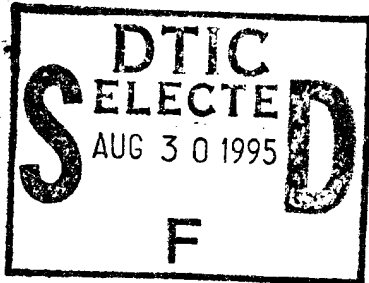


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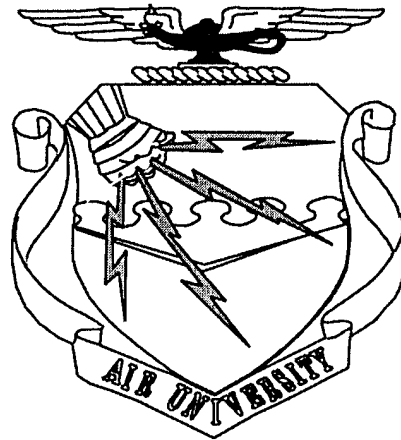
REENGINEERING FINANCE AND ACCOUNTING IN THE DEPARTMENT OF DEFENSE
WITH EMPHASIS ON AUTOMATED FINANCIAL ACCOUNTING SYSTEMS



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Reengineering Finance And Accounting In The Department Of Defense

With Emphasis On Automated Financial Accounting Systems

This study represents the views of the author and does not necessarily reflect the official opinion of the College for Professional Development, Air University, or the Department of the Air Force.

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EXECUTIVE SUMMARY

This paper provides a snapshot of the functions and components of a financial accounting system. It also addresses why twelve additional factors need to be considered in an automated financial accounting system and reviews Defense Finance and Accounting Services (DFAS) decision to install interim migratory finance and accounting systems unique to each DFAS Center. Also included are pro and con arguments for the installation of interim migratory finance and accounting systems. I used estimated cost from a General Accounting Office report to Congress for the installation of 17 Defense Business Operating Fund (DBOF) interim migratory systems.

My conclusion is that the projected cost for the installation of 17 DBOF interim migratory systems of approximately \$95 million dollars plus logistical, retraining, technical and conversion costs are too much for systems which are expected to be short lived.

I recommend that DFAS implement a consolidated integrated financial accounting system similar to those used by large multi-national corporations. Implementation of a facsimile commercial-based automated financial accounting system could produce higher savings and speed up DFAS's overall reengineering efforts.

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INTRODUCTION

The restructuring of finance and accounting operations in 1991 was a major change in DOD's business practices. This reengineering effort established the Defense Business Operations Fund (DBOF) and the Defense Finance and Accounting Services (DFAS). DFAS was established with the ultimate goal of becoming the sole organization responsible for finance and accounting functions in DOD. DFAS's scope includes performing finance and accounting functions for all DOD appropriated and non-appropriated funds. DFAS also provides acquisition and logistical support for all automated finance and accounting systems supporting appropriated and non-appropriated funds.

This paper will focus on the DOD automated finance and accounting systems that support appropriated funds. DFAS has been successful in consolidating and implementing automated financial payment systems for military, civilian, retired and reserve pay. However, DFAS has decided to defer implementing an integrated DOD automated financial accounting system and decided instead to install interim migratory financial accounting systems for each DOD component.

I will provide details of three basic elements of a financial accounting system: (1) functions of a financial accounting systems, (2) components of financial accounting systems and (3) requirements pertinent to automated financial accounting systems. Through the use of these three elements and estimated cost data, I will provide pro and con arguments to examine DFAS's decision to install interim migratory finance and accounting unique to each DFAS Center.

I will state my personal and professional views on why I think interim migratory systems should not be installed. Finally, I will also provide broad and specific recommendations on revising key finance and accounting processes that have a direct impact on financial accounting systems.

DISCUSSION

BACKGROUND: When DOD was established after World War II, it retained the existing organizations with their vertical chain-of-command operational structures. Therefore, financial management systems were designed to report funding and execution data up through these vertical channels (1:37-38). However, after

World War II, technological advances in electronics and automation equipment and in the aviation and communications industry has dramatically impacted business processes. When DOD was established, there were no automated financial management systems, only a number of manual office machines, such as posting machines, key punch machines, and adding machines existed.

Rapid technological advances in aviation, communication, automated machinery and equipment have created a more informed public. This highly informed public increased its demand for information from both vertical and horizontal viewpoints. In order to respond quickly to demands for information, external influences often prompted leaders to make 'quick fixes.' These quick fixes' in financial management systems were very costly and did not provide a mechanism for efficient future systems expansions.

Therefore, DFAS has inherited over 200 disparate and unlinked financial management systems. Invariably, these were batch systems with input coding structures passed down from the keypunch machine era and perpetuated in existing systems. DOD components continue operate under a vertical chain of command style. DFAS appears to have taken the path of least resistance in deciding to install interim migratory financial accounting systems for each DOD component.

In order to make better financial and economic decisions, accurate and reliable financial information must be available in a timely and accurate manner. Likewise, leaders must take on the inherently painful task of changing the way business is done. Otherwise, ineffective systems will continue to undermine DOD's stewardship responsibilities (2:2).

FUNCTIONS OF A FINANCIAL MANAGEMENT AND ACCOUNTING SYSTEM: A primary function of a financial management system is to accumulate information that is required by decision makers and communicate this data to them. The accounting system used for communicating information consists of business documents (such as invoices, checks, contracts, purchase orders, receiving reports, personnel actions, supply requisitions, bills of lading, insurance policies and disbursement vouchers, etc.). The accounting system contains the procedures that are used in recording transactions and preparing reports. A financial accounting system must communicate data to users about operating performance and current financial status in a manner

that is both meaningful and useful. All pertinent financial information required by decision makers for planning, programming, executing, and evaluating program objectives must be made available to the user on a timely basis. The financial accounting system must be capable of providing other basic information to various federal departments and agencies as well as to state and local taxing authorities. To summarize, a financial accounting system must communicate finance and economic information efficiently, effectively, accurately, and on a timely basis.

COMPONENTS OF A FINANCIAL ACCOUNTING SYSTEM: Basic components of an accounting system include: (1) a chart of accounts, (2) a coding system, (3) a general journal, (4) a general ledger, (5) special journals, (6) subsidiary ledgers, (7) a system of internal control, and (8) an audit trail. Only the chart of accounts, the coding system, and special journals will be elaborated on in this paper.

A chart of accounts is a listing of all the accounts that may be used by an organization. The basic design of a chart of accounts listing determines how accounting information will be accumulated. Charts of accounts can be very simple or very complex depending on the complexity of the organization and how accounting information will be accumulated, summarized, and used. The scope of the chart of accounts and the ability to add new account titles in a logical and chronological manner are very important factors to be considered in designing and installing an accounting system. As a minimum, the chart of accounts should include all accounts that will appear in the various financial statements. In most cases, limiting the chart of accounts to only those which will appear in financial statements would be inadequate, since decision makers often require information which is more detailed than that which appears in basic financial statements (3:111-120). Below is an excerpt from a simplified chart of accounts:

Simplified Chart of Accounts

<u>General Ledger Account</u>	<u>Account Title</u>
400000 - 499999	Receipts, Revenue (Reimbursable) Accounts
500000 - 599999	Cost Accounts
600000 - 699999	Operating Expenses Accounts

A coding system is essential for the chart of accounts to provide a unique identity for each account included in the chart of accounts. Using an account from above, I will develop a simple and a complex coding system. For expediency, the first position of each general ledger account (GLAC) number will remain constant for each account category. The first position of the GLAC category for operating expenses' accounts will begin with the number six (6). The remaining five positions of the GLAC will be designated for specific pre-determined data elements. Positions 2-3 will be used to specify detailed data element by type, e.g., military pay (01). Therefore, a simple coding system for this example would reflect a general ledger account as 601000 and the account title would be military pay operating expenses. The following basic input coding structure for a special military pay journal may appear as follows

DEPT	=	21	APPROP	=	5 20100000
ALLOT	=	0032	TYPE	=	Direct
PROGRAM	=	111000	GLAC	=	601000
PROJECT	=	JOURNAL	MILITARY PAY		
MACOM	=	76	INSTALLATION		809
STATION	=	009177	PROG MGR		MB
VALIDATION	=	1	REF, NUMBER		299-99-9999
MAN-HOURS	=	178	AMOUNT		\$2,500.00

However, that same account could be made more complex by designating the fourth position of the GLAC for military benefits. The fifth position could be used to indicate the type of military duty. The sixth and final position of the GLAC number could be used to designate a specific division and branch. The coding system to reflect this more complex account structure would be basically the same as for the simple input coding structure but with more detailed data elements via the GLAC. However, positions 2-6 of the GLAC would require at least four cross-reference tables to translate into more useful information for users of financial reports. From these two examples, it has been shown that a GLAC can be at the (1) summary or (2) can be at the detailed level. Each special journal would require customized input formats based on projected specified

informational needs. Special journals are used to segregate large volume transactions and different business processes in an organization. Regardless, the chart of accounts and the coding system must be able to accommodate normal requests for financial information at both the detailed and summary levels. Also, data file's structure must be standardized using standardized data with the capability to produce standardized and nonstandardized reports. To summarize this discussion of the functions of a financial accounting system, DOD's financial accounting system should be designed to facilitate the accumulation of funding, commitments, obligations, expenses, and disbursements. These items should be easily retrievable from a horizontal or vertical organizational approach.

REQUIREMENTS PERTINENT TO AN AUTOMATED FINANCIAL ACCOUNTING SYSTEM: The use of automated equipment or computers does not alter the data flows in the accounting system *per se*. The selected equipment may require significant changes in: (1) preparing source documents; (2) transmitting data; (3) data preparation techniques; (4) quantity of data processed; (5) speed and accuracy; (6) processing routines; (7) data storage(memory); (8) information retrieval techniques; (9) quantity and types of finance and accounting reports; (10) controls necessary for adequate internal controls; (11) users training on input and output methods, processes, data files, and reports, and finally; (12) logistical support, acquisition of hardware, software and maintenance and repair services. Each of the above represents one or more business process performed by an accounting and finance organization.

DFAS'S DECISION TO USE INTERIM MIGRATORY FINANCE AND ACCOUNTING SYSTEMS: The previous subtopics (1) functions of a financial accounting system, (2) components of a financial accounting system and (3) factors pertinent to an automated financial accounting system were used in reviewing DFAS's decision to install interim migratory finance and accounting systems. What are interim migratory finance and accounting systems? That question was asked of one DOD accountant, and he responded, "I have not heard that phrase before, but if I had to guess, I'll say that it is the path birds use each winter to go from the northern regions to the southern regions of North America with a stopover in Atlanta." With all my work

experience and academic training in accounting, I decided to prepare a definition for an interim migratory finance and accounting system on behalf of DFAS. An interim migratory finance and accounting system may be an existing or new automated system independently chosen by each DFAS center or a DOD component to function as the standard financial accounting system for that center or component. It will be used to accumulate finance and accounting data by each separate DFAS center for an indefinite period of time. It should be noted that DFAS centers are still aligned according to DOD's vertical chain-of-command.

The DFAS Denver Center maintains finance and accounting functions for Air Force appropriated and trust funds. It also serves as the proponent agency for a number of DOD-wide automated pay systems. The DFAS-Indianapolis Center maintains finance and accounting functions for Department of Army appropriated and trust funds, while the DFAS-Kansas City Center continues to maintain finance and accounting functions for the Marine Corps. The DFAS-Cleveland Center maintains the finance and accounting functions for the Department of the Navy. Lastly, the DFAS-Columbus Center performs finance and accounting functions for all other DOD agencies and field activities. DFAS-HQ, Washington consolidates reports from all five DFAS centers.

In 1991, there were over 250 separate and unlinked finance and accounting systems in DOD's financial management systems' inventory. Over eighty-five of these finance and accounting systems were dedicated to accumulating, processing and reporting information pertaining to appropriated funds and trust funds. Although the exact numbers of interim migratory finance and accounting systems required have not been determined, a review of 80 of DBOF's disparate and unlinked systems indicated that 17 interim migratory system would be required. The estimated cost for these 17 DBOF interim migratory systems is estimated at 95 million dollars. This estimated cost does not include the following: (1) development of systems interfaces; (2) data conversion from existing systems; (3) personnel training for employees who will enter data, operate and maintain the systems, and finally; (4) improvements needed to meet technical improvements, e.g., expand memory/data storage capacity (2:5).

As mentioned earlier in this paper, DOD's pay systems are rapidly consolidating and standardizing into integrated systems. However, consolidations of integrated finance and accounting systems have been deferred by DFAS-HQ. Instead, DFAS has given each center the authority to install interim migratory finance and accounting systems. Before providing some specific recommendations and possible solutions to achieving consolidated and integrated DOD-wide finance and accounting systems, I will list some pros and cons for the use of interim migratory finance and accounting systems.

PROS AND CONS OF INSTALLING INTERIM MIGRATORY FINANCE AND ACCOUNTING SYSTEMS:

Pro: Use of interim migratory accounting systems would enable DFAS to perform a thorough review of DOD's business processes and design an accounting system more closely aligned to revised business processes.

Con: Off-the-shelf technology could be easily modified to accommodate total consolidation of finance and accounting systems if DFAS and DOD would focus on the similarities to commercial accounting systems.

Pro: By gradually installing interim migratory systems, DFAS could readily detect and correct flaws in designing and acquiring DOD's ultimate finance and accounting system.

Con: Under the current unique structure of DFAS centers, inefficient business processes and automated accounting systems may be perpetuated.

Con: Technology in the automation and communication industries is constantly improving; therefore, data conversion software could be easily designed to translate and or transfer data between various types of computer hardware and software.

Con: By installing interim migratory systems, DFAS will more than likely deplete any savings derived from personnel reduction and reduction in current automated systems hardware and maintenance support.

Con: DFAS is creating a potential risk of not totally consolidating finance and accounting functions with the unique selection of interim migratory systems by each separate center. All interim migratory systems have a high probability of remaining unlinked and capable of only vertical analyses and reporting.

Con: DFAS's lack of an accounting system that closely resembles those used to provide academic accounting training to current and future accountants, auditors and financial analysts, adds to its operating cost via training expenses and inefficiencies. This deficiency can also produce inaccurate reviews and analyses when dealing with contractors, sub-contractors and private industry customers.

CONCLUSION: I have briefly discussed the background of reengineering finance and accounting within DOD and the establishment of DBOF and DFAS. I have provided three very important elements of a financial accounting system. These three key elements are: (1) functions of a financial accounting system, (2) components of a financial accounting system, and (3) requirements pertinent to an automated financial accounting system. I also reviewed DFAS's decision to install interim migratory finance and accounting systems unique to each DFAS Center. Lastly, I discussed the pros and cons of installing interim migratory finance and accounting systems. As stated earlier in this paper, I do not support the installation of interim migratory finance and accounting systems. Since each DFAS Center has been given the authority to select its own interim migratory finance and accounting system, this appears to be a consolidation of systems. Consolidation of finance and accounting systems by each DFAS center is not the same as reengineering an integrated DOD financial system capable of both vertical and horizontal information sharing.

RECOMMENDATIONS:

Broad - DFAS and DOD adopt and implement a financial accounting system closely resembling those taught in colleges and universities and employed by private companies and corporations.

Specific - DFAS design a chart of account system that could track funds from the initial funding of an appropriation through the final disbursement and reporting stage.

- DFAS design financial statements that closely resemble those taught in colleges and universities and used by private corporations.

- DFAS control all automated system changes and modifications.

BIBLIOGRAPHY

(annotated by order of use)

1. Part III Defense Management For The New Era, "Financial Management," PMCS Handout 120, March 1994, Revalidated March 1995. pp 37-38.
2. Defense Infrastructure, "Enhancing Performance Through Better Business Practices," GAO Testimony

Before Subcommittee on Readiness, Committee on National Security, House of Representatives, March 1995, GAO/T-NSIAD-95-126, pp 2-5.
3. Schugart, Gary L., Benjamin, James L., Francia, Arthur J., & Strawser, Robert H.,
Survey of Accounting, 1983. pp 111-120.