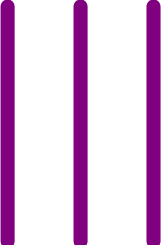Chief Review Services

Preliminary Assessment of
Activity-based Costing (ABC)
in
DND and the CF

23 February 1998
7045-75 (CRS)

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EXECUTIVE SUMMARY

BACKGROUND

1.   The purpose of this preliminary assessment was to determine how activity-based costing (ABC) is progressing within DND and the CF, and to determine if there is a potential role for CRS to play in order to advance the departmental approach to ABC. The assessment was made in the context of the Financial and Managerial Accounting System (FMAS) being developed using SAP R/3 software.

2.   Activity-based costing is viewed as a best business practice by the managerial accounting community. It is considered to be superior to traditional costing methodologies for generating accurate information for decision support and management control.

3.   Development of ABC is taking place on two major fronts in DND and the CF. Firstly, a two-phased corporate level ABC capability is being developed as part of the new FMAS that is scheduled to stand up 1 Apr 98. At that time, FMAS ABC will support the Level 0 Business Planning Process. Over the following two years the FMAS team plans to further develop the ABC capability, enabling cost modelling to be done for levels 0 through 5 Business Plans.

4.   On the second front, organizations within Commands and Groups are under-taking ABC development work locally. While development of the corporate and local level initiatives is proceeding in parallel, all of the Command capabilities began development prior to the standing up of the FMAS project.

ISSUES

5.   Some of the more significant issues that emerged during this preliminary assessment include:

      a.   particularly high expectations, among many, of the delivery of an end-state ABC capability that will be accessible from the average manager's desktop;

      b.   interoperability challenges among various stovepipe systems and ABC capabilities;

      c.   lack of an overarching departmental framework to guide the development of the Department's ABC capability;

      d.   training and development issues; and

      e.   benchmarking with other public sector organizations is not possible.

CONCLUSIONS

6.   Part IV of this report reflects the CRS review team's *Conclusions* and *Recommendations* in detail. The following paragraphs provide some of the highlights of our conclusions.

7.   Generally, there is a forward movement by major departmental organizations towards establishing an ABC capability. However, expectations with respect to the functionality of a Department-wide ABC system are high and strategies need to be pursued to more closely align user expectations with reality.

8.   Interoperability issues relating to independent ABC capabilities and the new FMAS remain as outstanding questions. There are also coordination challenges among independent ABC initiatives due to the absence of an overarching departmental costing framework to guide ABC development. ADM(Fin CS) plans to address these developmental issues by commencing work on an ABC framework in FY 98/99.

9.   The Canadian Forces Management Development School (CFMDS) has under-taken to provide theoretical training on ABC that is tailored to meet the DND/CF requirement. Close coordination will be required between CFMDS and the Director - Managerial Accounting & Comptrollership (DMAC) in order to ensure consistency between the training delivered and the corporate direction taken by the Department with respect to ABC.

10.   Benchmarking is presented as a further challenge as there are currently no other comparable public sector organizations that have put in place SAP R/3 software with an integrated ABC component. DND is clearly on the frontier in the public sector for this initiative.

11.   While areas are identified in the *Recommendations* section where CRS can contribute to advancing the development of ABC in DND and the CF, the review team determined that no further specific review work is appropriate at this time. CRS will revisit the appropriateness of doing additional review work in this area in early 1999, after FMAS and local ABC initiatives have had more time to evolve.

**PRELIMINARY ASSESSMENT OF ACTIVITY BASED COSTING
IN DND AND THE CF**

PART I

INTRODUCTION

Purpose

1.1   The preliminary assessment was undertaken to determine how activity based costing (ABC) is progressing in DND and the CF, and to determine if there is a potential role for CRS to play in order to advance the departmental approach to ABC in the context of the Financial and Managerial Accounting System (FMAS).

Background

1.2   Activity based costing is highly favoured by the managerial accounting community as it is considered to be superior to traditional costing methodologies for generating accurate information for decision support and management control. Organizations putting in place an ABC capability are normally driven by two primary objectives:

> a.   to obtain more accurate data on product, process and service costs; and

> b.   to identify the relative costs of activities and the reason those activities are undertaken.[1]

1.3   Development of ABC is taking place on several major fronts in DND and the CF. Discussion of some of the ABC developmental activity underway in the Department immediately follows this section, in Part II of the report.

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[1]The Society of Management Accountants of Canada, Management Accounting Issues Paper 3, **Activity Based Costing**, 1993

PART II

DISCUSSION

ABC - A Capability in the Financial and Managerial Accounting System (FMAS)

2.1   DND, along with all other federal departments and agencies, is required to align with the federal government's new planning, reporting and accountability structure (PRAS) and put in place an accrual accounting capability. In order to meet these new requirements, and because of a range of limitations of a thirteen-year-old system, it was recognized that the existing departmental financial information system (FIS MK III) was not up to the challenge.

2.2   Accordingly, a new financial and managerial accounting system (FMAS), based upon R/3 software supplied by SAP Canada Incorporated, is being tailored to meet DND's needs, with two major components. A financial accounting capability with an external focus is the primary component which will be put in place in order to capture transactions, provide expenditure reporting information, support departmental cash management and provide a data source for the second component of FMAS, the more internally focussed departmental managerial accounting component. This second component is inextricably linked with the financial accounting side of the system, as it is a primary consumer of financial accounting information for decision support and activity based costing initiatives at the strategic and tactical levels.

2.3   DND's technology driven corporate level ABC capability is a subset of the managerial accounting component of the FMAS. It is planned that the FMAS ABC capability will be delivered in two phases. The Phase I ABC capability will be activated 1 Apr 98, concurrent with the transition from using the current FIS MK III to capture transactions to adoption of the new R/3 financial accounting system. This strategic level ABC capability will be focussed on satisfying the PRAS requirement for Level 0 Business Plans. The more tactical level Phase II ABC capability is planned for start-up 1 Apr 00 and will support the Business Planning process from levels 1 through 5. How the corporate ABC capability will fit within the PRAS structure is graphically displayed at Figure 1.

FMAS Capability within the PRAS Framework

Planning, Reporting and Accountability Structure

Financial & Managerial Accounting Systems in OGDs

DND

Financial & Managerial Accounting System (FMAS)

Financial Accounting System

- External Focus
- Expenditure Reporting/Cash Management
- Data Source for MAS (Managerial Accounting System)

Managerial Accounting System

- Internal Focus
- Uses Many Data Sources
- Decision Support
- ABC at Strategic and Tactical Level

Managerial Accounting System

- ABC Subset of MAS
- Will deliver a low level database at the cost centre level
- Will be a DND ABC framework & model that supports financial information needs in PRAS,DPG,Business Planning & Performance Measurement
- Commands/Groups may assess the feasibility of developing their own models within the framework
- The goal is to have one ABC software&methodology in DND at the end of the day

Phase I - Apr 98
ABC - Level 0 (Business Planning) Costing Framework

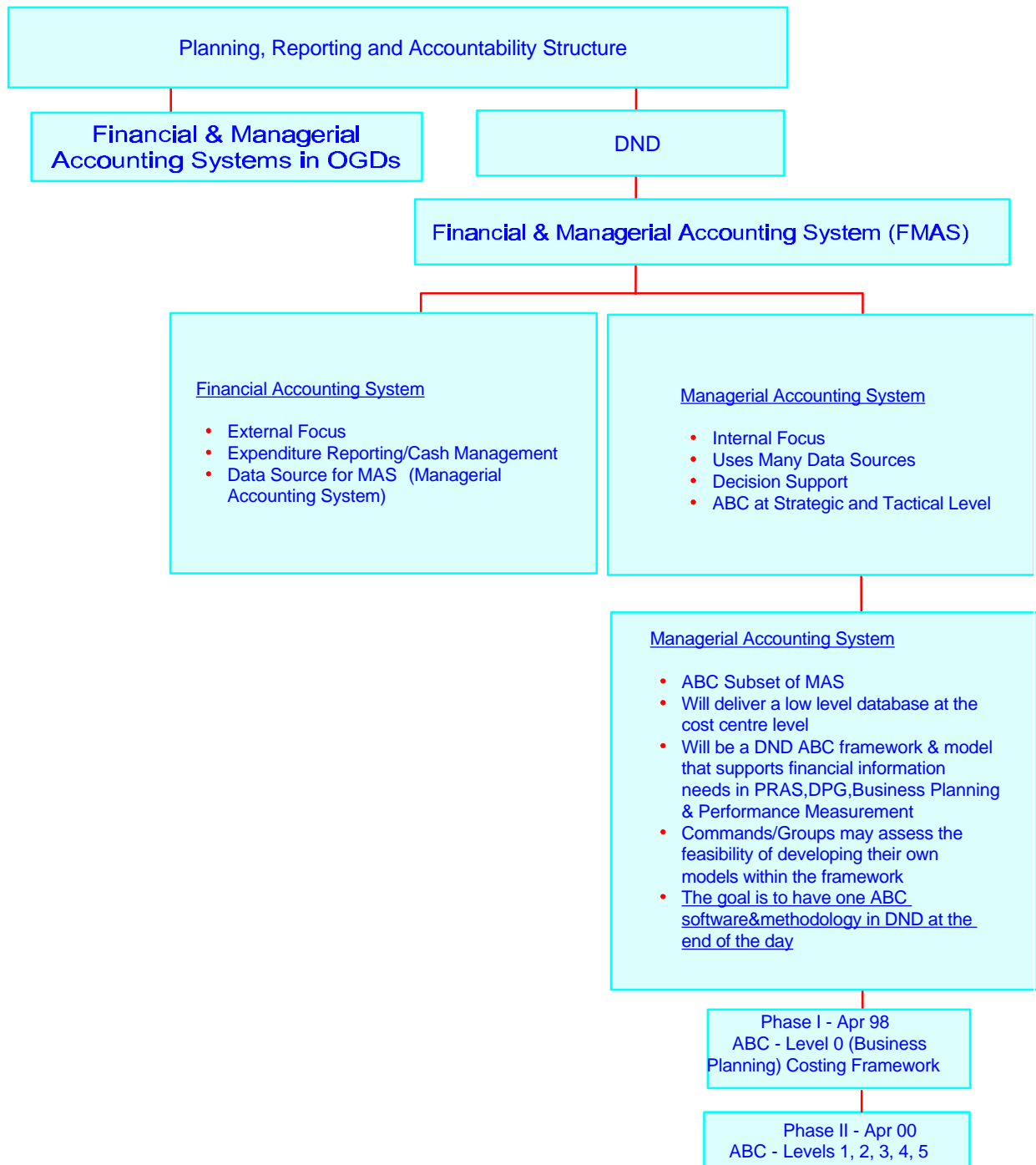**Phase II - Apr 00**
ABC - Levels 1, 2, 3, 4, 5

Figure 1

2.4   Due to the integrated nature of FMAS, it is difficult to accurately attribute costs to specific capabilities of the system. Current estimates indicate, however that by June 1998 approximately $1M will have been spent on consulting and military/civilian staff costs in support of definition and implementation of the managerial component of SAP R/3. This excludes user conversion training and software costs. FMAS is currently dedicating 1.5 full time equivalents (FTEs) to advancing the ABC capability of the system.

2.5   Once developed, the FMAS ABC framework and model are intended to support the financial information needs of the Defence Management System (DMS) which includes PRAS, Defence Planning Guidance (DPG), Business Planning and Performance Measurement. As briefed to DND/CF senior leadership in February 1997, the goal of the Financial and Managerial Accounting Project Team is that there will be "....only one ABC software at the end of the day."[2]

ABC - A Capability in Development in Commands and Groups

2.6   Concurrent with the development of the corporate level, centrally-led ABC capability within FMAS are the independent ABC initiatives on-going under the guidance of Environmental Chiefs of Staff and in Groups in NDHQ. The CRS review team inquired on the status of ABC capabilities in the three environments and within the ADM(Mat) and ADM(Per) Groups. While this has not been an exhaustive analysis of all ABC systems underway in the Department, the sample of capabilities which was examined provided sufficient evidence to support the observations of the CRS review team.

Environmental Chief of the Air Staff

2.7   The most mature of the systems outside of NDHQ with an ABC capability is the Cost Centre Management (CCM) project that started in Air Command in 1992. Critical to the success of the CCM capability has been the development of the Resource Consumption Management Information Interface (RCMII) for gathering and compiling data. While the CCM project was not launched as an ABC initiative *per se*, it was in part an effort to improve the costing capability at AIRCOM. Due to its site-by-site configuration at the Wing level, those critical of the system express concerns about its functional/organizational orientation, arguing that one must go across functions in order to have true ABC. As well, the system currently is not capable of rolling up costs

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[2] Program Control Board (PCB) 2/97, 27 Feb 97,   Agenda Item I, G2700 - Financial and Managerial Accounting Project (FMAP)

beyond the Wing level, although it could be enhanced to do so. This will be the subject of further discussions within Air Command. While recognizing the validity of these points, some Wing commanders are using the information resulting from the CCM capability and find it more helpful in support of the decision making process than traditional capabilities previously available to them. Establishing and maintaining operator buy-in across the Command is a continuing challenge as some managers do not yet realize the benefits to be derived from using CCM.

2.8   Air Command has spent approximately $4.8M to date on development of its CCM capability. While most of the funding has come from Air Command's own budget ($2.4M), funding contributions have also been made by D2000, Vice-Chief of the Defence Staff (VCDS), Capability Component 1 (CC1), CC2 and the Canadian Forces Recruiting Education and Training System (CFRETS). At the Command level there are three full time personnel dedicated to CCM and at the Wings the number of part-time personnel involved has varied from a low of four to a high of ten.

2.9   *Flex ABM* used in conjunction with *Power Play* was the software combination selected by Air Command and has served as a key building block for the CCM capability. The Air staff is coordinating its CCM development work with the team responsible for the implementation of FMAS in support of achieving the goal of one departmental ABC system.

Environmental Chief of the Land Staff

2.10   Activity on ABC is more recent among the Land Staff and has been driven largely by a critical cash shortfall looming on the horizon for FY 98/99. Recognizing the need to better understand its costs and to align with the Business Planning process the Land Staff have been engaged in an intensive effort to build "…..an integrated cost and performance management system for users of Business Planning at all levels and for all capabilities within the Land Force to meet forecasting and reporting requirements of Strategic Operations and Resource Planning (SORP)…."[3] While the Land Force looked closely at the CCM concept they did not subscribe to its functional orientation. Choosing to go with a more process oriented approach, this environment has built its own system taking a bottom-up approach. *Oros* (the network version of *Easy ABC*), has been the software of choice for the Land Forces. To date, the Land Staff have spent $2.2M on contracted support and are currently applying 2 full-time personnel in support of their ABC effort.

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[3]Land Force Command, LF Activity Based Costing Development Report, 30 Sep 97

2.11   The Land Staff will progress current development of their ABC capability as far as populating their models. This activity is scheduled for implementation early in calendar year 1998.   Beyond that point significant decisions will have to be taken on the way ahead for activity based costing within the Land Forces. While the Army is committed to moving forward with ABC, it also wants to minimize the risk of proceeding in a direction that does not align with development of the Department's corporate level SAP R/3 capability.

Environmental Chief of the Maritime Staff

2.12   Like the Land Staff, the Maritime Staff also looked at the merits of Air Command's CCM approach. Maritime Command engaged consultant support to complete prototype implementation of ABC in selected sections of MARLANT and MARPAC to determine the way ahead with respect to software and approach. The lessons learned and dollar resources were subsequently devolved to the Formations who are continuing implementation of low level models. The key results of the prototype implementation were:

a.   taking of the decisions to carry on implementing ABC at low level units within the Formations while the Chief of the Maritime Staff (CMS) personnel worked with FMAS staff to develop the PRAS and other high level models;

b.   taking of the decisions to match the size, complexity and cost of the software tool with the level of model being implemented (*Easy ABC* versus *Flex ABM*) and benefiting from a one-time sale of software (15 copies of *Easy ABC* for $21K); and

c.   lessons learned were passed on to Formations and the funding was devolved.

2.13   The MARCOM staff estimated they have spent $1.5M on contractor support and have six personnel across Headquarters, MARLANT and MARPAC, working part-time on their ABC initiative. Various unit personnel are involved in the cost modelling on an as required basis.

2.14   The MARCOM staff interviewed indicated that ABC development, while not far reaching across the Command, has been educational for those involved and they believe that the benefits of the education will pay dividends regardless of the direction of the Department's ultimate corporate level approach to ABC.

ADM(Mat)

2.15   ADM(Mat) has three pilot ABC projects at various stages of development. The first pilot, within the Director General Aerospace Equipment Program Management (DGAEPM), was developed to support the AIRCOM CCM initiative, with an activity based costing view, and has been up and running for more than a year. The other two pilot projects under development are in 202 Workshop and Chief Research and Development (CRAD). These two sites have been given a priority for ABC development as 202 Workshop has been identified as a potential alternative service delivery (ASD) candidate and CRAD has a requirement for more detailed costing information to support evaluations of joint industry proposals. ADM(Mat) has avoided committing to any particular software in order to maintain flexibility with FMAS development. Consequently there are currently two ABC softwares in use within the Group; *Flex ABM* and *HyperABC*. There is also a Group initiative to develop a datamart to extract actual expenditure data from the FMAS, CFSS and Personnel systems and provide it to the Group's ABC systems.

2.16   ADM(Mat) estimates having spent approximately $1.5M to date using contractor expertise to advance their ABC capability. As well, the Group is currently applying two FTEs and three to five part-time personnel in support of their effort.

2.17   ADM(Mat) staff feel that with the magnitude of the Group's expenditures and the extent of its budget cuts, they require improved cost information within the short term and cannot afford to wait for the FMAS delivery of a DND/CF corporate level ABC capability. The Group, however, does maintain its commitment to FMAS ABC and plans to link up with this system once it is available.

ADM(Per)

2.18   The Canadian Forces Recruiting Education and Training System (CFRETS) has undertaken to develop an ABC capability to assist management decision-making related to activities at CF schools. For this initiative, the CCM approach was taken including the adoption of the Resource Consumption Management Information Interface (RCMII). To date, CFRETS has spent approximately $140K in contractor support to advance their ABC capability. These expenditures have been complemented by the application of between 2.5 and 4.25 FTEs to their effort over the past two years. Not all schools have been brought on line, but implementation is being accomplished in a staged approach, similar to the way in which CCM was put in place at Air Command.

2.19   ADM(Per) is also planning to adopt CCM as its costing capability at NDHQ. This Group's developmental efforts are benefiting from the consultative assistance of one of the team members, from Consulting and Audit Canada that put CCM in place in AIRCOM. Approximately $15K has been spent on contractor support with between one-half and three quarters of a FTE applied towards ADM(Per)'s NDHQ ABC efforts. In taking advantage of the methodology, the knowledge of experienced developers of CCM and the associated principles and concepts of this approach, ADM (Per) hopes to shorten the implementation period and by adopting a proven costing capability has been able to avoid considerable up-front development costs.

PART III

MAJOR ISSUES

3.1   During discussions with interviewees representing major Commands and Groups several significant issues surfaced repeatedly. Accordingly these issues are raised for consideration.

Expectations

3.2   A recurring theme, in remarks relayed to the review team, was related to user expectations about the Department's end-state ABC capability. Individuals closer to the ABC capability development process tend to have more conservative expectations, whereas those who are less involved tend to have higher expectations. In an effort to determine if strategies could be pursued to assist in the management of expectations, the review team probed to determine potential drivers of the high expectation levels.

3.3   The results of the CRS review team's preliminary assessment point to some myths that we believe are driving some of the unrealistic expectations. The first *myth* is that *low level costing information will be widely available and readily accessible to the average manager at his or her desk top*. Some models will be available to managers to assist in the taking of decisions based upon certain ranges of parameters. Models will need to be modified and maintained, however, and indeed new models will need to be created. The Department's intention, by putting an ABC capability in place, is *not* to turn every manager and operator into an accountant. Accordingly, as much of this development and maintenance work will need the expertise of a professionally trained accountant, it is the review team's assessment that the manager will not necessarily always have the desired or required costing information readily available at his or her desk top at the touch of a button. On the other hand, once the models have been developed and as long as they are appropriately maintained, managers will have a powerful costing capability not previously available to them.

3.4   This first myth is further complicated by departmental efforts, in the past, to respond to observations concerning DND's cost management systems - particularly as these systems are used to cost force structure scenarios. In one such response the Department included the following statement "......with the introduction of activity based costing, it will become relatively simple to accurately determine the costs associated

with any particular force option....."[4] While this may be the long term goal, use of the words *simple* and *accurately* in the context of ABC has the potential to disproportionately raise expectation levels inside and outside the Department.

3.5   A second *myth* is that *an ABC approach will meet all costing requirements*. There will still be times, even after Department-wide ABC implementation, when applying a standard cost, such as a factor for a component of military pay, is more appropriate than engaging in the complexities of ABC. Given the materiality of the cost factors underlying a decision or the existence of some other circumstances, there will be cases where ABC is simply not applicable.

3.6   While a significant amount of briefing time has been invested, particularly by the FMAS team, in attempting to clarify the phased approach to ABC implementation, some interviewees expressed concern that *there is still a belief that a fully functional corporate level ABC capability will be in place 1 Apr 98*. Although there is considerable activity underway in the three Commands and in some Groups, belief by other organizations that a fully functional corporate level ABC capability will be in place 1 Apr 98 increases the risk of these organizations being complacent in their own development work on ABC. As discussed in the paragraphs under the heading *Interoperability with SAP R/3* (immediately following this section of the report) the ABC capability within SAP software is still in early stages of testing by the FMAS Team. Accordingly, at this stage, there remains considerable uncertainty about the end-state capability of ABC within SAP R/3. In order that they have at least a minimal ABC capability over the next several years, organizations within DND and the CF are going to have to do development work on their own and will not be able to rely entirely on the FMAS to provide this capability.

Interoperability with SAP R/3

3.7   Universally, representatives of Commands and Groups expressed concerns with respect to the interoperability of the ABC capabilities that they are currently developing and the end-state SAP R/3 software which will drive the new FMAS. The ABC capability that is expected to exist as a component of the SAP program is in early stages of testing at this time in DND. The goal of the team developing FMAS is to

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[4]Office of the Auditor General, **National Defence - Follow-up of the Auditor General's 1994 Report**, Report of the Auditor General of Canada - November 1996, pp35-9 -   35-10

provide an ABC capability within the new accounting system to enable drill down from level 0 Business Plans to level 5. It is not planned that the full capability will be in place before 1 Apr 00.

3.8   Despite significant efforts on the part of the FMAS team and others to find other complex service-delivering organizations, that have developed an ABC capability within an accounting system operating on SAP R/3 software, none have been identified. Representatives from SAP Canada Inc., when approached by some DND/CF personnel, have indicated that SAP R/3 can provide the required capability, but when asked on some of the specifics of how this might be accomplished answers are more vague. An upgraded version of SAP R/3 software is being developed, but details on these enhancements are not yet fully known. While current estimates from SAP Canada indicate a planned release date for the updated version, of summer 1998, whether or not it will be beneficial for the Department to adopt it is a judgement that will need to be made by the FMAS team based on a range of factors. Taking account of lead time involved in implementing a new software, migrating existing models and developing required training, considerable testing and development remains to be done in order for FMAS to achieve its milestone for full implementation by 1 Apr 00.

3.9   In the interim, Commands and Groups are looking for assurances that their development work is consistent with anticipated FMAS ABC development and that local Command/Group systems will be able to down-load data from SAP into their various ABC softwares . Considering the early stages of testing of the high level FMAS ABC capability, the FMAS team is not well-positioned to provide more concrete assurances to Commands and Groups at this time. Accordingly, feelings of unease persist and are impeding the progress of some of these locally developed ABC capabilities that are needed now. Although this uncertainty remains valid, the FMAS project team has a priority tasking to create a down-load that is intended to provide FMAS data to existing ABC systems.

3.10   Another aspect of interoperability that presents challenges for the Department is the continued proliferation of corporate level stovepipe systems in support of major functional areas such as finance, materiel management and personnel management. The review team was advised that one of the strengths of the SAP R/3 software is its fully integrated capability when all components of the software function together. With decisions having been taken to purchase several separate major corporate systems, some significant issues come to the surface:

    a.   the development of a corporate level ABC capability becomes more complex as interoperability between the SAP R/3 software and other major systems becomes a consideration;

b.   determining accountability for overall system functionality becomes difficult with several major systems interconnecting; and

c.   Commands and Groups striving to develop interim ABC capabilities must be concerned with interoperability with other major systems, in addition to SAP R/3.

3.11   While the planned Common Data Exchange Facility (CDEF), sponsored by the Department's Chief Information Officer (CIO), is intended to address some of these interoperability challenges, it is not planned to be in place before FY 01/02.[5]

Overarching Framework for ABC Development

3.12   As indicated in PART II of this report, under *ABC - A Capability in Development in Commands and Groups*, organizations in DND and the CF have gone very much their own way in developing their individual ABC capabilities. This is not necessarily a bad approach in that "a best way" for the Department to proceed corporately could emerge from this development work. The down side is that if these stovepipe systems proliferate and are sustained, the interoperability challenges are magnified by the numbers of differently configured/structured ABC systems that intend to benefit from SAP R/3 as a source of data.

3.13   An overarching framework providing certain conventions for ABC capability development would, at the very least, provide some assurances of commonality among systems, thereby contributing to the comparability of resultant data. The more time that elapses before the development of a corporate level guiding framework, the greater will be the risk of investments being made by Commands and Groups in capabilities that are not generating comparable information.

3.14   Furthermore, the lack of a standardized framework jeopardizes the likelihood that Business Planning cost information will be aggregated in a consistent manner. This will make it difficult to perform comparisons among CCs and will impact on the accuracy of the reported costs of the Department's three business lines (Defending Canada, Defending North America and Contributing to International Security).

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[5] Defence Information Systems Organization (DISO), Level 1 Business Plan FY 1998/99 - 2002/03, 15 Jan 1998, p16

3.15   ADM(Fin CS) has acknowledged the requirement for a costing framework to guide the development of the various ABC systems.   However, resources are not scheduled to be applied to this initiative until later in FY 98/99. Once resources can be made available to develop a departmental ABC framework, DND and the CF will be better positioned to progress ABC development. The framework should contribute to consistency of information presented in Business Plans as well as further educate managers and promote the use of DND-oriented costing conventions in day-to-day decision-making.

3.16   In 1994 ADM(Fin CS) issued "The Costing Handbook" which was developed to help managers at all levels in the preparation of cost analyses. The Appendix to the handbook devoted to activity based costing provides some core concepts and definitions related to ABC, but only deals with the subject in a rudimentary way. A major re-write of The Costing Handbook is planned as much of the current content is now considered to be outdated. An update to the handbook presents the opportunity to appropriately highlight the Department's plans to embrace activity based costing. If future rewrites of The Costing Handbook were to include specific examples of costed DND activities, several objectives could be accomplished:

     a.   managers and operators could be more inclined to consult, The Costing Handbook, which would contribute to ADM(Fin CS)' objective "....to help managers at all levels in the preparation of cost analyses......"[6];

     b.   managers and operators would have access to another source of information to improve their general awareness and knowledge of ABC; and

     c.   these costed examples could complement other developmental work on an overarching ABC framework.

Training for a Departmental ABC Capability

3.17   There are several dimensions to the ABC training challenge faced by DND/CF. The training currently available to DND/CF staff is primarily from the private sector, which tends to take a high-level, manufacturing approach. Course participants often come away from these courses with high expectations that an ABC system will answer all costing questions with minimal effort. While many of these courses are helpful in conveying the concepts of ABC at a fairly high level, it is difficult to put many of the private sector examples in a military context. Similarly, the uncomplicated examples

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[6]ADM(Fin CS), **The Costing Handbook**, December 1994, PREFACE

often cited for training purposes do not always give students an adequate appreciation of the difficulties of real-world modelling in a complex Department such as DND. Despite some of the weaknesses cited, these courses can be very helpful, particularly to those who have limited or no background in ABC. Accordingly, potential ABC users who do not have the opportunity to attend any training on the subject matter will be at risk of not understanding the concepts of ABC and could fail to see the benefits that ABC has to offer the Department and indeed their own organizations.

3.18   While the FMAS project will not be providing any theoretical/conceptual ABC training, Canadian Forces Management Development School (CFMDS) in St. Jean is preparing such a course in order to teach ABC theory within a DND context. Representatives from the FMAS team, individuals involved in the departmental Business Planning process as well as other representatives working on local ABC initiatives will be involved in evaluating the initial version of the course. Due to a significant demand for the conceptual/theoretical training to be made available as soon as possible, CFMDS is preparing to deliver the course early in the 1998 calendar year. Lack of a DND/CF corporate level framework for ABC development will make inclusion of DND-specific costing principles and conventions in course materials more difficult than if an agreed framework were already in place.

3.19   Tailored ABC courses, such as the one to be offered by CFMDS, should also aid in modifying user expectations so that they have a clearer idea of what is involved when working with ABC and the benefits that such a capability can bring to the Department. CFMDS personnel developing the ABC course could work with ADM(Fin CS)' Directorate of Managerial Accounting and Comptrollership (DMAC) staff to determine an appropriate way of including costed, specific DND activities in the course content. This CFMDS initiative could also capitalize upon this training opportunity by encouraging course participants to apply some basic cost analysis techniques in their day-to-day decision-making, thereby strengthening a desired departmental cultural trait of greater cost consciousness among managers. As well, another important course objective should be to improve CF member and civilian staff receptivity to the implementation of a full corporate ABC system planned for FY 00/01.

3.20   At this early stage in the development of the Department-wide activity based costing capability, specific plans have not yet been made to provide training for potential users of SAP R/3 ABC. The review team has been advised that ABC software training will be a component of FMAS Phase II. Clearly, implementation of a Department-wide ABC initiative as part of FMAS would not be complete without the required software application training to enable users to derive maximum benefit from the capability.

Benchmarking DND's Approach to Implementation of ABC with Other Organizations

3.21   There is a considerable amount of literature available on activity based costing and activity based management. Some of this information is referenced in the bibliography to this report, at ANNEX A. The principles found in the literature range from the generic to the more specific and the applicability of these principles to one's day-to-day work depends largely upon individuals' responsibilities for their respective ABC initiatives.

3.22   The CRS review team found its membership to the *International Benchmarking Clearinghouse* sponsored by the American Productivity and Quality Centre (APQC) - based in Houston, Texas - to be a useful source of benchmarking information on activity based costing/activity based management (ABC/ABM). While the review team recognizes that ABC and ABM are not the same thing, a sound ABM system cannot be put in place without the support of a reliable ABC system. Similarly many of the principles behind the development of activity based management are equally as relevant in the context of activity based costing. Copies of an *International Benchmarking Clearinghouse*[7] document on ABM have been provided to the three Commands and the two NDHQ Groups that were consulted during this review.

3.23   The CRS team's research indicates that there is considerably more written on the experiences of companies and corporations that have implemented ABC/ABM than there are public sector examples. Accordingly, when looking at best practices findings, such as those cited at ANNEX C to this report, and one reads about "...13. Linking ABM information systems to compensation encourages operational and user ownership...."[8], this concept needs to be put in a public sector context. While developing the linkage between development work in ABC and compensation through performance pay/bonuses is possible with civilians in the management group and military personnel at the colonel rank and above, accomplishing this linkage for less senior personnel in the public sector is not as clear. Recognition and Rewards programs, while not necessarily as straightforward as some of the private sector pay bonuses or stock options, however, offer opportunities to develop this important linkage as recommended in best practices.

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[7]American Productivity & Quality Center, International Benchmarking Clearinghouse, **Activity Based Management II: Best Practices for Dramatic Improvement**, 1997

[8]Ibid

3.24   As discussed earlier in PART III of the report under *Interoperability with SAP R/3,* significant efforts by FMAS team members, and some Environmental Chiefs of Staff representatives, to find comparable organizations with an ABC capability within their respective financial and managerial accounting systems operating with SAP software continue. Accordingly, it is possible for DND to benchmark with other organizations conceptually and theoretically, but when it comes to finding concrete examples of comparable organizations that have actually put SAP R/3 software in place with an ABC capability, it appears that there are none.

Further Review Work

3.25   The ABC component of the FMAS is currently in its embryonic stages, with only the highest level models under development. Further, the CRS review team found a considerable degree of consistency in the information relayed to the team by Commands/Groups and others external to DND and the CF. Accordingly, we believe that little if any new information would be obtained if the team were to probe more deeply into the progress of ABC in the Department and the CF at this time.

3.26   There are potential assistance roles that CRS can fulfill, however, which are reflected in PART IV of this report under *Recommendations*.

PART IV

CONCLUSIONS

4.1   Generally, there is a forward movement by major departmental organizations towards establishing an ABC capability. While methods and approach differ, the key Commands and Groups behind the development effort are all working towards capabilities that will be closer to ABC than the Department has had previously.

4.2   Expectations with respect to the functionality of a corporate level ABC capability are high, although personnel who work closely with current ABC development tend to have a more realistic understanding. There are strategies that can be pursued that would contribute to keeping user expectations more in line with reality.

4.3   There are concerns in Commands/Groups that interoperability issues relating to independent departmental ABC capabilities and the new FMAS remain as outstanding questions at this time. These concerns are serving as a considerable source of anxiety among stakeholders. At the time of writing this report, the feasibility of end-state interoperability between current ABC development and the FMAS SAP R/3 software is unknown. Departmental stakeholders are frustrated by a lack of awareness on progress being made in addressing interoperability issues. Additionally, the continued proliferation of corporate level stovepipe systems within the Department serves to sustain these levels of anxiety being experienced by Commands and Groups. The FMAS team recognizes the importance of the flow of data in support of ABC. Accordingly, one of their priority taskings is to create a down-load that is intended to provide FMAS data to existing ABC systems.

4.4   Currently, ABC capabilities are being developed independently, without a common departmental framework or definitions. The absence of such an overarching costing framework to guide the development of ABC models significantly increases the risk of stovepipe ABC systems generating information that is not comparable among Commands and Groups. This could result in costing information being included in Business Plans that is not comparable across Commands and Groups and, hence, could impede the cost information roll-up capability of the Business Planning process. The next update/rewrite of The Costing Handbook[9] presents the opportunity to address ABC in practical, layman's terms and to complement the development of an overarching costing framework for ABC for the Department.

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[9]ADM(Fin CS), **The Costing Handbook**, December 1994

4.5   At the time of this CRS review, neither theoretical nor software-based ABC training had been explicitly provided for as part of the first phase of the FMAS project. Software training for the ABC component is planned for Phase II. While theoretical/ conceptual training will be provided for through CFMDS, it will be important for this training development work to be completed in consultation with the ADM(Fin CS)' DMAC staff.   Although current training efforts include tailoring courses to a DND/CF ABC context, there will need to be an assurance of consistency between the training delivered and the corporate direction taken by the Department with respect to ABC.

4.6   While there are many organizations external to DND that have put activity based costing and activity based management systems in place, there do not appear to be any comparable ones that have a financial and managerial accounting system in place operating with the SAP R/3 software that also has an integrated ABC component. Accordingly, organizations striving to develop an ABC capability can benefit at least to some extent from the best practice experiences of others who have gone before DND and the CF on this front, but will not have comparable concrete examples to turn to with respect to ABC working within an SAP R/3 system.

4.7   While the potential for CRS to advance the progress of ABC development in the Department by conducting further review work at this time is low, there could be value in revisiting this area early in calendar year 1999. By that time the ABC capability of the FMAS should be clearer and development of a departmental framework, including conventions and definitions, should be well-advanced.

4.8   There is potential for the CRS Branch to contribute to advancing ABC development in the Department outside of the Branch's traditional review mandate, but within the scope of its responsibilities to provide assistance to organizations. These opportunities are discussed further in the *Recommendations* section of the report, immediately following.

RECOMMENDATIONS

4.9   It is the CRS review team's assessment that there are several issues that can be addressed in a single recommendation, whereas others need to be approached individually. In order to clearly present the CRS recommendations and ensure an adequate reflection of management comments, the format of this part of the report is as follows:

Issues: indicates the issues to be addressed in the recommendation;
Recommendations: CRS recommendations addressing the issues;
Status: the status of the issue at the time of the release of the report; and
Management Comment: highlights of Command & Group responses to these issues.

Issues: *Management of Expectations and Interoperability Issues*

4.10 a. management of DND/CF personnel expectations with respect to the end-state ABC capability of the FMAS;

b. Groups and Commands have concerns with respect to the interoperability of their ABC capabilities with FMAS (operating with the SAP R/3 software) and with other stove pipe systems that continue to proliferate;

Recommendations

4.11 a. CRS write a D2000 Newsletter article providing a current status on the development of the ABC capability within the FMAS project. The article should also highlight the availability of the FMAP Newsletter in both hard copy and through the ADM(Fin CS) intranet site on the Defence Information Network (DIN) for updates in the future;

Status: *CRS has submitted an article for publication in the Apr 98 D2000 Newsletter.*

b. CRS assist OPIs with wording of responses to reviews of cost management systems in order to minimize the risk of overstatements with respect to the Department's future ABC capabilities;

Status: *CRS action OPI has been advised of this requirement*

c. FMAS team regularly communicate further updates on ABC issues of interest to a broad audience highlighted at sub paras 4.10 a & b through the FMAP Newsletter. FMAS team provide information on the current SAP R/3 version and subsequent upgrades of this software on a regular basis through the FMAP newsletter.

Status: *FMAS Project Director has expressed interest in further exploiting opportunities offered by the FMAP Newsletter to provide more communication on the progress of ABC within FMAS.*

Management Comment (ADM(Fin CS)): *FMAP staff have a priority task to create a download that will provide FMAS data to existing ABC systems. FMAP has been in contact with CCs with ABC initiatives and are using the CC3 requirements to ensure the download meets the need. The FMAS data record layout will be different from FIS Mk III, necessitating changes to ABC interfaces.*

Management Comment (CAS): *Meetings have been held between FMAP members and CCM project team players from 1 CAD HQ, CFRETS and ADM(Mat) to work out potential (interoperability) problems.*

Management Comment (CMS): *ABC is not a day-to-day costing tool that is updated on a daily basis, it is a decision support tool that will show the flow of costs across processes. It can be used for cost-awareness from process output, and client perspectives. The degree of detail required diminishes as you go higher up the organization. Indeed, high level models could easily become bogged down by details if the degree of granularity is too high. As each model is designed to provide specific answers for the model-owner, one multi-level model will not the meet the needs of all users.*

Issue: *Independent Development of ABC Capabilities*

4.12   ABC capabilities are being developed independently, without a common departmental framework or definitions;

Recommendation

4.13   ADM(Fin CS) issue, as soon as practicable, an ABC developmental framework for the Department, including corporate definitions and conventions, to support a consistent approach to ABC development work.

> **Status**: *The ADM(Fin CS) Business Plan for FY 98/99 includes provisions for development of a framework for ABC for the Department and the CF. This item has been referred to DMAC staff for review.*

> **Management Comments:** *ADM(Mat) has suggested bringing together the key stakeholders for one or two days to share their experiences/achievements on their respective ABC development work. This type of initiative has the potential to contribute to advancing the corporate level ABC framework. ADM(Mat) also suggested a "one interim ABC model that will be transportable to FMAS ABC when it comes".*

Management Comment (CMS): *The PRAS model will provide the linkage between all CC's with respect to overall costing of the DPG. Again, it is necessary to reiterate that each model is designed to meet a specific manager's decision support needs. A listing of the type and source of dollars that should be included in all models, i.e., O&M, MR, SWE, etc, along with a listing of generic activities could assist in initial model development and standardization of terminology and framework.*

Issue: *Training*

4.14   Software based training for ABC has not yet been specifically provided for as part of FMAS Phase I, but CFMDS is currently in the process of developing a course to address the concepts and theory.

Recommendation

4.15   a.   DMAC/CFMDS staff explore the feasibility of including the costing of DND-specific activities in the ABC conceptual/theoretical course for delivery to managers/operators and take subsequent action accordingly;

      b.   DMAC take account of the departmental initiatives to adopt ABC, when preparing the next major revision to The Costing Handbook; and

      c.   as the end-state ABC capability within SAP R/3 becomes clearer, the FMAP team make appropriate provisions for software training for departmental users.

             Status: *SAP R/3 ABC training is a (*FMAS*) Phase II deliverable. CFMDS is now delivering conceptual / theoretical courses on ABC.*

Management Comment (ADM(Per)): *...the recent CFMDS initiatives of organizing an ABC course for tactical level ABC will be ... suitable for most "working level" personnel engaged in ABC development. However, it is understood that in an effort to provide an ABC course suitable for personnel from all CC's, the course syllabus for this course will be very generic in nature - i.e., not using any particularly known software. This initiative might not be in line with the training plans of some CCs as their personnel will have to be retrained to the selected software in their own Commands/Groups upon return from this CFMDS ABC course.*

Issue: *Benchmarking*

4.16   The results of benchmarking work need the widest practicable dissemination in order that the Department/CF can leverage that work to its greatest benefit;

Recommendations

4.17   a.   FMAS team make benchmarking/best practices ABC information that would be relevant to Commands and Groups known through the FMAP Newsletter; and

Management Comment (ADM(Fin CS)): *FMAP has a continued commitment to keeping its user community informed of general ABC developments both through the newsletter and other fora. ABC staff from both FMAP and Commands/ Groups regularly attend Treasury Board's ABC User Group; hence they tend to be equally informed of issues and best practices that currently face the government ABC efforts.*

   b.   as Commands and Groups become aware of local benchmarking/best practices ABC information, provide that information to the FMAS team either for its own use or for dissemination through the FMAP Newsletter.

Management Comment (ADM(Fin CS)): *Command and FMAP ABC staffs communicate frequently on ABC issues, courses, literature and examples. During Phase I implementation, the project has unfortunately not had the resources to coordinate all Command and Group ABC efforts.*

Issue: *Further Review Work*

4.18   Further review work on ABC could be pursued by CRS;

Recommendation

4.19   a.   due to the low potential for return, CRS not pursue further review work on ABC at this time; and

Management Comment (ADM(Fin CS.)): *Further assessment of ABC practices in DND/CF may not be required in the near future; however, CRS staff should be an active participant in the development of the ABC costing framework as well as the PRAS ABC costing model. CRS participation is recommended since the*

OAG and CRS will ultimately audit the reports to Parliament which will be partially based on results from the PRAS ABC model. Consequently, CRS' early participation in this development is viewed as necessary.

Management Comment (CMS): *The report indicated that there is little potential for CRS to advance ABC development in the Department by conducting further review, nevertheless, it seems that CRS could be more actively involved in the development of the PRAS model to ensure the results meet the requirements.*

b.   in light of planned milestones for the FMAS project, CRS revisit the appropriateness of conducting further review work on ABC early in calendar year 1999.

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4. Mr. Barney de Schneider, Treasury Board Secretariat, Chairman Interdepartmental ABC Working Group

5. LCol R. Charlebois, DMAC 2

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7. Ms. Robin Dinardo, LFC Compt

8. BGen Dunlop, former DMAC, FMAS Project Co-Sponsor

9. James Fong, ADM(Per) Compt 2-2

10. Col Hearn, LFC Comptroller

11. Mr. Dave Jardine, SAP Canada Incorporated, Solution Consultant, Public Sector Business Unit

12. RAdm G. Jarvis, DG Fin

13. LCdr Eric Kahler, DMG Compt 2-6

14. Mr. Paul Labrosse, DMG Compt, ADM(Mat)

15. LCol Kennedy, DFPPC 8

16. Cdr MacIsaac, MARCOM Compt 2

17. Ms. Ève Mailhot, CFMDS

18. Mr. Jim McManus, SAP Canada Incorporated, FI/CO Consultant

19. Maj Morrow, Deputy Project Director, FMAS Team

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25.   Mr. Paul Sharman, ABC Consultant

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27.   Col Smith, DBudget

28.   Mr. Guy Theriault, A/CIO

FOURTEEN KEY FINDINGS FROM THE ACTIVITY
BASED MANAGEMENT II BEST - PRACTICE REPORT

Systems Best Practices

1.   Companies are investing more in systems integration/systems linkages.
2.   Data integrity is given high priority.
3.   Access to information is viewed as a key issue in the successful use of ABM information systems.
4.   Timing and its multiple dimensions are viewed as central in systems decisions.
5.   The information systems resource commitments that best-practice companies make are appropriate to the decision applications.

Reporting Best Practices

6.   Customization of reports is viewed as an on-going part of systems development.
7.   There is greater recognition of the benefits of reports comparing costs (and other variables) across multiple units.
8.   Reports at best-practice companies give high priority to revenue enhancements and value creation.
9.   Innovative data display/user interface is viewed as a high priority.

Transfer of Ownership Best practices

10.   Linking ABM information to operational goals/objectives and improvement initiatives is crucial for success.
11.   Successful pilot tests/efforts prove the value of ABM initiatives through early wins.
12.   ABM implementations should be operationally funded and operations driven.
13.   Linking ABM information systems to compensation encourages operational and user ownership.
14.   Operating personnel develop ownership of ABM information through periodic review and documentation of results.