and organizational performance they are more likely to participate and help in its implementation. The effectiveness of ABCM depends on individual's acceptance of ABCM and use of the cost information it provides to run their organizations

more efficiently (Department Of Navy, 1999). Furthermore, if employees believe that ABCM is not a threat to them, the environment is more likely to remain stable, which will also support a successful ABCM implementation (CAM-I, 2000). However, according to the bar charts 27a, 27b, 27c, and 27f of Appendix B, there is no clear concentration of bars at one side of the horizontal axis. These issues are considered as mixed points. To facilitate a successful ABCM implementation, NBC's management should document and communicate the expected improvement to ABCM for every level (CAM-I, 2000).

The expectation that ABCM will improve individuals' compensation and advancement opportunities is an issue of concern (CAM-I, 2000). Miller (1996) argues that linkage and integration of ABCM to the compensation and reward system helps full integration. Measures and rewards have to be compatible. For example, if an organization measures Return On Investment (ROI) it has to compensate its employees according to ROI fluctuations. If NBC's evaluation of the success of ABCM is based on the use of ABCM information in decision-making, then employees have to be rewarded according to the degree of usage of ABCM information. However, according to the bar charts 27d and 27e of Appendix B, individuals expect no improvement in compensation or advancement opportunities. These issues are considered as weak points. To assist the successful ABCM implementation, NBC's management should link incentive systems at all levels to ABCM performance improvements (CAM-I, 2000).

One strong, four mixed, and two weak points characterize this indicator. Consequently, this indicator is classified as indeterminate. If high-level management communicate and link compensations and rewards to ABCM implementation could help

this indicator to move to the positive zone. However, perceptions of individuals is expected to take time to be changed (Schwartz and Davis, 1981).

18. Eighteenth Indicator

This indicator concerns the existence of a high-level management champion of ABCM. The likelihood of success is greater when a senior officer has been identified and is properly positioned within the organization to champion the ABCM initiative (CAM-I, 2000). This indicator is related to questions 28 and 29 of Appendix A-III. More specifically, it is related to the existence of a senior officer champion of ABCM and how the champion's departure would affect the ABCM initiative.

The existence of an ABCM champion in NBC with the necessary authority and responsibility to be effective and the degree that the initiative would suffer if this champion leaves the organization are issues of concern (CAM-I, 2000). The support of the top management is considered a crucial variable for a successful ABCM implementation (Cooper, 1992). However, according to the bar charts 28 and 29 of Appendix B, there is no clear indication of the existence of a champion in high-level management or how the individual departure would affect the ABCM implementation. These issues are considered as mixed points. To improve the situation, NBC's management should designate and empower a senior management champion for the ABCM initiative that is a well-known and highly respected leader in the organization. Additionally, the commander of NBC should demonstrate commitment to ABCM and the champion establishing the individual as a key player and person of influence in the organization (CAM-I, 2000). Mitigation of the

affect of the champion leaving the organization can be achieved by ensuring that the champion is not the only high-level manager visibly supporting the effort.

Two mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. However, if NBC finds a high-level manager champion of ABCM and authorize the individual with power and influence this indicator could be moved to the positive zone.

19. Nineteenth Indicator

This indicator concerns the resources the ABCM initiative receives. The likelihood of success is greater when the new initiative receives adequate time, financial, and personnel support and is accompanied by adequate training (CAM-I, 2000). This indicator is related to question 31 of Appendix A-III. More specifically, it is related to the degree that ABCM initiative is provided adequate financial resources, dedicated and capable personnel, time, training, and a good project plan.

The amount of financial resources, dedicated and capable personnel, time, training, and project planning that the NBC's management will provide to the ABCM initiative is an issue of concern (CAM-I, 2000). The adequacy of resources, time, and implementation training have been found to be significant in past studies as far as the successful implementation of ABCM is concerned (Foster and Swenson, 1997). However, according to the bar charts 31a, 31b, 31c, 31d, and 31e of Appendix B, there is no clear expectation of receiving adequate resources. These issues are considered as mixed points. To facilitate the successful implementation of ABCM, NBC's management should develop a budget for ABCM and if this budget is not approved consider either a limited scope or a rescheduling

of the implementation effort. Additionally, NBC's management should also consider linking the ABCM initiative to another well-funded improvement initiative to illustrate to higher authority how other organizations have clearly paid for their projects through the results achieved. (CAM-I, 2000)

Five mixed points characterize this indicator. Consequently, this indicator is classified as indeterminate. However, given the centralized structure of military organizations, a high-level manager champion of ABCM could provide the adequate resources and move this indicator to the positive zone.

20. Twentieth Indicator

This indicator concerns the use of ABCM. The likelihood of success is greater when ABCM information is used to support decision-making and when ABCM data are used to support performance measurement and employee compensation. This indicator is related to questions 16 and 32 of Appendix A-III. More specifically, it is related to the degree that the organization tracks and links cost to performance, objectives, and employee compensation and to the degree that ABCM is used to measure performance and determine reward.

The link between cost and performance, or cost and compensation are issues of concern (CAM-I, 2000). ABCM's linkage to performance evaluation and compensation is believed to be a significant factor for a successful ABCM implementation (Foster and Swenson, 1997). However, according to the bar charts 16d and 16e of Appendix B, the degree of linkage between cost and performance and employee objectives and compensation is low. These issues are considered weak points. To improve the situation,

NBC's management should be aware of the threats these points represent, implement a new performance model, and link personal reward system to this model (CAM-I, 2000).

The degree that NBC tracks cost and performance measures across function and ties these or other change initiatives to organizational objectives is an issue of concern (CAM-I, 2000). ABCM focus on accurate information about the cost of products, services, processes, activities, distribution channels, customer segments, contracts, and projects. Then it makes this cost and operational information useful by providing value analysis, cost drivers, and performance measures to support improvement efforts or to improve decision-making. (Miller, 1996) If an organization already tracks cost and performance, this makes things easier for ABCM to be successfully implemented. According to the bar charts 16a, 16b, and 16c of Appendix B, there is no clear indication that the above occurs. These issues are considered as mixed points. To facilitate a successful ABCM implementation, NBC's management should provide every employee with knowledge of the strategic goals of the organization, how cost and performance is measured and how cost and performance is tied to organizational objectives (CAM-I, 2000).

The prospect that NBC's management will use ABCM to assist decision-making and that it will measure the success of ABCM and organizational performance using ABCM data is an issue of concern (CAM-I, 2000). Decision-making based on ABCM information is an indicator of a successful implementation (Foster and Swenson, 1997). According to the bar charts 32a, 32b, and 32c of Appendix B, NBC' management is expected to use ABCM for supporting decision-making, measure the success of ABCM, and measure organizational performance using ABCM data. These issues are considered as

strong points. Thus, these issues are expected to facilitate the successful implementation of ABCM in NBC.

Finally, the extent that management will measure employees' performance using ABCM data is an issue of concern (CAM-I, 2000). Linkage of ABCM to performance evaluation and compensation is considered a significant factor for a successful ABCM implementation (Foster and Swenson, 1997). However, according to the bar chart 32d of Appendix B, there is no clear expectation of management to use ABCM to measure employee performance. This issue is considered as a mixed point. According to the bar chart 32e of the same appendix, there is an expectation that management will not incorporate ABCM measures into employee reward structure. This issue is considered as a weak point. To facilitate a successful ABCM implementation, NBC's management should link current performance measures to organizations ABCM model and implement a personal reward system when these measures are met (CAM-I, 2000).

Three strong, four mixed, and three weak points characterize this indicator. Consequently, this indicator is classified as indeterminate. A centralized organization such as NBC could apply a top-down direction about using ABCM in day-to-day operations and evaluations and help move this indicator to the positive zone. However, it is expected to take time to change employees' perception about usefulness of ABCM (Schwartz and Davis, 1981).

D. SUMMARY OF ANALYSIS AND DISCUSSION

According to the above analysis the classification of each indicator in both organizations are depicted in Table 4. Two positive, four negative, and fourteen

indeterminate indicators characterize NLC. Four positive, three negative, and thirteen indeterminate indicators characterize NBC. The most of the negative, and indeterminate indicators in both organizations could be turned to positive ones. However, indicators that concern cultural and behavioral issues, or employees' conceptions are expected to resist longer than others.

A/A	INDICATOR	NLC	NBC
1	Organization is flat, less bureaucratic, and has a process orientation	Indeterminate	Indeterminate
2	Organizational structure is stable and has relatively low employee turnover	Indeterminate	Positive
3	The ABCM effort is supported by other functional areas, linked to other improvement initiatives and does not have to compete with alternative initiatives for resources	Indeterminate	Indeterminate
4	The site has successfully implemented and sustained other improvement initiatives without negatively perceived headcount reductions	Negative	Indeterminate
5	Employees at the site perceive management as being open-minded, trustworthy, proactive, effective communicators, team players, and change agents	Indeterminate	Indeterminate
6	Employees support the current leadership, are empowered, have a high morale, and strive to improve the organization	Indeterminate	Indeterminate
7	The site has effectively used IT to develop systems that are current, accurate, reliable, timely, integrated, and user friendly	Negative	Negative
8	Management has a history of following through on improvement initiatives	Indeterminate	Positive
9	Management uses an effective decision-making process by gathering the necessary information, objectively developing, and considering alternatives, and then acting on those decisions	Positive	Indeterminate
10	Management aligns improvement initiatives with the strategic objectives of the organization	Indeterminate	Indeterminate
11	Management effectively communicates the purpose and value of system changes and improvement initiatives to all levels of the organization	Negative	Indeterminate
12	Management solicits and responds to feedback on new initiatives	Indeterminate	Indeterminate
13	Systems satisfy users/customers needs	Indeterminate	Positive
14	New improvement initiatives are developed in response to competitive threats	Indeterminate	Negative
15	Organizational culture is conducive to change	Indeterminate	Negative
16	Key individuals recognize a compelling need for better ABCM information	Positive	Positive
17	Improvement are expected at many levels	Indeterminate	Indeterminate
18	A senior executive has been identified and is properly positioned within the organization to champion the ABCM initiative	Indeterminate	Indeterminate
19	The new initiative receives adequate time, financial, and personnel support, and is accompanied by adequate training	Indeterminate	Indeterminate
20	ABCM information is used to support decision-making, and ABCM data are used to support performance measurement and employee compensation	Negative	Indeterminate

Table 4. Summary of Analysis

V. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS AND RECOMMENDATIONS

Although the sample size for this study was small it is considered as adequate for a general indication of readiness. In both organizations steps could be taken to increase the likelihood of a successful ABCM implementation. In particular for each organization:

1. The Naval Logistic Center

In the NLC two indicators are positive and are expected to support a successful ABCM implementation (10 percent of all indicators of readiness). Twelve (60 percent) of them are indeterminate, and six (30 percent) are negative. The ratio of positive to negative and indeterminate indicators is one to ten. The ratio of positive to indeterminate indicators is one to seven. The ratio of positive to negative indicators is one to two. These ratios indicate opportunities to increase the likelihood of a successful ABCM implementation in NLC.

Indeterminate and negative indicators could be turned into positive ones by management. As discussed in the previous chapter some could be moved more easily than others. If NLC's management is interested in implementing ABCM, it should focus on those indicators that can more easily be affected. NLC's management should focus primarily on indicators 2, 3, 7, 8, 10, 11, 12, 18, and 19. They could be turned relatively easily into positive indicators. More specifically:

a. Indicator 2 could be turned into a positive indicator if a high-level management champion of ABCM in Headquarters takes transfers or relocations of high-level management and other employees into consideration.

b. Indicator 3 could be turned into a positive indicator if a high-level management champion of ABCM links the ABCM initiative to other improvement initiatives and builds support for ABCM across the functional areas.
c. Indicator 7 could be turned into a positive indicator if a high-level management champion of ABCM provides adequate resources for establishing an appropriate IT system aligned to ABCM needs.
d. Indicator 8 could be turned into a positive indicator if NLC's management gets and remains involved in ABCM implementation and continuously seeks feedback.
e. Indicator 10 could be turned into a positive indicator if a high-level management champion of ABCM identifies the strategic goals of NLC, aligns them with ABCM and communicates how ABCM helps the organization and individuals to fulfill these goals.
f. Indicator 11 could be turned into a positive indicator if NLC's management plans and executes an appropriate communication schedule.
g. Indicator 12 could be turned into a positive indicator if NLC's management solicits and responds to feedback about ABCM.
h. Indicator 18 could be turned into a positive indicator if a high-level manager is empowered as a champion of ABCM.
i. Indicator 19 could be turned into a positive indicator if a high-level management champion of ABCM provides adequate financial and personnel support.

If NLC is interested in implementing an ABCM initiative its management should identify and empower a high-level management champion. This specific action will affect six out of nine indeterminate or negative indicators (i.e., 2, 3, 7, 10, 18, and 19).

NLC's management should not abandon trying to influence the other indeterminate and negative indicators. However, given the resource constraints and the difficulty of effecting behavioral change, NLC's management should work on these indicators as a long-term effort.

Currently, without specific attention to indeterminate and negative indictors a successful ABCM implementation is not highly likely. However, if NLC takes the recommended actions it could increase its likelihood of success for ABCM implementation.

2. The Naval Base of Crete

In NBC four indicators (20 percent) are positive and are expected to support an ABCM implementation. Thirteen indicators are indeterminate (65 percent) and three indicators are negative (15 percent). They are expected to decrease the likelihood of a successful ABCM implementation. As in NLC risk factors, indeterminate and negative indicators, outnumber the positive indicators. Specifically, the ratio of positive to indeterminate and negative indicators is one to five. The ratio of positive to indeterminate indicators is four to thirteen. The ratio of positive to negative indicators is four to three. These ratios indicate opportunities to increase the likelihood of a successful ABCM implementation.

NBC's management could turn some indicators into positive indicators relatively quickly. Specifically, indicators 3, 7, 10, 11, 12, 18, and 19 as they are specified in analysis could be relatively easy to be moved from risk factors to supportive ones of ABCM implementation. To achieve this NBC's management should take the following actions:

a. Indicator 3 could be turned into a positive indicator if a high-level management champion of ABCM links ABCM to other improvement initiative and builds support of ABCM across the functional areas.
b. Indicator 7 could be turned into a positive indicator if a high-level management champion of ABCM provides adequate resources for improving IT system and align it to ABCM needs.
c. Indicator 10 could be turned into a positive indicator if a high-level management champion of ABCM identifies strategic goals, aligns ABCM to these, and exhibits how ABCM helps individuals and the organization to fulfill these goals.
d. Indicator 11 could be turned into a positive indicator if NBC's management plans and executes an appropriate communication schedule.
e. Indicator 12 could be turned into a positive indicator if NBC's management solicits and responds to feedback about ABCM.
f. Indicator 18 could be turned into a positive indicator if a high-level manager is empowered as a champion of ABCM.
g. Indicator 19 could be turned into a positive indicator if a high-level management champion of ABCM provides adequate financial and personnel support.

If NBC is interested in implementing an ABCM initiative its management should identify and empower a high-level management champion. This specific action would affect five out of seven indeterminate or negative indicators (i.e., 3, 7, 10, 18, and 19).

NBC's management should also not stop trying to influence the other indeterminate and negative indicators. However, given the resource constraints and the difficulty of effecting behavioral change, NBC's management should work on these indicators as a long-term effort.

Currently, without specific attention to indeterminate and negative indictors a successful ABCM implementation is not highly likely. However, if NBC takes the recommended actions it could increase its likelihood of success for ABCM implementation.

B. FURTHER RESEARCH

This study provides a baseline for additional studies using the CAM-I instrument (the Questionnaire). Other organizations both governmental and non-governmental could use the instrument to measure their readiness to implement ABCM. However, it is recommended that any study use a larger sample than the one employed in this thesis.

APPENDIX A-I

RESPONDENT DEMOGRAPHICS

Your name _____ **Title** _____

Address _____

_____

Phone number _____ **E-mail** _____

Your functional area:

Accounting/Finance	❑
Procurement	❑
Operations	❑
Logistics	❑
Engineering	❑
Information technology (IT)	❑
Customer support	❑
Sales and marketing	❑
Program management	❑

What is the industry group for your products/services?

Fabrication or assembly	❑	Service	❑
Process manufacturing	❑	Distribution	❑
Job shop/build to order	❑	Other	❑

ORGANIZATIONAL PERSPECTIVE

The organizational perspective you take as you complete this survey must be defined. Its definition should be based upon the level at which you have first hand knowledge. **Therefore, as you complete this survey, you are defining your "organization" as:**

Department/function only	❑	Single facility/operation	❑	The entire company	❑
Multiple departments	❑	Multiple facilities/operations	❑		

What are the total annual costs associated with your organization?

Less Than $10 Million	$10-50 Million	$50-100 Million	$101-250 Million	$251-500 Million	Over 500 Million
❑	❑	❑	❑	❑	❑

How many people are associated with your organization?

Less Than 100	100-250	251-500	501-1,000	1,001-5,000	Over 5,000
❑	❑	❑	❑	❑	❑

APPENDIX A-II

SITUATIONAL PROFILE

ACTIVITY-BASED COST MANAGEMENT:
IMPLEMENTATION READINESS ASSESSMENT TOOL

SITUATIONAL PROFILE (1.0)

1. Business Objectives

A compelling need exists in my organization to improve the following.....

	Yes	No
Profitability / Pricing Analysis	❑	❑
Process Improvement	❑	❑
Planning / Budgeting	❑	❑
Strategic Decision Making	❑	❑
Understand / Manage Costs	❑	❑

Comments_____

2. Targeted Applications

Which of the following ABCM applications will, in your view, be important to meeting those compelling needs cited above?

APPLICATION		APPLICATION	
1 Product / Service Profitability Analysis	❑	16 Customer Profitability Analysis	❑
2 Distribution Channel Profitability Analysis	❑	17 Market Segment Profitability Analysis	❑
3 Product Mix Rationalization	❑	18 Estimating/Bidding on Customer Work	❑
4 Supporting Inter-Company Charge-Outs on Shared Services	❑	19 Supporting, Focusing or Quantifying Improvement Initiatives	❑
5 Product Pricing	❑	20 Life Cycle Costing	❑
6 Acquisition Analysis	❑	21 Business Process Modeling	❑
7 Moving or Replicating Operations	❑	22 Operational Cost Reduction	❑
8 Project Management	❑	23 Strategic Cost Reduction	❑
9 Cost Driver Analysis	❑	24 Consolidating Operations Analysis	❑
10 Cost of Quality	❑	25 Process-Based Costing	❑
11 Activity Attribute Analysis	❑	26 Capital Justification	❑
12 Activity-Based Planning & Budgeting	❑	27 Resource Allocation	❑
13 Defining Accountability or Responsibility for Activities	❑	28 Activity-Based Performance Measurement	❑
14 Forecasting	❑	29 Internal Benchmarking	❑
15 Evaluating Outsourcing	❑	30 External Benchmarking	❑

Comments_____

3. Influencing Factors

Your current management systems supply adequate data to address your information needs.

Not At All					A Great Deal
❑	❑	❑	❑	❑	

Comments_____

Has doing this assessment been mandated by your management?

Yes	No
❑	❑

Comments_____

To what extent has doing this assessment been prompted by customer feedback?

Not At All					Entirely
❑	❑	❑	❑	❑	

Comments_____

To what extent has competitive pressure prompted doing this assessment?

Not At All					Entirely
❑	❑	❑	❑	❑	

Comments_____

APPENDIX A-III

READINESS ASSESSMENT

ACTIVITY-BASED COST MANAGEMENT:
IMPLEMENTATION READINESS ASSESSMENT TOOL

CHANGE READINESS ASSESSMENT (2.0)

CURRENT ENVIRONMENT

1. **To what extent do the following factors cause the implementation of significant change initiatives to be problematic in your organization:**

	Not At All				A Great Deal
Excessive levels of management	❑	❑	❑	❑	❑
A rigid bureaucracy/chain of command	❑	❑	❑	❑	❑
Frequent re-organizations	❑	❑	❑	❑	❑
Lack of decision-making empowerment	❑	❑	❑	❑	❑
Lack of a process orientation	❑	❑	❑	❑	❑
Inadequate vertical or horizontal communication	❑	❑	❑	❑	❑

Comments_____

2. **To what extent does your organization have high turnover in:**

	Not At All				A Great Deal
Senior management	❑	❑	❑	❑	❑
Middle management	❑	❑	❑	❑	❑
Line/Staff positions	❑	❑	❑	❑	❑
The information technology (IT) dept.	❑	❑	❑	❑	❑

Comments_____

_____

3. **Based on past experience, to what extent would ABCM be supported by the following parts of your organization:**

	No Support				Full Support
Senior management	❑	❑	❑	❑	❑
Middle management	❑	❑	❑	❑	❑
Line/Staff employees	❑	❑	❑	❑	❑

Comments_____

4. **Based on past experience, to what extent would ABCM be supported by the following functional groups:**

	Not At All ◄——► A Great Deal					N/A
Accounting/Finance	❑	❑	❑	❑	❑	❑
Procurement	❑	❑	❑	❑	❑	❑
Operations	❑	❑	❑	❑	❑	❑
Logistics	❑	❑	❑	❑	❑	❑
Engineering	❑	❑	❑	❑	❑	❑
Information technology (IT)	❑	❑	❑	❑	❑	❑
Customer support	❑	❑	❑	❑	❑	❑
Sales and marketing	❑	❑	❑	❑	❑	❑
Program management	❑	❑	❑	❑	❑	❑

Comments_____

_____

5. **Based on the current environment in your organization, what is the likelihood that ABCM would be linked to another improvement initiative?**

Not At All ◄——► Very High				
❑	❑	❑	❑	❑

Comments_____

_____

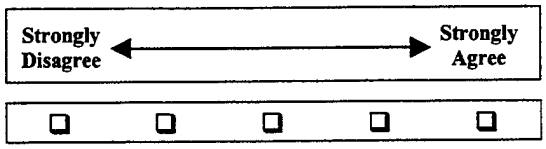
6. **Based on the current environment in your organization, to what extent would ABCM compete with other initiatives for:**

	Not At All ◄——► A Great Deal				
Financial resources	❑	❑	❑	❑	❑
Personnel resources	❑	❑	❑	❑	❑
Information technology resources	❑	❑	❑	❑	❑

Comments_____

_____

7. **"Protecting turf" is a barrier with respect to implementing new initiatives in your organization.**



Comments_____

_____

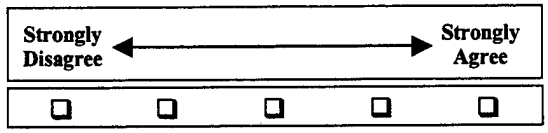
8. **Based on past experience, your organization successfully:**

	Never ◄——► Always				
Implements improvement initiatives	❑	❑	❑	❑	❑
Sustains improvement initiatives	❑	❑	❑	❑	❑
Implements IT projects	❑	❑	❑	❑	❑
Sustains IT projects	❑	❑	❑	❑	❑

Comments_____

_____

9. **People in your organization view new change initiatives negatively, e.g. headcount reductions.**



Comments_____

_____

10. **Managers in your organization are perceived as being:**

	Never ◄——► Always				
Open-minded	❑	❑	❑	❑	❑
Trustworthy	❑	❑	❑	❑	❑
Proactive (vs. reactive)	❑	❑	❑	❑	❑
Effective at implementing change	❑	❑	❑	❑	❑
Effective communicators	❑	❑	❑	❑	❑
Effective at working together as a team	❑	❑	❑	❑	❑

Comments_____

_____

11. Employees in your organization:

	Strongly Disagree ◄——► Strongly Agree				
Have high morale	❑	❑	❑	❑	❑
Support the current leadership team	❑	❑	❑	❑	❑
Feel empowered as change agents	❑	❑	❑	❑	❑
Have a continuous improvement mindset	❑	❑	❑	❑	❑
Place larger organizational goals above work unit/departmental objectives	❑	❑	❑	❑	❑
Work effectively in a team environment	❑	❑	❑	❑	❑

Comments_____

_____

12. Currently, the information systems in your organization are:

	Not At All ◄——► Fully Satisfactory				
State-of-the-art	❑	❑	❑	❑	❑
Well documented	❑	❑	❑	❑	❑
Integrated	❑	❑	❑	❑	❑
Accessible	❑	❑	❑	❑	❑
Reliable	❑	❑	❑	❑	❑
Timely	❑	❑	❑	❑	❑
User friendly	❑	❑	❑	❑	❑

Comments_____

_____

13. Based on past experience, management stays actively involved in improvement initiatives through to completion?

Strongly Disagree ◄——► Strongly Agree				
❑	❑	❑	❑	❑

Comments_____

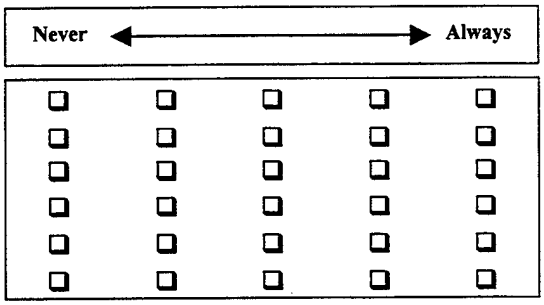
_____

14. **Based on past experience, does management validate improvement initiatives upon completion to ensure that original objectives are met?**

Comments_____

_____

15. **To what extent do the following attributes characterize the management decision-making process in your organization:**



Comments_____

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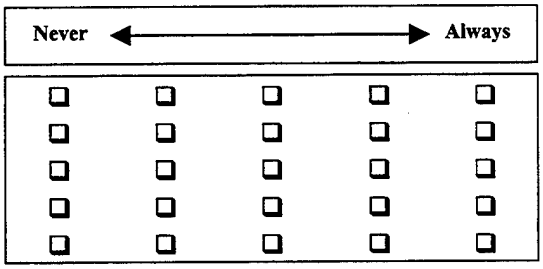
16. **To what extent does your organization:**



Comments_____

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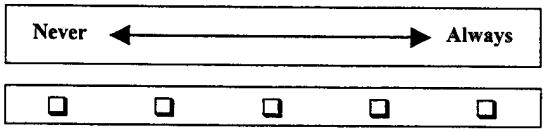
CHANGE CAPACITY

17. **To what extent does management align significant change initiatives with the strategic objectives of your organization?**



Comments_____

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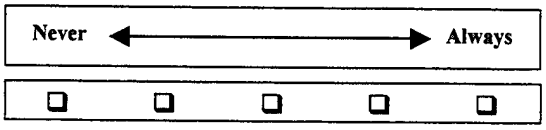
18. **To what extent does management communicate the benefits of significant change initiatives to all levels of the organization?**



Comments_____

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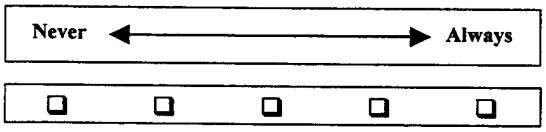
19. **Based on past experience, does management solicit feedback on new initiatives?**



Comments_____

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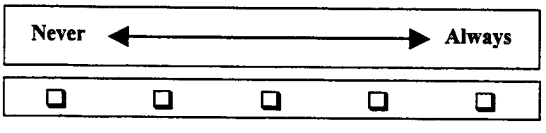
20. **Based on past experience, does management respond to feedback on new initiatives?**



Comments_____

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21. Based on past experience, to what extent have customer needs:

	Not At All ◄——► Always				
Driven previous improvement initiatives	❑	❑	❑	❑	❑
Been satisfied by improvement initiatives	❑	❑	❑	❑	❑

Comments_____

_____

22. Based on past experience, to what extent have user needs:

	Not At All ◄——► Always				
Driven information systems requirements	❑	❑	❑	❑	❑
Been satisfied by information systems projects	❑	❑	❑	❑	❑

Comments_____

_____

23. To what extent does management in your organization react to:

	Not At All ◄——► Quickly & Fully				
Potential competitive threats	❑	❑	❑	❑	❑
Actual competitive threats	❑	❑	❑	❑	❑

Comments_____

_____

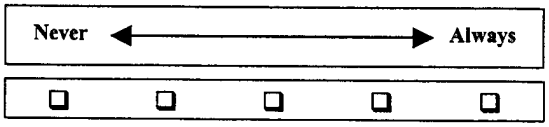
24. Based on past experience, to what extent is innovation:

	Not At All ◄——► Consistently				
Encouraged by your organization	❑	❑	❑	❑	❑
Recognized/rewarded by your organization	❑	❑	❑	❑	❑

Comments_____

_____

25. **When individuals pursue innovation, to what extent is failure punished?**



Comments_____

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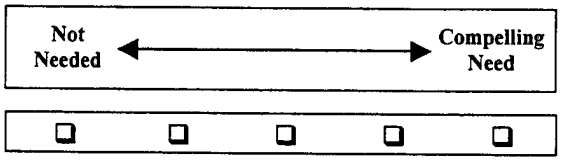
26. **Individually, to what extent do *you* recognize a need for ABCM?**



Comments_____

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27. **What degree of improvement do you expect from ABCM in the following areas:**

	No Improvement				Significant Improvement
Your organization's performance	❑	❑	❑	❑	❑
Your department's performance	❑	❑	❑	❑	❑
Your own performance assessment	❑	❑	❑	❑	❑
Your compensation	❑	❑	❑	❑	❑
Your advancement opportunities	❑	❑	❑	❑	❑
Your job security	❑	❑	❑	❑	❑
Your customer's satisfaction	❑	❑	❑	❑	❑

Comments_____

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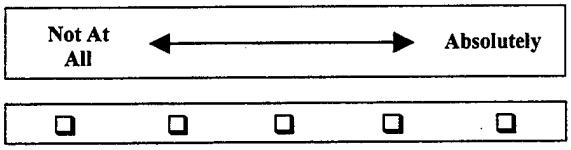
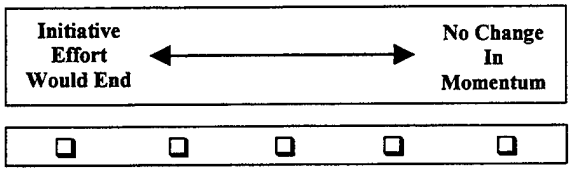
IMPLEMENTATION READINESS

28. **Does the ABCM initiative have a champion with the necessary authority and responsibility to be effective?**



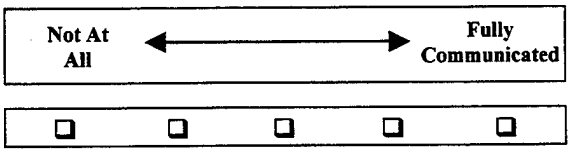
Comments_____

29. **To what extent would the momentum of an ABCM initiative suffer if its champion left the organization?**



Comments_____

30. **To what extent has management communicated the objectives and expectations of an ABCM initiative to all levels of the organization?**



Comments_____

31. **Based on past experience, to what extent do you believe management will provide the following to support an ABCM implementation:**

	Not At All				Fully Supportive
Financial resources	❑	❑	❑	❑	❑
Dedicated, capable personnel with the proper skill set	❑	❑	❑	❑	❑
Time (to do the job properly)	❑	❑	❑	❑	❑
Training	❑	❑	❑	❑	❑
A good project plan	❑	❑	❑	❑	❑

Comments_____

_____

32. **Based on past experience, to what extent will management:**

	Not At All				Fully
Use ABCM to support decision-making	❑	❑	❑	❑	❑
Measure the success of ABCM	❑	❑	❑	❑	❑
Measure organizational performance using ABCM data	❑	❑	❑	❑	❑
Measure employee performance using ABCM data	❑	❑	❑	❑	❑
Incorporate ABCM measures into the employee reward structure	❑	❑	❑	❑	❑

Comments_____

_____

Thank you very much for your participation.

APPENDIX B

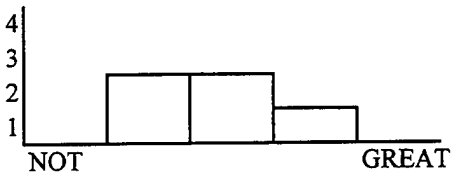
BAR CHARTS

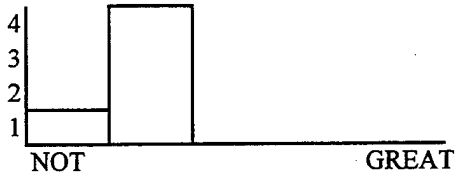
NAVAL LOGISTICS CENTER	NAVAL BASE OF CRETE

CURRENT ENVIRONMENT

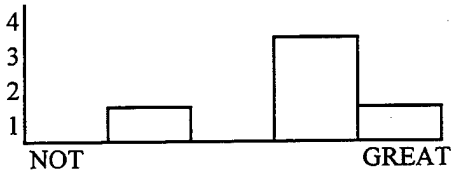
1 To what extent do the following factors cause the implementation of significant change initiatives to be problematic in your organization:

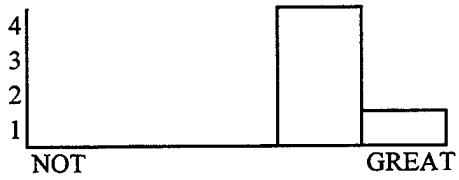
1a Excessive levels of management



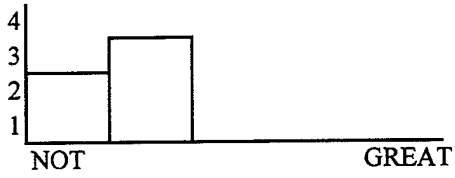


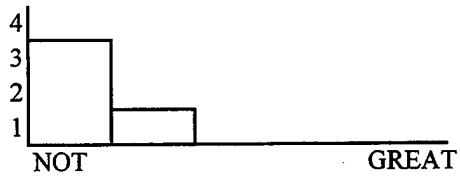
1b A rigid bureaucracy/chain of command



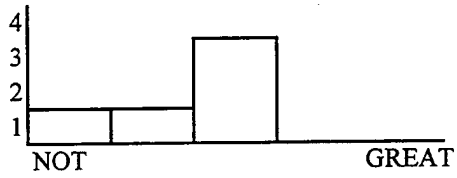


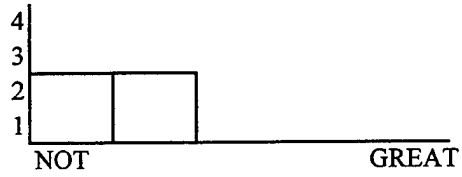
1c Frequent re-organizations



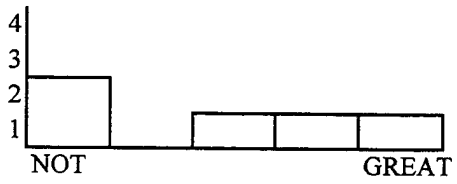


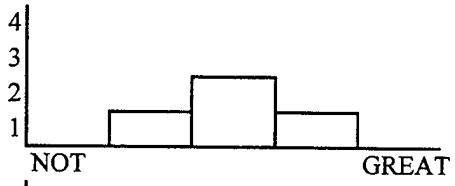
1d Lack of decision-making empowerment



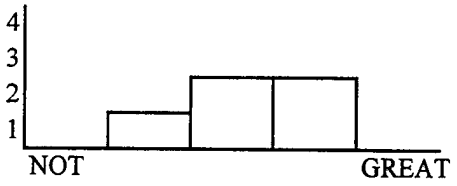


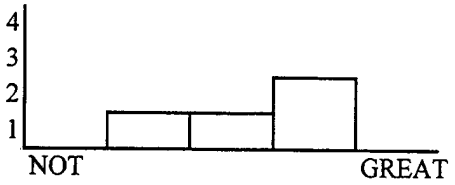
1e Lack of a process orientation





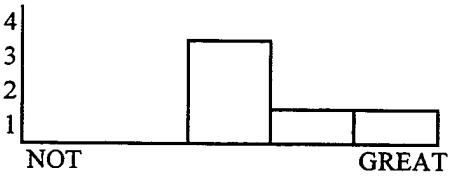
1f Inadequate vertical or horizontal communication

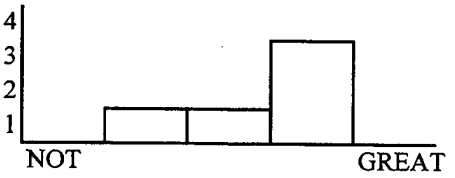




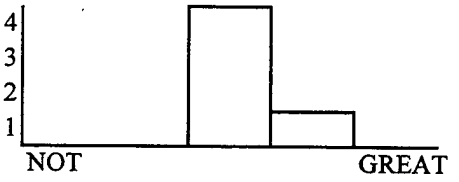
2 To what extent does your organization have high turnover in:

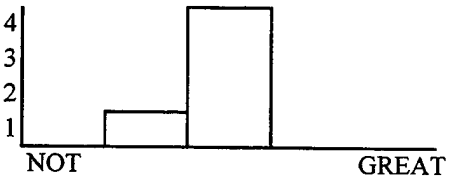
2a Senior management



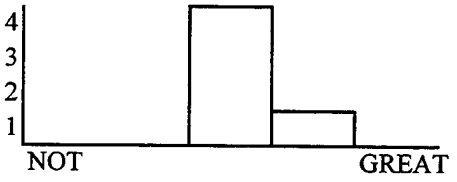


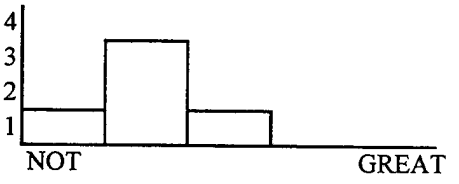
2b Middle management



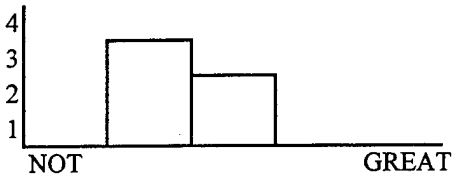


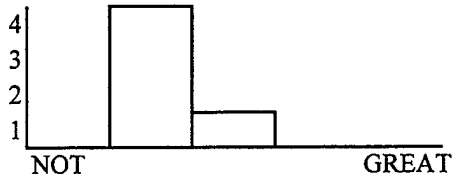
2c Line/Staff positions





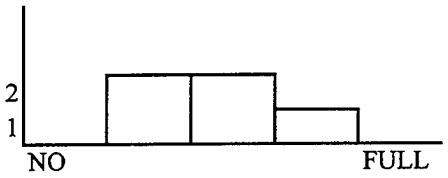
2d The information technology (IT) dept

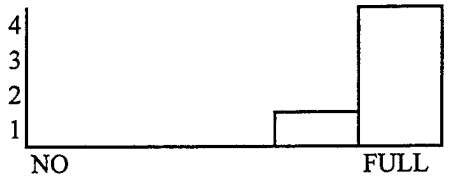




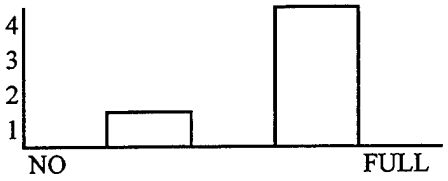
3 Based on past experience, to what extent would ABCM be supported by the following parts of your organization:

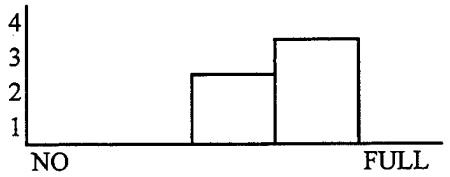
3a Senior management



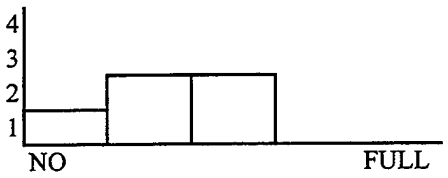


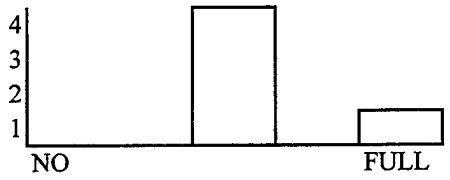
3b Middle management





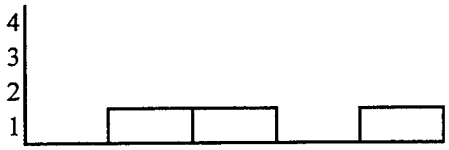
3c Line/Staff employees



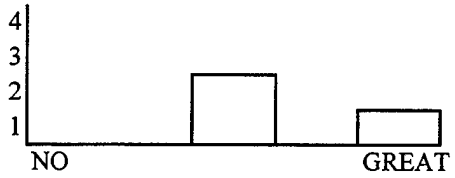


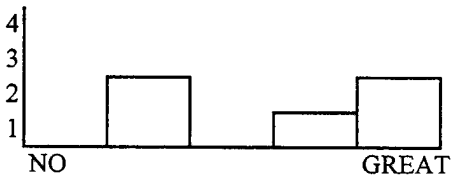
4 Based on past experience, to what extent would ABCM be supported by the following functional groups:

4a Accounting/Finance

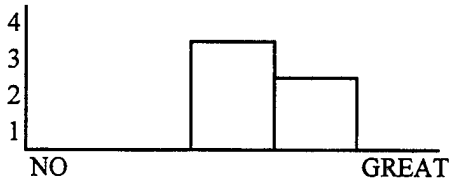


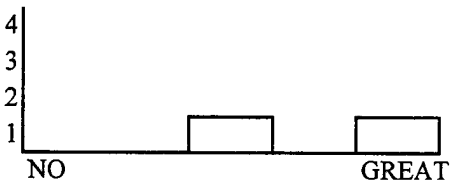
4b Procurement



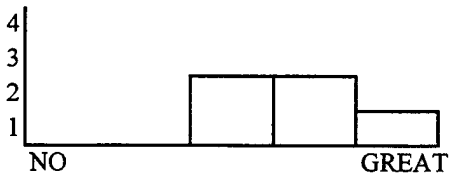


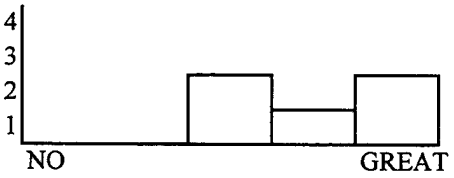
4c Operations



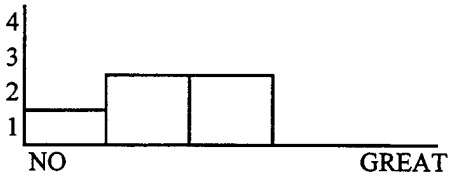


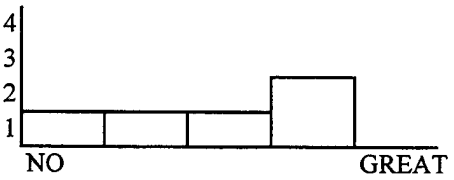
4d Logistics



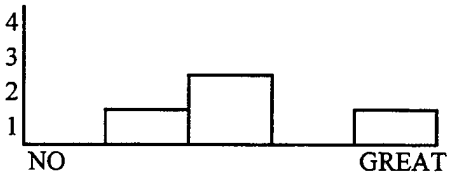


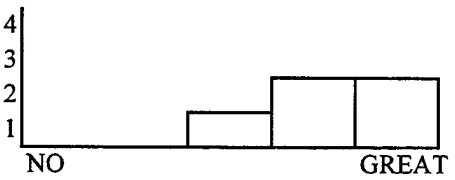
4e Engineering



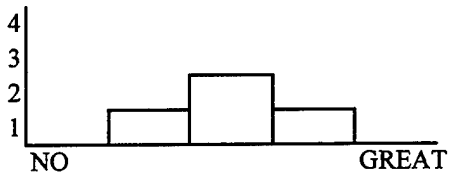


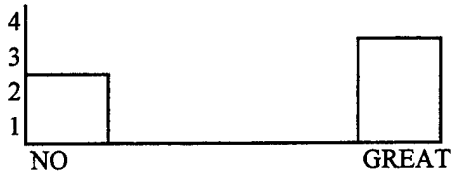
4f Information technology (IT)



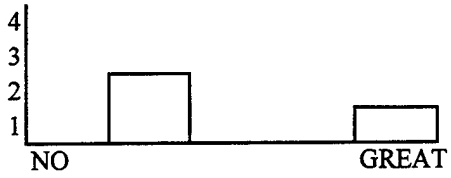


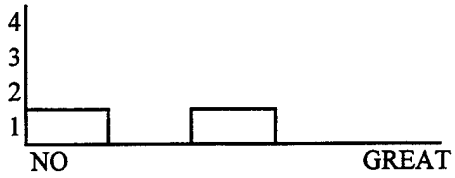
4g Customer support



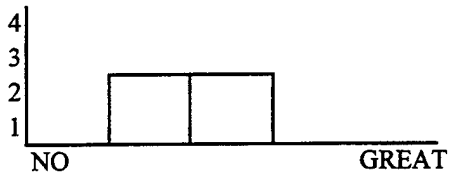


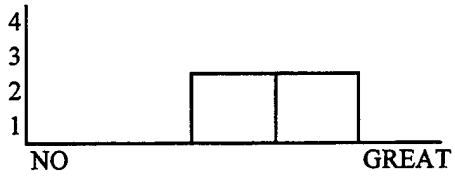
4h Sales and marketing



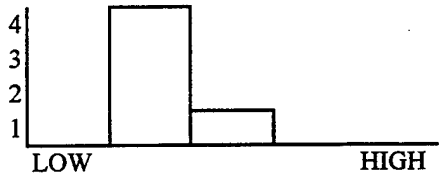


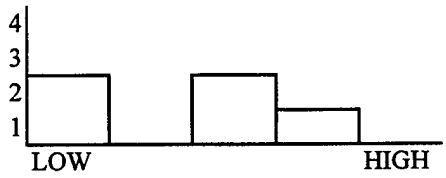
4i Program management





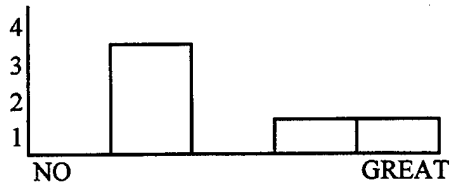
5 Based on the current environment in your organization, what is the likelihood that ABCM would be linked to another improvement initiative?

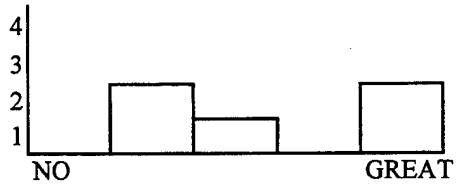




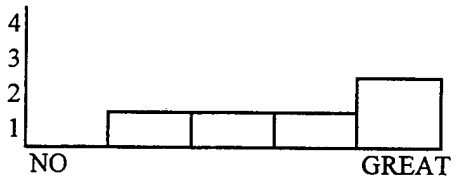
6 Based on the current environment in your organization, to what extent would ABCM compete with other initiatives for:

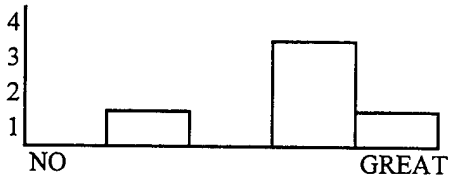
6a Financial resources



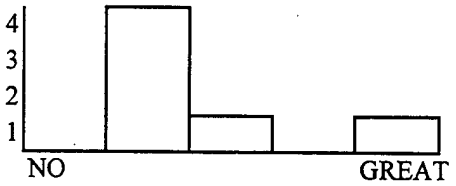


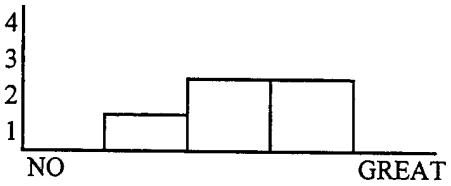
6b Personnel resources



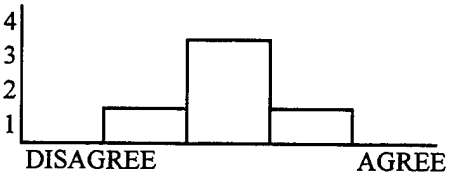


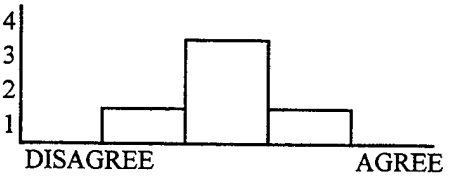
6c Information technology resources





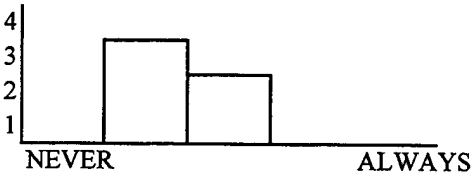
7 "Protecting turf" is a barrier with respect to implementing new initiatives in your organization

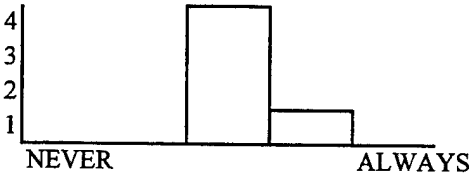




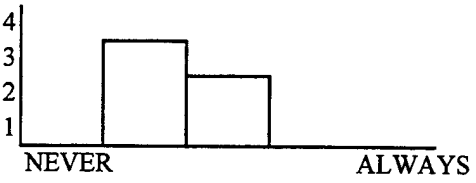
8 Based on past experience, your organization successfully:

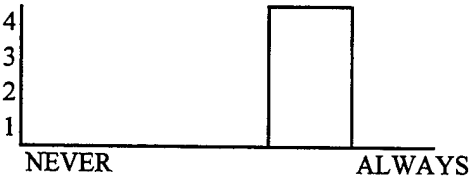
8a Implements improvement initiatives



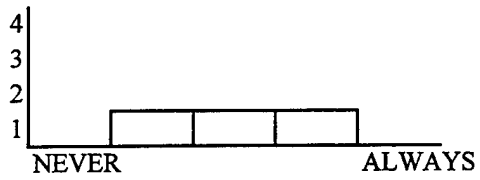


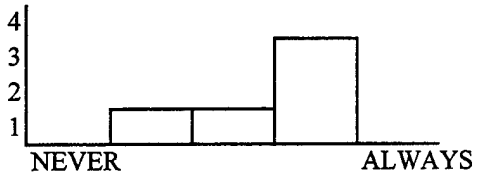
8b Sustains improvement initiatives



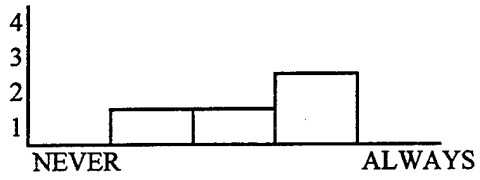


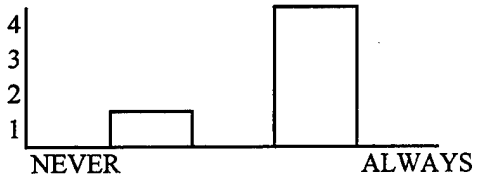
8c Implements IT projects



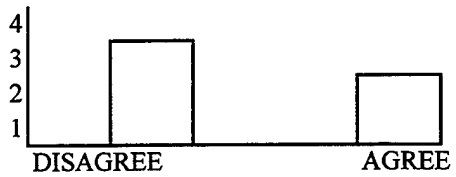


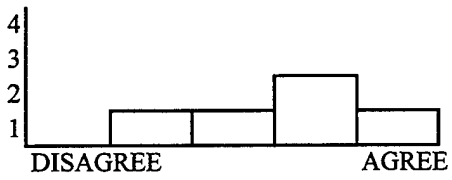
8d Sustains IT projects





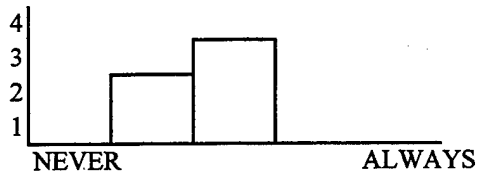
9 People in your organization view new change initiatives negatively, e.g. headcount reductions.

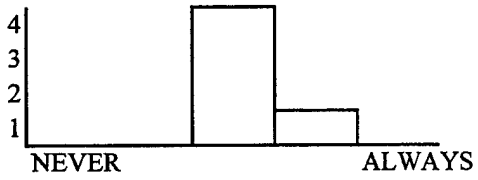




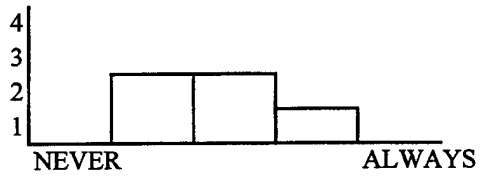
10 Managers in your organization are perceived as being:

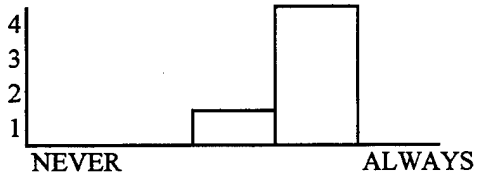
10a Open-minded



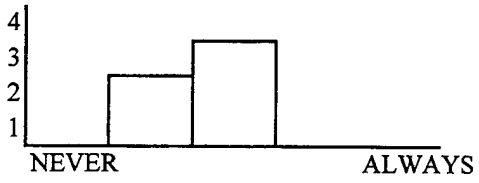


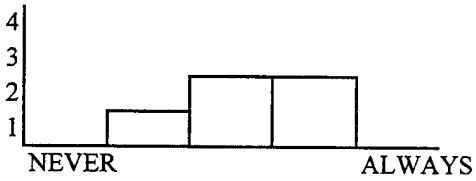
10b Trustworthy



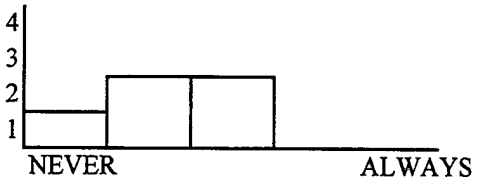


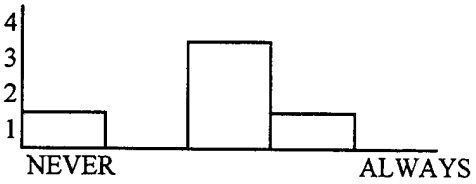
10c Proactive (vs. reactive)



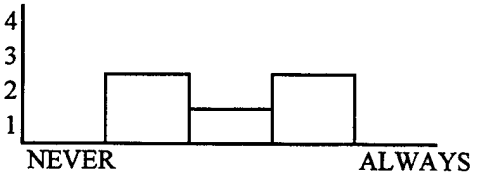


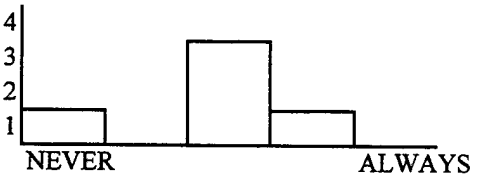
10d Effective at implementing change



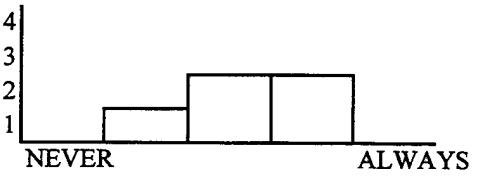


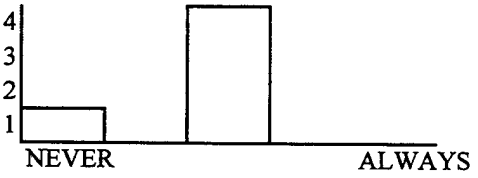
10e Effective communicators





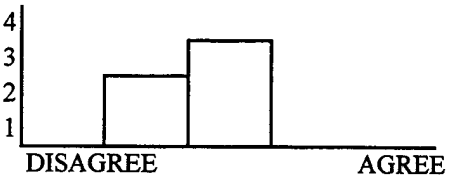
10f Effective at working together as a team

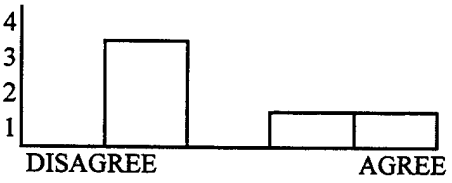




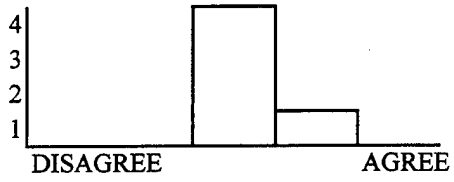
11 Employees in your organization:

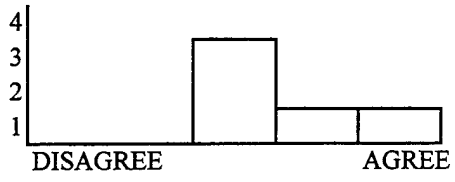
11a Have high morale



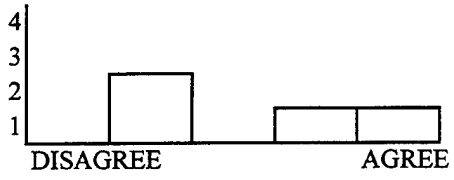


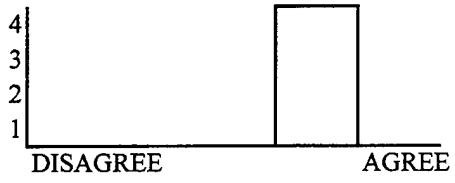
11b Support the current leadership team



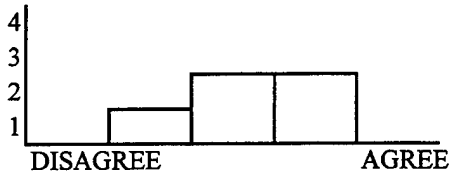


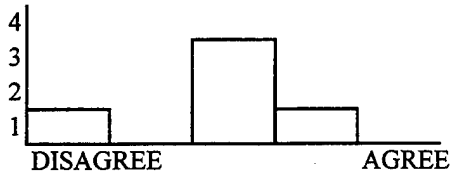
11c Feel empowered as change agents



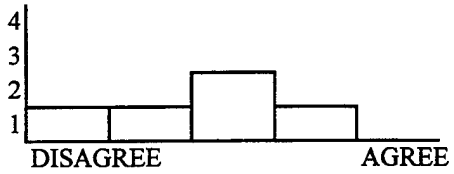


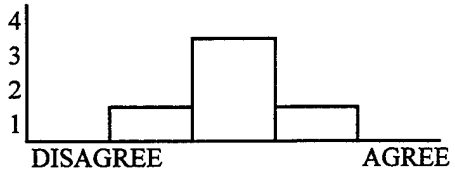
11d Have a continuous improvement mindset



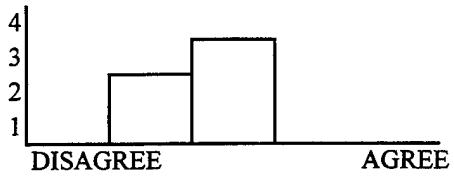


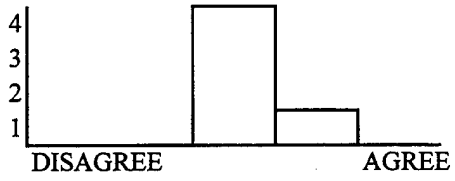
11e Place larger organizational goals above work unit/departmental objectives





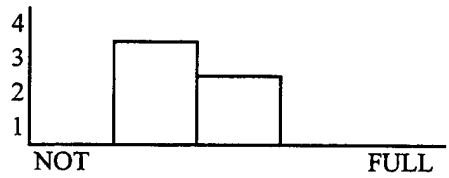
11f Work effectively in a team environment

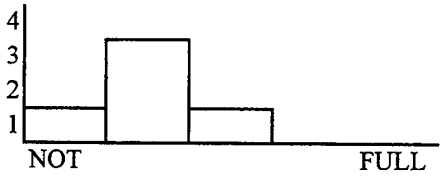




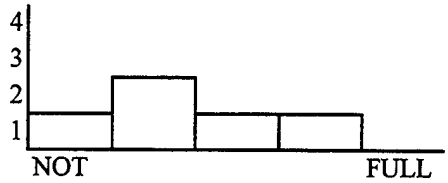
12 Currently, the information systems in your organization are:

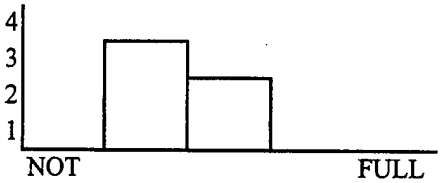
12a State-of-the-art



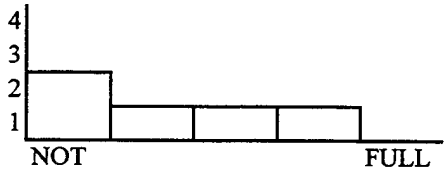


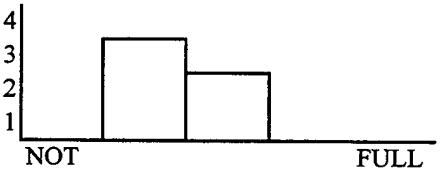
12b Well documented



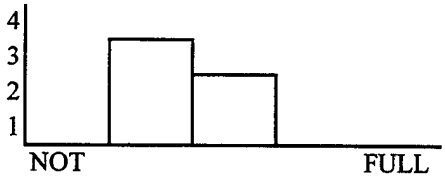


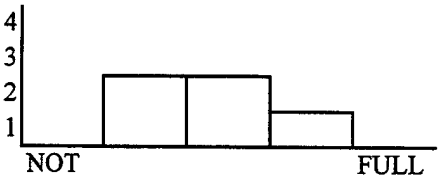
12c Integrated



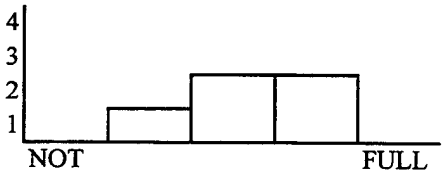


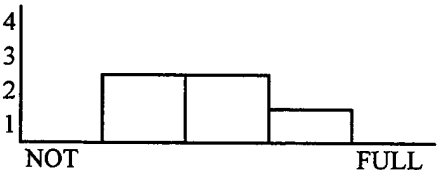
12d Accessible



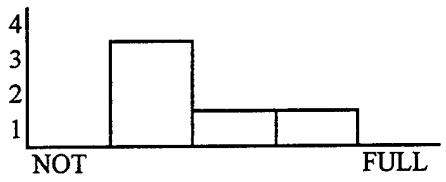


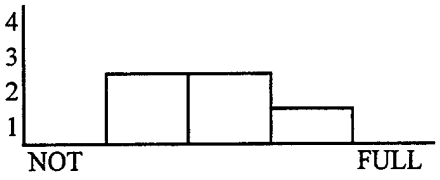
12e Reliable



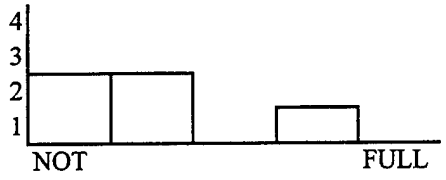


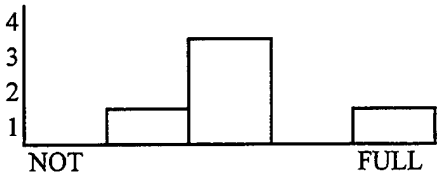
12f Timely



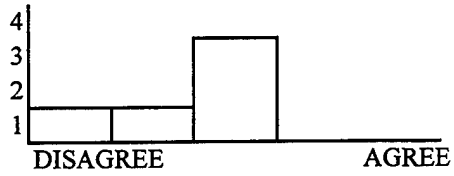


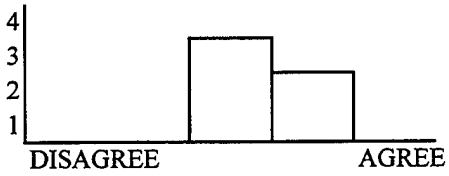
12g User friendly



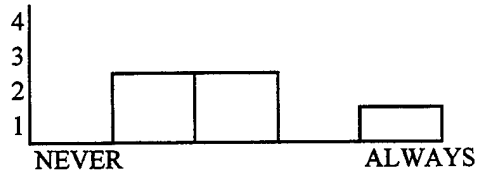


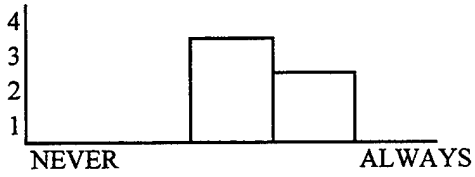
13 Based on past experience, management stays actively involved in improvement initiatives through to completion?





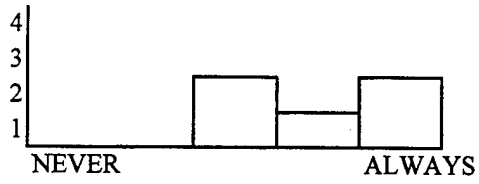
14 Based on past experience, does management validate improvement initiatives upon completion to ensure that original objectives are met?

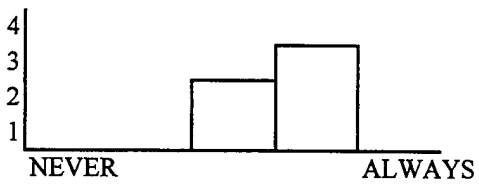




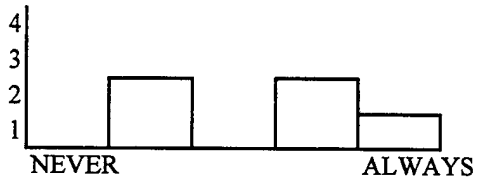
15 To what extent do the following attributes characterize the management decision-making process in your organization:

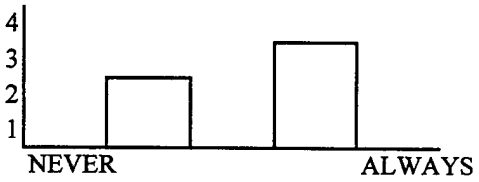
15a All relevant data are gathered



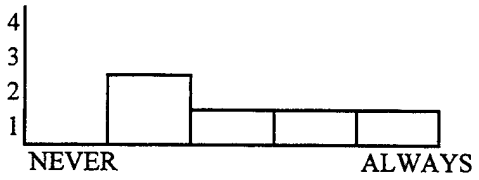


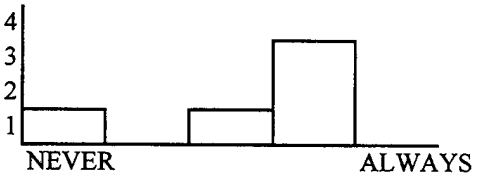
15b All relevant data are analysed



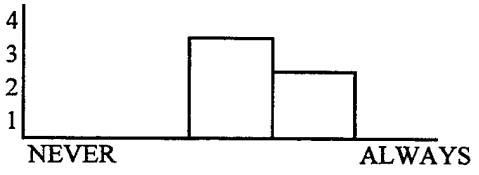


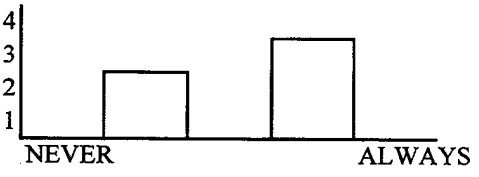
15c Decision alternatives are carefully evaluated



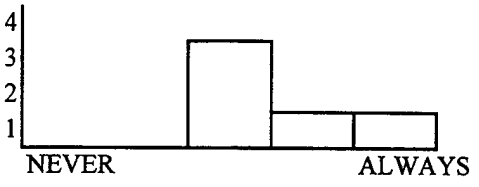


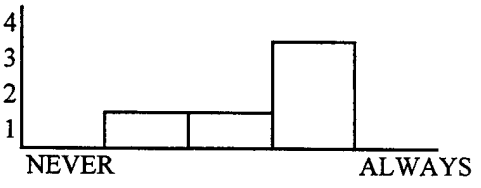
15d Decisions are timely



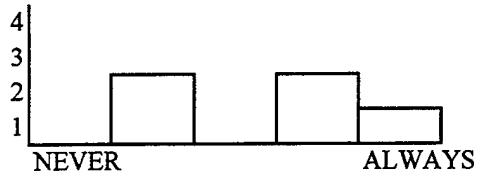


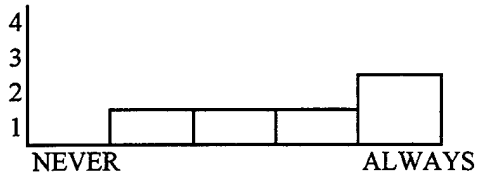
15e Decisions are acted upon





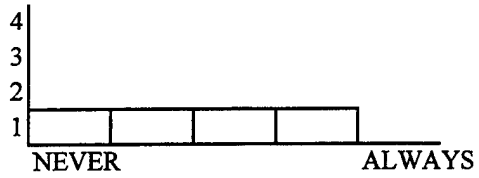
15f Decisions are politically motivated

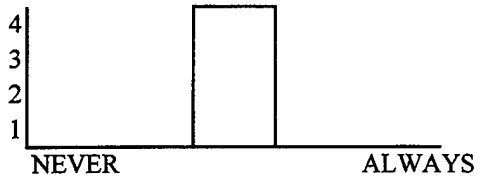




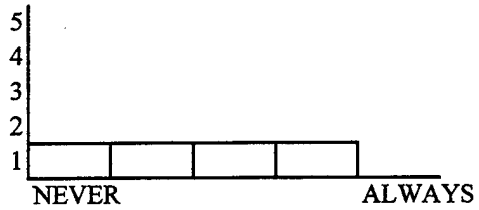
16 To what extent does your organization:

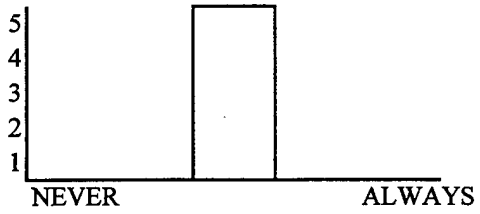
16a Track cost and performance



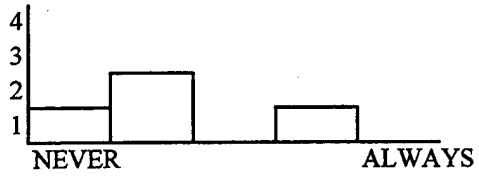


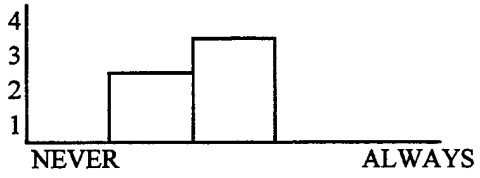
16b Tie cost and performance to organizational objectives



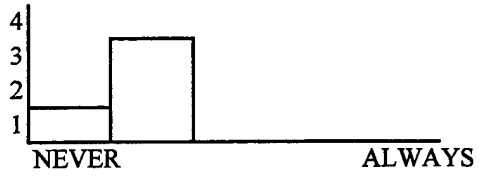


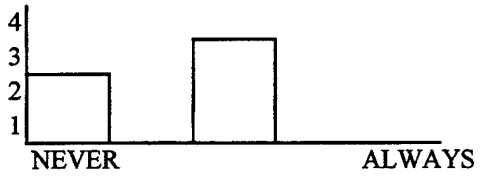
16c Link cost and performance measures across functions



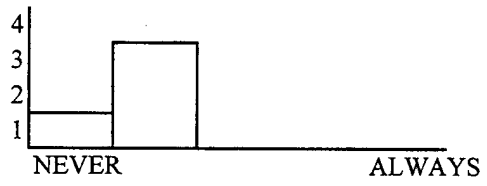


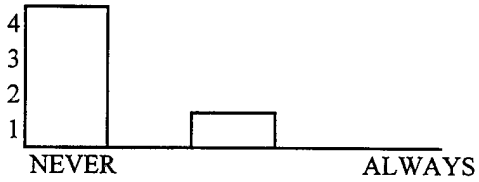
16d Tie cost and performance to employee objectives





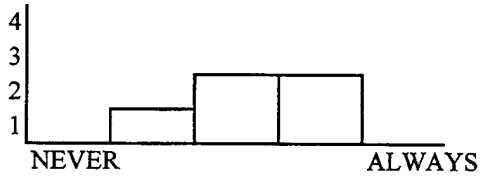
16e Tie cost and performance to employee compensation

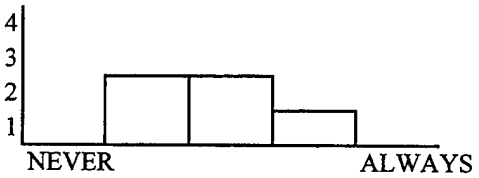




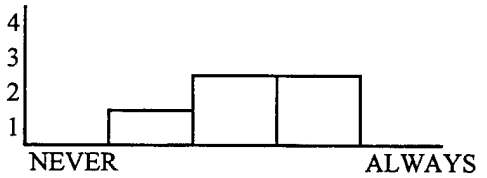
CHANGE CAPACITY

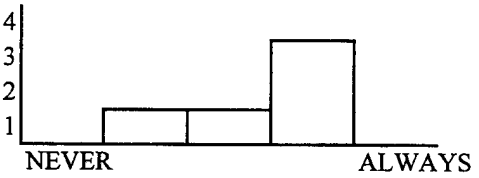
17 To what extent does management align significant change initiatives with the strategic objectives of your organization?



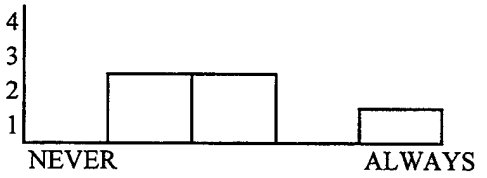


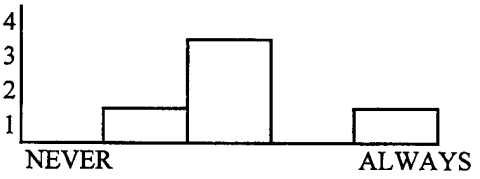
18 To what extent does management communicate the benefits of significant change initiatives to all levels of the organization?



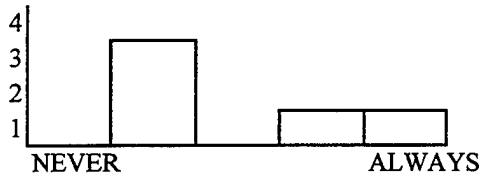


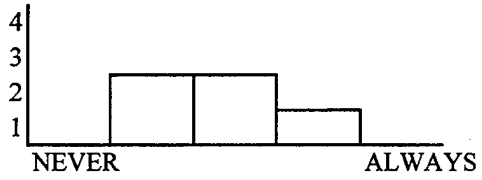
19 Based on past experience, does management solicit feedback on new initiatives?





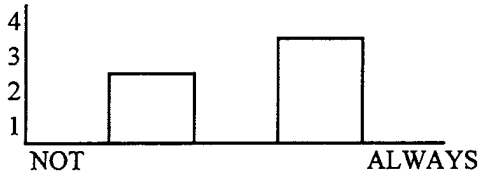
20 Based on past experience, management responds to feedback on new initiatives?

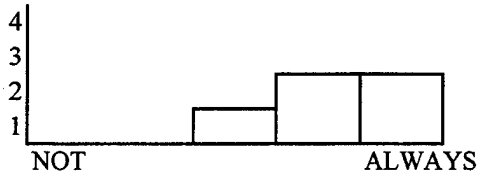




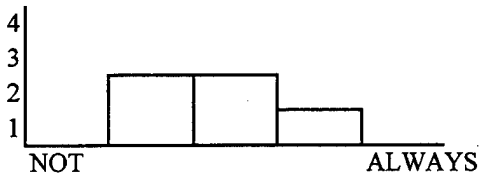
21 Based on past experience, to what extent have customer needs:

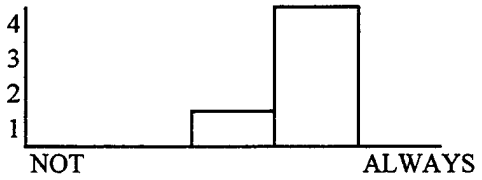
21a Driven previous improvement initiatives





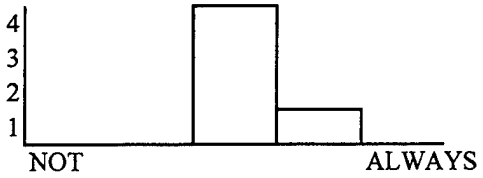
21b Been satisfied by improvement initiatives

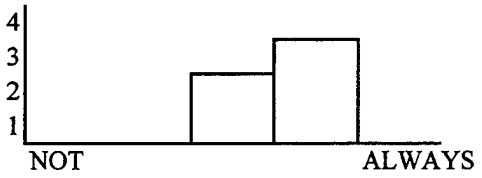




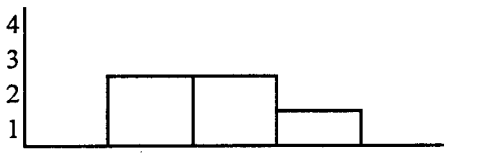
22 Based on past experience, to what extent have user needs:

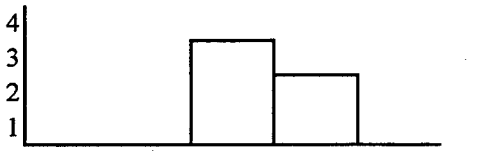
22a Driven information systems requirements





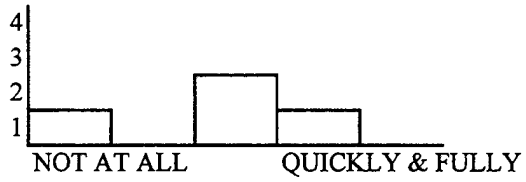
22b Been satisfied by information systems projects

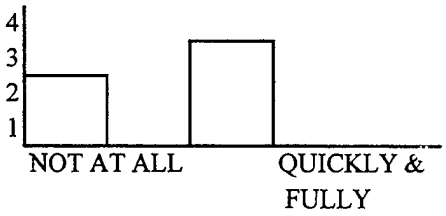




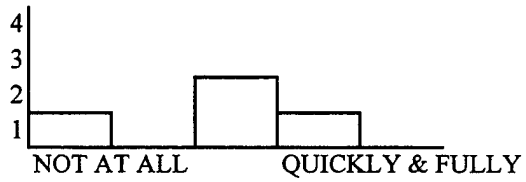
23 To what extent does management in your organization react to:

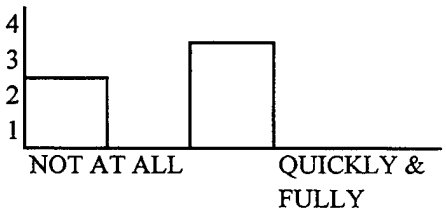
23a Potential competitive threats





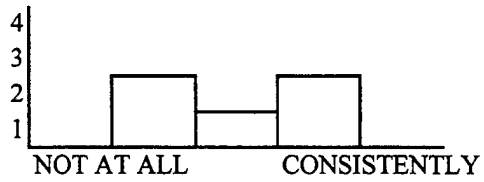
23b Actual competitive threats

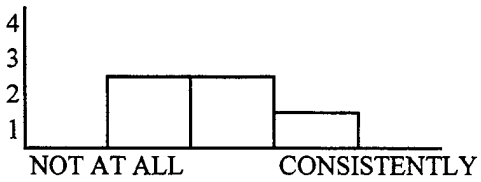




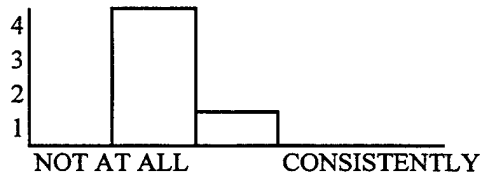
24 Based on past experience, to what extent is innovation:

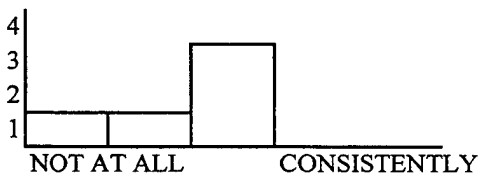
24a Encouraged by your organization



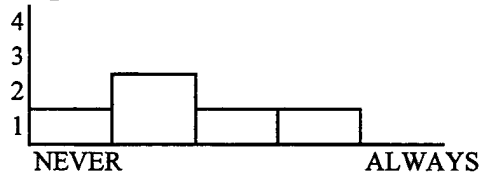


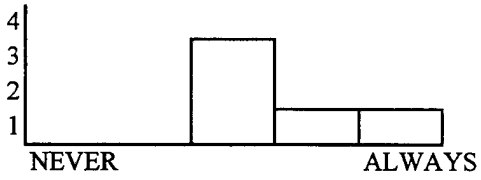
24b Recognized/rewarded by your organization



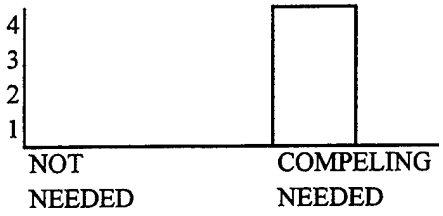


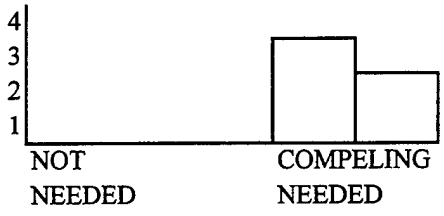
25 When individuals pursue innovation, to what extent is failure punished?





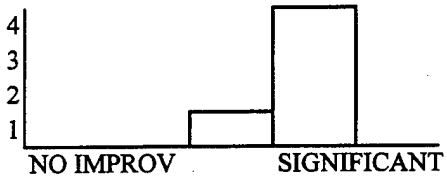
26 Individually, to what extent do *you* recognize a need for ABCM?

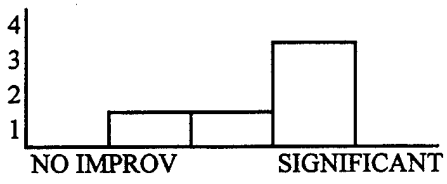




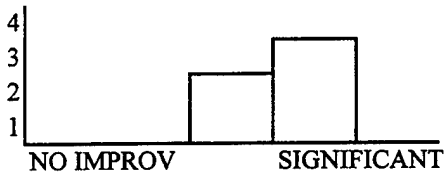
27 What degree of improvement do you expect from ABCM in the following areas:

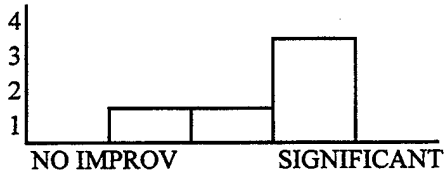
27a Your organization's performance



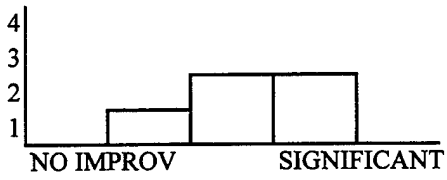


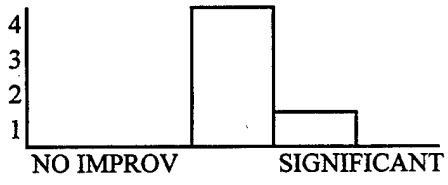
27b Your department's performance



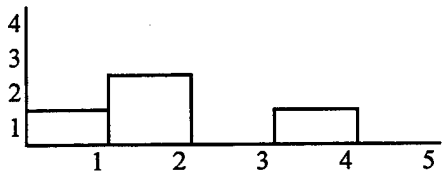


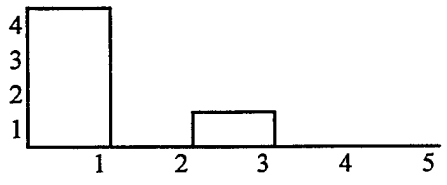
27c Your own performance assessment



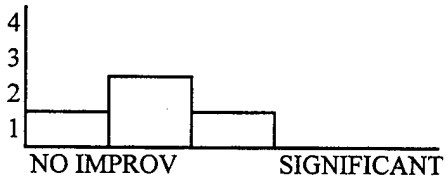


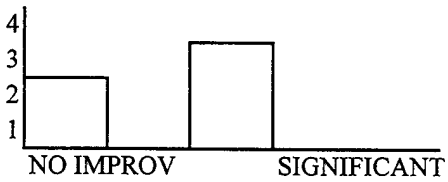
27d Your compensation



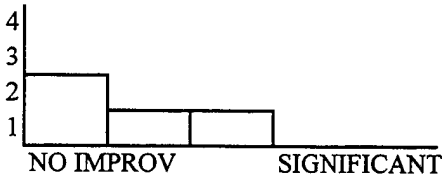


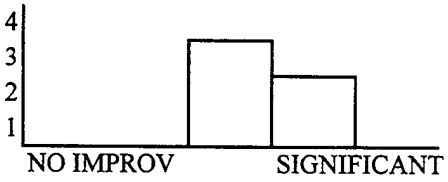
27e Your advancement opportunities



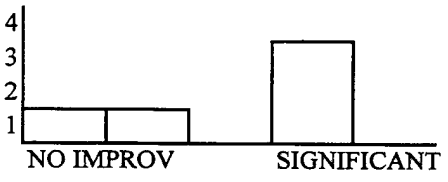


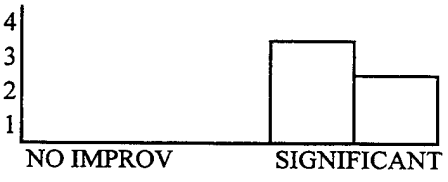
27f Your job security





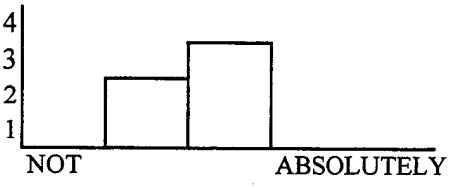
27g Your customer's satisfaction

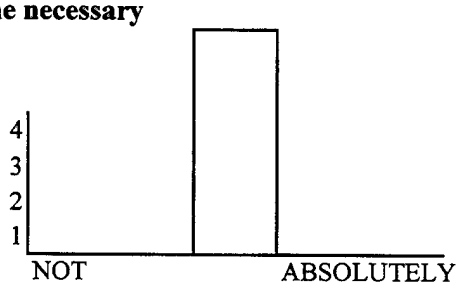




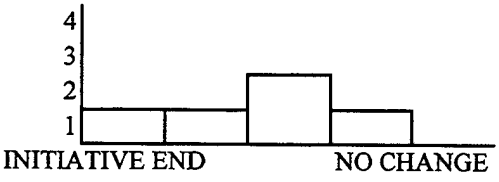
IMPLEMENTATION READINESS

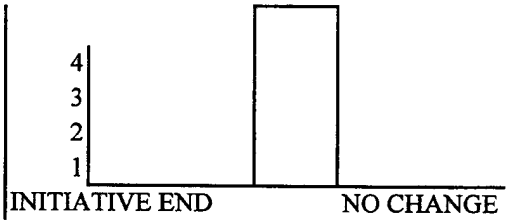
28 Does the ABCM initiative have a champion with the necessary authority and responsibility to be effective?



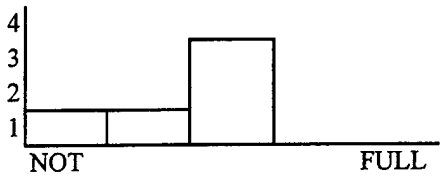


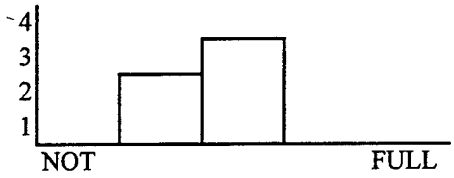
29 To what extent would the momentum of an ABCM initiative suffer if its champion left the organization?





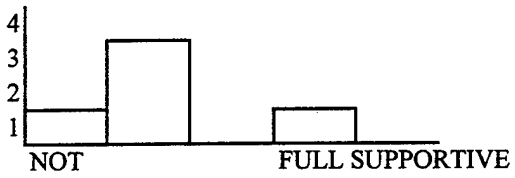
30 **To what extent has management communicated the objectives and expectationsof an ABCM initiative to all levels of the organization?**

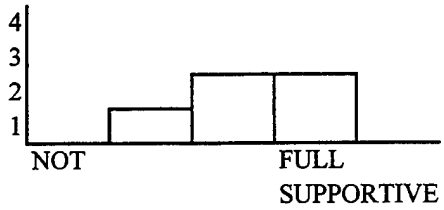




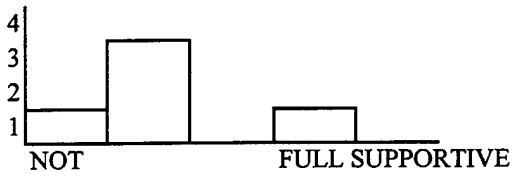
31 **Based on past experience, to what extent do you believe management will provide the following to support an ABCM implementation:**

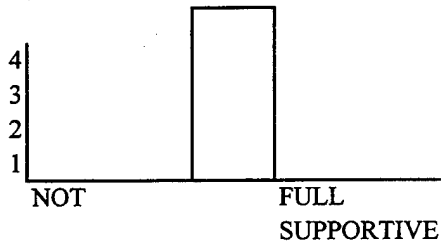
31a Financial resources



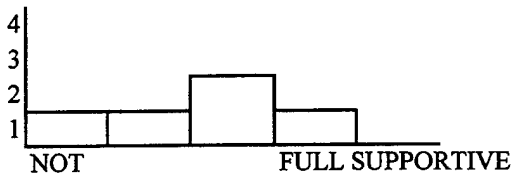


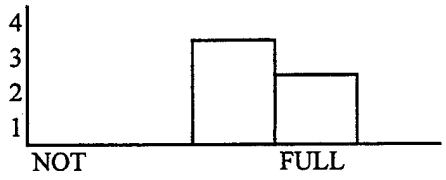
31b Dedicated, capable personnel with the proper skill set



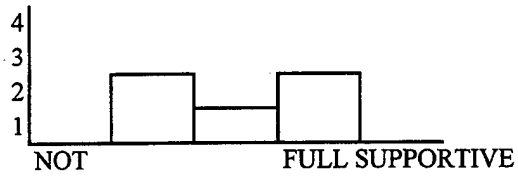


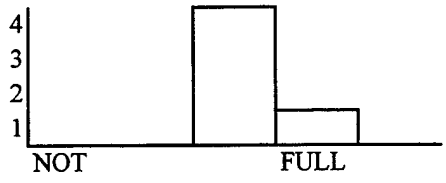
31c Time (to do the job properly)



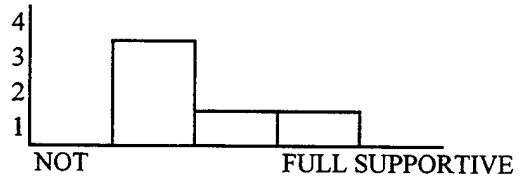


31d Training

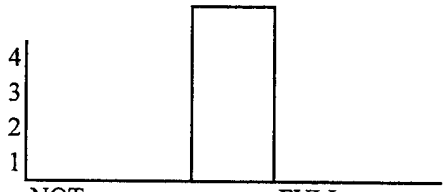




31e A good project plan



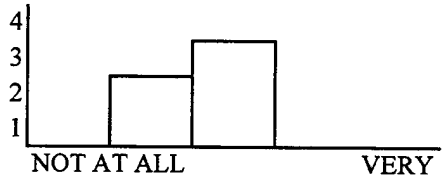
SUPPORTIVE

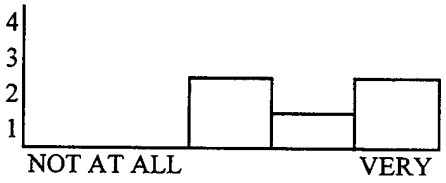


SUPPORTIVE

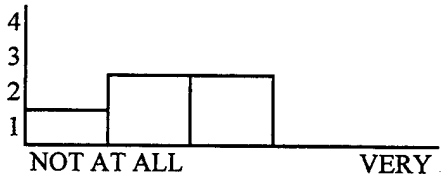
32 Based on past experience, to what extent will management:

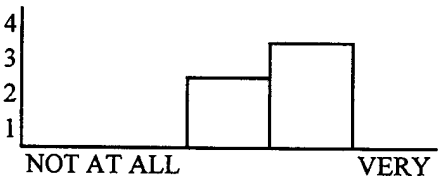
32a Use ABCM to support decision-making



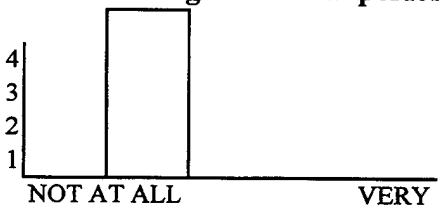


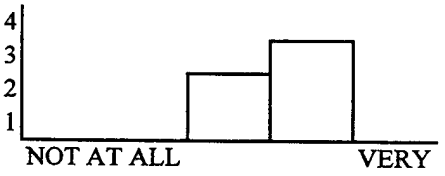
32b Measure the success of ABCM



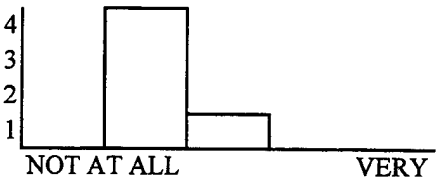


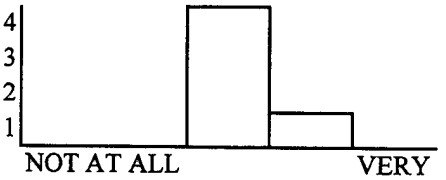
32c Measure organizational performance using ABCM data



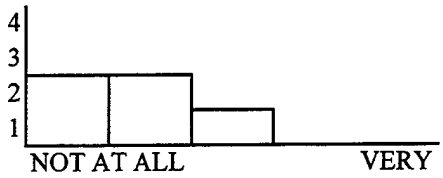


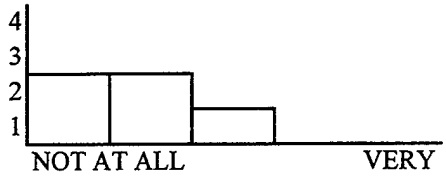
32d Measure employee performance using ABCM data





32e Incorporate ABCM measures into the employee reward structure





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