



Procurement across DRDC:

A Comprehensive Internal Assessment

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Defence R&D Canada
Centre for Operational Research and Analysis

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Abstract

Considerable effort has been devoted to improving the DRDC procurement system. This is important in two ways. Firstly, the DRDC business model is based on fifty percent of the budget devoted to internal delivery of research programs and fifty per cent on external delivery which is done mainly through contracts. Secondly, the Defence Science and Technology Strategy relies on procurement as an enabler for the development of industry expertise and competitiveness. Past efforts have focused mainly on addressing issues with the process. While improvements have been observed, it is evident that there are larger cultural issues that should be addressed, as procurement remains one of the largest irritants to advancing science Agency-wide. To develop a comprehensive cross-organisational solution that deals with the issues from multiple perspectives, data were collected through interviews with senior leadership, focus groups with procurement staff, and from a questionnaire administered to the personnel across the DRDC Enterprise. The major finding is that the Agency must adopt a strategic approach to procurement. Relationships have to be developed between DRDC Centres and Public Works and Government Services Canada. Contracting vehicles ought to be developed that address the unique requirements of the various DRDC Centres. Improving communication within and between organisations is a key mechanism that will require considerable effort as it is fundamental for any significant change to occur. Finally, information on the process and training for users will aid in developing a procurement system that will cultivate partnerships with industry and academia while enabling delivery on research programs, communications that include a vision of industry engagement, and delegation of authority.

Résumé

On a déployé des efforts considérables pour l'amélioration du système des acquisitions de RDDC, ce qui est important à deux égards. Tout d'abord, le modèle de gestion de RDDC est fondé sur le fait qu'on consacre cinquante pour cent du budget à l'exécution des programmes de recherche à l'interne et cinquante pour cent à l'exécution à l'externe, ce qui se traduit principalement par des marchés. Deuxièmement, la Stratégie scientifique et technologique pour la Défense compte sur les acquisitions comme facteur favorisant la compétitivité et le perfectionnement de l'expertise dans l'industrie. Les efforts passés étaient surtout centrés sur le règlement des questions relatives au processus. Bien qu'on ait observé des améliorations, il est évident qu'il y a des questions culturelles plus vastes à régler, les acquisitions demeurant l'un des plus grands irritants en ce qui concerne le progrès de la science à l'échelle de l'Agence. Pour élaborer une solution interorganisationnelle exhaustive qui abordera les diverses questions sous plusieurs angles, on a recueilli des données au moyen d'entrevues avec la haute direction, de groupes de discussion formés d'employés affectés aux acquisitions et d'un questionnaire rempli par le personnel de toute l'entreprise de RDDC. La principale conclusion est que l'Agence doit adopter une approche stratégique pour les acquisitions. Il faut établir des relations entre les centres de RDDC et Travaux publics et Services gouvernementaux Canada. Des véhicules de passation de marchés répondant aux besoins uniques des divers centres de RDDC doivent également être élaborés.

L'amélioration des communications au sein des organisations et entre celles-ci est un mécanisme fondamental qui nécessitera des efforts considérables puisqu'il est essentiel à la réalisation de tout changement important. Enfin, les renseignements sur le processus et la formation des utilisateurs contribueront à l'élaboration d'un système d'acquisition favorisant les partenariats avec l'industrie et le milieu universitaire, tout en permettant la réalisation des programmes de recherche, des communications incluant une vision d'engagement de l'industrie et la délégation de pouvoir.

Executive summary

Procurement Across DRDC: A Comprehensive Internal Assessment

Katherine Banko; DRDC CORA TM 2009-045; Defence R&D Canada – CORA

Introduction

One key feature of the Defence Research and Development Canada (DRDC) business model is the delivery of the R&D program, which is 50% accomplished by internal resources and 50% accomplished by external S&T performers (industry and academia), mainly through contracts. The DRDC procurement capability has gradually eroded over the years, as a result of the mid-90s budget reductions, which particularly affected corporate services, and subsequent efforts to streamline procurement while accruing savings to be re-directed to the science program. A review of DRDC contractual risks by Chief Review Services pointed out significant weaknesses in contracting practices, resulting in the Assistant Deputy Minister Science & Technology (ADM S&T) committing to eliminate all systemic deficiencies in DRDC procurement practices.

Method

To assess the problem from multiple organizational perspectives, it was determined that information was required from: a) Senior Management (Directors General (DG), Deputy Directors General (DDG), Chief Scientists (CS), and Corporate Service Managers (CSM)), b) Procurement clientele (the scientific community) and c) Service Providers (procurement staff).

Interviews were conducted with Senior Management, focus groups were conducted with procurement staff, and a questionnaire was developed to assess the system users' (those who request a contract be issued on their behalf) views on the strengths and weaknesses of the procurement process as well as get an understanding of the breadth and depth of formal training that has been acquired.

Results

Many problematic issues were identified by the interviews with senior management. Guidance and direction is required to align policies to meet the S&T strategic objectives. A range of contracting vehicles and approaches must be identified that are acceptable (i.e., approvable by DGs and ADM S&T) and aligned with the S&T strategic objectives. Delegation of authority must be increased with more flexibility in the allocation of contracting funds. In addition to this, required training and appropriate tools for facilitating the process were identified as enablers.

Procurement staff typically address issues with the current process and lack of tools and staff to do the requisite work. They recommended that a strategic approach to contracting be adopted by the Agency, beginning with the inclusion of their advice in the program planning stage, better oversight provided by the scientific managers, and increased direction and communication of the role and value of procurement from the Senior Managers of the Centres.

Generally, clients highlighted their frustrations with the current system. From their vantage point, they see the process as overly complex and frustrating to the point of individual de-motivation. They have a weak understanding of their own and others' roles and responsibilities in the process. Interestingly, less than half of the respondents involved in contracting have taken formal training.

Recommendations

Based on the findings of this study, it is recommended that:

- Procurement policies be aligned to meet the S&T Strategic objectives;
- Policies be developed for Risk Management
- A communication strategy be developed to improve both intra and inter-organisational exchanges;
- The Agency adopt a strategic approach to procurement (i.e. planning at the highest possible level);
- Training be developed and required of all organisational member users and
- A performance measurement system be developed to ensure that processes are working and uncover areas for continued improvements.

Sommaire

Procurement Across DRDC: A Comprehensive Internal Assessment

Katherine Banko; DRDC CORA TM 2009-045; R & D pour la défense Canada – CORA.

Introduction

L'une des principales caractéristiques du modèle de gestion de Recherche et développement pour la défense Canada (RDDC) est l'exécution du programme de R et D, dont 50 p. 100 se fait avec les ressources internes et 50 p. 100 avec les acteurs du secteur des sciences et de la technologie (S et T), soit l'industrie et le monde universitaire, principalement au moyen de marchés. La capacité d'acquisition de RDDC a graduellement diminué au fil des ans, et ce, en raison des réductions budgétaires du milieu des années 1990, qui ont particulièrement touché les services généraux, et des efforts subséquents pour rationaliser les acquisitions tout en accumulant des économies, lesquelles étaient réorientées vers le programme de sciences. Un examen des risques contractuels à RDDC effectué par le Chef – Service d'examen a révélé des faiblesses significatives dans les pratiques de passation de marchés, ce qui a amené le Sous-ministre adjoint (Science et technologie), soit le SMA(S & T), à s'engager à éliminer toutes les lacunes systémiques des pratiques de RDDC en matière d'acquisition.

Méthode

Pour évaluer le problème sous des angles organisationnels multiples, il a été déterminé que les personnes suivantes devaient fournir des renseignements : a) la haute direction (directeurs généraux (DG), directeurs généraux adjoints (DGA), scientifiques en chef (SC) et gestionnaires des Services généraux), b) la clientèle des services d'acquisition (la communauté scientifique) et c) les fournisseurs de services (le personnel affecté à l'acquisition).

On a mené des entrevues avec la haute direction, tenu des groupes de discussion avec le personnel de l'acquisition et élaboré un questionnaire pour évaluer les opinions des utilisateurs du système (ceux qui demandent qu'un marché soit passé pour leur compte) concernant les forces et les faiblesses du processus d'acquisition et pour comprendre l'ampleur de la formation régulière reçue.

Résultats

Les entrevues avec la haute direction ont permis de relever de nombreuses questions problématiques. De l'orientation et de la direction sont nécessaires pour harmoniser les politiques en vue d'atteindre les objectifs stratégiques en matière de S et T. Il faut établir tout un éventail de véhicules et d'approches acceptables pour la passation de marchés (c.-à-d. que les DG et le SMA(S & T) pourront les approuver) et en harmonie avec les objectifs stratégiques en matière de S et T. Davantage de délégation de pouvoir et plus de souplesse seront nécessaires dans

l'attribution des fonds pour les marchés. De plus, on a déterminé que la formation requise et les outils appropriés pour faciliter le processus étaient des facteurs habilitants.

Le personnel de l'acquisition règle généralement les questions en suivant le processus courant et manque d'outils et d'employés pour faire le travail requis. Le personnel recommande que l'Agence adopte une approche stratégique pour la passation de marchés, à commencer par l'inclusion de ses conseils à l'étape de la planification des programmes, une meilleure surveillance assurée par les gestionnaires scientifiques et l'amélioration de la direction et de la communication du rôle et de la valeur des acquisitions par les gestionnaires supérieurs des Centres.

En général, les clients ont insisté sur leurs frustrations à l'égard du système actuel. Selon ces derniers, le processus est exagérément complexe et frustrant, au point de démotiver les personnes. Ils comprennent mal leur rôle et leurs responsabilités dans le processus, de même que ceux des autres. Fait intéressant, moins de la moitié des répondants qui participent à la passation de marchés ont reçu une formation officielle.

Recommandations

Les recommandations formulées à la lumière des conclusions de l'étude sont les suivantes :

- l'harmonisation des politiques en matière d'acquisition afin d'atteindre les objectifs stratégiques en matière de S et T;
- l'élaboration de politiques pour la gestion du risque;
- la préparation d'une stratégie de communication pour améliorer à la fois les échanges à l'intérieur de l'organisation et les échanges interorganisationnels;
- l'adoption par l'Agence d'une approche stratégique pour les acquisitions (c.-à-d. la planification au plus haut niveau possible);
- l'élaboration d'une formation obligatoire pour tous les utilisateurs membres de l'organisation;
- la création d'un système d'évaluation du rendement pour s'assurer que les processus fonctionnent et pour repérer les secteurs où l'on peut s'améliorer davantage.

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1 Introduction

1.1 Background

One key feature of the Defence Research and Development Canada (DRDC) business model is the delivery of the R&D program, which is 50% accomplished by internal resources and 50% accomplished by external S&T performers (industry and academia), mainly through contracts. The DRDC procurement capability has gradually eroded over the years, as a result of the mid-90s budget reductions, which particularly affected corporate services, and subsequent efforts to streamline procurement while accruing savings to be re-directed to the science program. A review of DRDC contractual risks by Chief Review Services pointed out significant weaknesses in contracting practices, resulting in the Assistant Deputy Minister Science & Technology (ADM S&T) committing to eliminate all systemic deficiencies in DRDC procurement practices.

A combination of events has brought federal procurement under close and constant public and media scrutiny, resulting in the gradual introduction of government-wide layers of regulations, policies and controls governing procurement activities. The increasing level of complexity, delays and bureaucracy associated with federal procurement is being compounded by a shortage of qualified procurement personnel. The Government of Canada (GoC) has identified the need to reform the procurement process to make it more responsive to the needs of government departments and agencies, while respecting the tenets of equity of opportunity, openness, transparency and fair value for taxpayers' money¹. "Fixing procurement" was identified in the 19 November 2008 Speech from the Throne² as a government top priority.

The Department of National Defence (DND) investment in Research, Technology, and Analysis (RTA) in support of the Defence S&T Strategy has introduced some growth for DRDC, which has translated to an increase in the contracting budget in 2008-2009 and further potential growth in the following years. The Agency's procurement capability is a risk to the full realization of its objectives.

Expedition 09³ is the Defence R&D Canada action plan to shape the way ahead for defence and security S&T. The Defence S&T Strategy⁴ identified a number of key enabling practices and capabilities which will permit its successful implementation. Action Three of the strategy, *Build Strategic Partnerships*, involves the development of a process model for managing partnerships, (i.e., partnering arrangements among S&T Enterprise members, an international partnering framework with supporting agreements, and a partnering framework for industrial, academic and other government departments). One of the overarching enablers to build these partnerships is procurement.

DRDC Corporate Services has long been aware of various issues that exist within its current procurement capability. Investigation into the issue began approximately in 2002; an internal

¹ <http://www.faa-lfi.gc.ca/index-eng.asp> retrieved 18 August 2009

² <http://www.sft-ddt.gc.ca/eng/media.asp?id=1364> retrieved 17 September 2009

³ <http://descartes.drdc-rddc.gc.ca/expedition09/default.aspx>

⁴ <http://www.drdc-rddc.gc.ca/sciences/strat/intro-eng.asp> retrieved 18 August 2009

unpublished thirteen page report was generated with 18 recommendations about the process, the organizations, authorities, and tools. The major recommendations included:

- Acquiring common automated procurement and financial reporting tools agency wide until the suitability of Material Acquisition and Support Information System (MASIS) is determined;
- Standardising the process, including forms, across the agency;
- Developing a central database to track assets and contracts;
- Developing a central repository for procurement related information (e.g. standard forms);
- Limiting possession of acquisition cards to procurement personnel;
- Delegating authority to the lowest possible level;
- Integrating procurement and payment staff;
- Increasing the qualification and skills of procurement/payment staff; and
- Creating service level agreements between procurement staff and their client groups.

While some centres fully implemented a few of the suggestions, the majority of recommendations, in particular the standardisation of the process and development of required tools to assist with this, were partially developed but were never put into action⁵. Not surprisingly, there are still major problems and frustrations from the DRDC community with the current process. This is more pronounced now than ever before given the complexity of procurement associated with the increased attention and expectations of the Canadian public and media on the use of public funds. In order to realize the Defence S&T Strategy that relies on procurement as the enabler of the business model, an effective and efficient procurement system within DRDC must be developed. Within the procurement initiative under Expedition '09, it was determined that an expanded scope of examination, which included the 'people' and the 'cultural' aspects associated with the procurement capability, was required to develop a comprehensive solution

1.2 Materiel Acquisition and Support Information System

Although technology is not the focus of this research, it is important to understand Materiel Acquisition and Support Information System (MASIS) and the ways that it will affect procurement across the DRDC Centres, as it will be imposed on DRDC sometime in the future. MASIS is DND's acquisition and support system intended to enable a cost-effective structure to track and manage assets, equipment and weapon systems. It (potentially) integrates finance, procurement, material management, workforce management, operations planning and execution. MASIS is currently used principally by procurement users spanning the three Environments and a core group that manages DND's assets. The MASIS system at this time assists engineers, maintenance technicians, buyers, and supply technicians to prepare work orders, locate parts, plan and execute repairs, and manage the configuration of complex weapons platforms. MASIS is

⁵ A summary of the status of the recommendations made in 2002 by the procurement payment review team can be found in Appendix A.

expected to provide near-real-time reporting of the status of activities. Fall 2008 saw the launch of MASIS; end of rollout is estimated to finish in 2011.

2 Method

2.1 Information Collection

The desire to develop a deep and detailed understanding of the complex issues surrounding procurement and thereby develop a comprehensive cross-organisational solution that resolved the issues from multiple organisational perspectives of participants at different levels of the organisation suggested that a qualitative approach to data collection would be most appropriate. Qualitative data collection techniques include such methods as interviews, focus groups, and open-ended questionnaire. All three types of qualitative data collection methods, depending on the population of interest, were used for this study.

2.2 Participants

The three populations of interest for this research were: 1) Senior management (Directors General (DG), Deputy Directors General (DDG), Chief Scientists (CS), and Corporate Service Managers (CSM))⁶, 2) Procurement clientele (the scientific community) and 3) Service Providers (procurement staff). These populations are not mutually exclusive⁷; in other words, group membership was sometimes overlapping.

For the interviews, a letter of invitation to participate (see Appendix B) was sent to all senior leaders and selected section heads (i.e., those identified by procurement managers as persons highly familiar with the process) of the eight DRDC Centres⁸ as well as the DRDC Corporate Office. In total, 34 people⁹ were interviewed.¹⁰ Interviews took place February and March of 2009.

Focus groups were conducted with procurement staff from five¹¹ DRDC centres (DRDC Atlantic, DRDC Ottawa, DRDC Suffield, DRDC Toronto, and DRDC Valcartier) engaged in handling procurement contracts. Procurement staff were identified by the CSMs and were asked to participate in the focus groups when the researchers were on site to interview senior managers.

⁶ For some DRDC centres, certain Section Heads, identified by the corporate service managers were also interviewed.

⁷ Since the populations are not mutually exclusive, some participants may have had the opportunity to participate in more than one data gathering method. For example, a person may have participated in an interview and also may have completed the client questionnaire. As such, the person would have two opportunities to comment on the strengths and weaknesses of the procurement process.

⁸ The centres are: DRDC CSS, DGMPRA, DRDC Atlantic, DRDC CORA, DRDC Ottawa, DRDC Suffield, DRDC Toronto, and DRDC Valcartier.

⁹ As a result of reading the data, it was discovered that some of the interviewees had consulted with group/team leaders for input prior to the focus groups. As a result, the views expressed from the interviews are from senior managers as well as some group/team leaders.

¹⁰ Although several attempts were made to solicit participation, DGMPRA declined.

¹¹ Focus groups were not conducted with DRDC CSS, DGMPRA, DRDC CORA, and DRDC Corporate Office because, at the time of the data collection, DRDC Ottawa handled the procurement requirements for these organisations as well as their own requirements.

No individuals refused to participate; there were, however, several absences at some centres. Focus groups ranged in size from three to six persons. Two focus group sessions were held at DRDC Valcartier due to the size of their procurement division and the availability of participants. In order to afford participants the ability to speak openly about the process, managers of the procurement staff were not invited to participate in these focus groups.

A questionnaire was developed to assess the system users (those who request a contract be issued on their behalf) views on the strengths and weaknesses of the procurement process as well as get an understanding of the breadth and depth of formal training that has been acquired. The survey was launched at each centre via DRENET and DWAN; 356 respondents completed the questionnaire.

While a majority of clients are DSs, there is a large number of other occupational groups who deal with procurement issues across the DRDC enterprise who also responded to the questionnaire. A list of the occupational groups appears in Table 1. As can be seen from the table, the sample is comprised of persons from a diversity of occupational groups and levels and suggests that this may be a representative sample of the population.

Table 1: Representation of Respondents According to Occupational Group and Level.

Occupational Group Definition	Code	Level
Administrative Services	AS	1, 2, 3, 7
Clerical and Regulatory	CR	4, 5
Computer Systems Administration	CS	1, 2, 3
Defence Scientific Service	DS	2, 3, 4, 5, 6, 7B
Engineering and Scientific Support	EG	2, 5, 6, 8
Electronics	EL	5, 6
Engineering and Land Survey	ENG	3, 4, 5
Executive	EX	1
Financial Administration	FI	1, 2
Firefighters	FR	3
Construction Inspection	GLCOI	10
Electrical Installing & Maintaining	GLEIM	11
Woodworking	GLWOW	10
General Services Stores Services	GSSTS	5, 6, 7
Information Services	IS	2, 3, 5
Library Science	LS	2, 3, 4
Personnel Administration	PE	3
Purchasing and Supply	PG	1, 2
Photography	PY	5
Research Manager	REM	2
Social Science Support	SI	1

2.2.1 Ethical Considerations

For interviews and focus groups, participants were orally instructed that their participation was voluntary, information offered would be confidential, they were asked to orally express their consent, and at the end of the discussions, were made aware of whom they should contact (primary researcher) if they had any concerns. Questionnaire respondents were also made aware of these participatory conditions through a cover letter at the start of the survey.

Due to the nature of the research, it was very unlikely that information disclosed would be distressing to individuals or cause them potential harm. People in supervisory roles or managerial positions over the procurement staff were not invited to participate in the focus groups. Approval to conduct the research was granted by the Social Science Research Review Board (see Appendix C).

2.3 Procedure

For each of the data collection methods, participants had the opportunity to participate in the official language of their choice.

2.3.1 Senior Management Interviews

In order to assess the views of the senior management and gain an understanding of how they perceived the problem as well as what support they would be willing to devote to the solution, it was decided that one-to-one face-to-face interviews would best meet this purpose.

One-to-one semi-structured interviews lasting up to one hour were conducted with informants to explore their perspectives regarding a range of issues to do with procurement. For the Corporate Office, only one DG was interviewed individually; the interviews with other managers were replaced by a joint session involving ADM S&T and all DGs from Corporate Office¹². Six broad questions were generated to guide the interviews (see Appendix D). Although the emergent structure and focus of the interviews varied according to Centre¹³, all interviews attempted to elicit how informants perceived the current procurement system and what was required to improve it. Interviews were conducted at the individual's work place. All interviews were recorded¹⁴ and then transcribed¹⁵ for analysis. Participants were informed at the beginning of the

¹² This change to the method, requested by ADM S&T, could potentially produce a social desirability bias--informants say things they believe ADM S&T wants to hear (whether they are true or not) and/or inhibit informants from discussing negative aspects of the process.

¹³ The structure differed only in terms of the order in which questions were answered by informants.

¹⁴ Audio recording seemed to be the most feasible solution because a) what would potentially be said about the procurement process would not likely be sensitive in nature, b) it would allow for greater validity with the data as a note-taker will not potentially be filtering information due to any particular 'lens' or views they hold about the process and c) previous research has shown that senior management are unlikely to respond to questionnaires.

¹⁵ As a mechanism to control for potential bias, interviews were transcribed by an independent contractor who provides transcription services for a variety of government agencies.

interview that their participation was voluntary, all information would be kept strictly confidential, and data would be reported in aggregate form with any potential identifiers removed. Following the interviews, business cards were left should interviewees have any further information to offer or have any questions about the process.

2.3.2 The Procurement Clientele Questionnaire

A questionnaire was identified as being an appropriate tool to gather information about who uses the process as well as their level of training. The population of interest consists of approximately 1700 people. There are numerous clients, although no specific number can be determined, who contract and given the typical response rates for surveys¹⁶, it seemed reasonable to assume that this method would result in the collection of the required information. The questionnaire was designed to collect demographic information about respondents, knowledge on their formal training, and provide participants the opportunity to comment on the strengths and weaknesses of the current system (See Appendix D). It was known prior to developing the questionnaire that asking open-ended questions to a sample as potentially large as this was unusual and would result in an enormous amount of information.

The survey was launched through the DREnet and DWAN networks and made available to the entire DRDC population for a three week period beginning 1 April 2009. Three hundred and fifty-six respondents completed and successfully submitted the survey¹⁷.

2.3.3 Procurement Staff Focus Groups

There are several (between 4 and 15) procurement staff at each Centre. The staff work as teams but individuals have different roles; some deal with goods/material contracts, others with R&D contracts, and yet others with more generic service contracts. As such, they should be able to report not only on their own perceptions but be able to potentially identify what they feel others deal with from an objective viewpoint. Therefore focus groups seemed to be the most practical approach for a variety of reasons¹⁸ in addition to the number of potential participants including: synergy (the group process typically generates a wider range of information than would accrue from a comparable number of depth interviews), snowballing (respondent interaction that creates a chain of thought and ideas), spontaneity (because no one individual is required to respond to a question, it encourages a spontaneous response when people have a definite point of view and speed (quicker than individual interviews) (Zikmund, 1997). Focus groups were arranged at the various Centres at the same time that interviews were conducted with senior management.

¹⁶ Depending on a variety of factors with the potential to affect response rates, it can be difficult to determine what is the 'typical' response rate. Yet, most references estimate that some value between 5 to 25 per cent is a 'typical' response rate.

¹⁷ It was brought to the researcher's attention that two participants had completed the survey but an error occurred during the submission of the form and the data were lost. There is no way of knowing how often this error occurred.

¹⁸ It is clear that the process of group dynamics responsible for many of the advantages of focus groups can be regarded as a double-edged sword. Some may feel inhibited in a group situation (Hedges, 1985), some publicly agree with the views of others, but privately disagree (Robson, 1990), and the interaction can produce a consensus view (Bloom, 1989)

Seven questions provided the framework for discussion during the focus group sessions (See Appendix D). The items mirrored those from the interviews with the addition of asking what procurement staff thought were the roles of the clients and senior management. These items were added as the procurement staff are organisationally juxtaposed between these two groups¹⁹ which gives them a unique vantage point for observations about the procurement system and its users. Facilitators followed the procedures specified in the focus group moderators' guide (see Appendix E).

2.3.4 Data Analysis Strategy

In preparation for the analysis of the interviews, audio recordings were transcribed. Data collected in the French language were sent to the DND translation bureau for translation into English²⁰. Indexing of primary data was undertaken as categories were inductively generated (Johnson, 1998). All qualitative data (i.e., interview transcriptions, focus group summaries, and open-ended questionnaire items) were scrutinized line by line and informants' responses were coded to generate initial descriptive categories (Strauss and Corbin, 1990). Hierarchical coding was then applied "by hand" (King, 2004) to break down the general themes into categories or subthemes.

¹⁹ On the one hand procurement staff respond to the requirements of the needs of the users. On the other hand, procurement staff submit contracts for approval at the appropriate managerial level.

²⁰ Translation dilemmas have been of concern in qualitative research for several decades (Phillips, 1959). Nuances in meaning between languages have the potential of distorting the detection of data patterns and ultimately the interpretation of the results.

3 Managerial Interviews: Results and Discussion

Thirty-two interviews were conducted with senior management. The interviews uncovered a wide range of issues and difficulties with the procurement process. In terms of content, there was general agreement on the major issues with the procurement system, however, the failures are not homogeneous across the Agency—in some places it is worse than in others. It is important to note that some of the data provided by informants were incorrect. Importantly, this illustrates that not all senior management have a clear understanding of the context of procurement, of the strategic intent, and/or of their financial obligations.^{21 22} The data were grouped into three major themes: Process and Policy, Organisations and their People, and Technology. The text is derived strictly from the interviews. Informants provided data on problems with the system and solutions for improvement. Text that appears in quotations was taken verbatim from interviews. Many of the issues were raised by many of the informants. As such, the text has been blended across multiple informants' responses to inhibit individual attribution and to highlight and provide explicit illustrations of the concerns and solutions. Text appearing in (parentheses) was also taken from interview data and added for clarification when the free flowing text from the transcriptions seemed ambiguous; text appearing in [brackets] was added by the author for further clarification. The data are presented and blended in such a way as to simultaneously address the issues while incorporating solutions as identified by informants.

3.1 Process and Policy

As reported by informants, there are fundamental problems with current policy and its impact on existing procurement processes. The system is designed to “prevent us from doing things that are against the rules” and is “robust in being able to protect the government from misspending funds.” However, this design is one of the primary weaknesses because “it puts so much bureaucratic process into the thing that it is very slow and cumbersome.” It was identified that the current policies for procurement are written for DND large,²³ however, the Agency has different procurement requirements (compared to ADM Mat) and “trying to force fit ourselves under the entire umbrella of DND policies does not fit our mandate.”²⁴ Interviewees reported that this problem is generally a result of the development of a government wide procurement strategy written without consideration of specific S&T requirements. Although it [policy] was “developed with an entirely different agenda; we have been trying to adapt, but often it is looking for ways we can bend rules and regulations to 'shoe horn' fitting in” Currently, there is a lack of harmonisation of policy, and inconsistencies in the application of guidelines. What is required in the long term is changes in policy to meet S&T strategic objectives; in the near term what is

²¹ Personal communication with procurement study team.

²² In these cases, the data were adjusted for accuracy. Corrections appear in footnotes.

²³ The primary source of procurement policy is Treasury Board; hence the policy is written for the whole government of Canada; DND also publishes guidelines and instructions as does PWGSC, and DRDC; procurement processes and policies must comply with of all these guidelines.

²⁴ Due to the first person nature of the data, instances of the use of the pronouns “we” and “our” is intended to be understood as either a specific Centre or the Agency at large.

needed is guidance and directions to align polices²⁵ with those strategic objectives to instil a culture of strategic procurement thereby enabling full engagement and capability development with industry. The Agency tries to “leverage procurement as a way of advancing our [research] programs, asking questions at the program review stage about contracting strategies” and how each program aligns with the ADM S&T’s vision as outlined in the Defence S&T Strategy however, this effort is not understood by external agencies. For example, one thing absent in evaluation criteria is knowledge of whether the companies that DRDC engages have a business plan to exploit the DRDC business model. When it was suggested that it be included in evaluation criteria, PWGSC would remove the information stating that it was not directly relevant to what was required on the delivery of the contracted services. Essentially, there is a major conflict between authorities and direction. “We are trying to develop a more strategic approach to contracting, but we have a lack of harmonisation with PWGSC to act on it.” To remedy this, one Centre moved to task authorisation (TA) contracts as a way of responding more quickly. However, they discovered that the problem with the TA option was that it takes a long time to put in place if they are of a large dollar value and there is much debate about risk because of the lack of precision with respect to what the tasks and milestones will be, which causes difficulty when these contracts require DG or ADM S&T approval. The point is, it is difficult to know in advance what type of contract will be approved by a DG or the ADM S&T which ultimately is the result of poor communication.²⁶ In addition, informants suggested that clients were not using TAs appropriately. “Rather than use an R&D contract which would require one contract for two years requiring one transaction with monthly claims, they were setting up entire series of tasks creating a heavier workload (“people are swamped”) for procurement staff resulting in overloading the system which resulted in time delays.” “The time delays not only affect our ability to deliver on research programs, it sends a clear message that the organisation is not seen as a desirable partner by industry and institutes.” “There are definitely companies that say you’re wonderful people, and it would be really great to work with you; but we can’t wait that long”. In other words, the inability to get contracts in place “is seriously affecting our ability to make the best partnership” which “has a significant impact on the current and most definitely on the future opportunity to make strategic decisions and build partnerships” not only with industry and academia but with other agencies (e.g., Royal Canadian Mounted Police, Canadian Security Intelligence Service, Canadian Border Services Agency and so on) that rely on us to have the contracting mechanisms in place.

In addition to the lengthiness of the process, informants reported that the manner in which it occurs is also problematic. For example, “it’s completely foreign in business and industry to make a strategic partnership for a period of time, then at the end of that time one partner says, well, that’s been great, but now I’m going require more work from you and you are going to have to openly compete again to see whether our strategic partnership continues.” In essence, the open bidding process and makes it difficult to maintain strategic partnerships.

Interviewees stated that there are a host of difficulties with existing contracting vehicles. “Certain vehicles, such as standing offers, require a lot of oversight.” What is required are “simpler

²⁵ An aim of the S&T strategy is to build partnerships to develop expertise and competitiveness within the defence industry. Until policy is created that constitutes partnerships, DRDC must develop contracting vehicles to facilitate procurement. In other words, DRDC needs to adapt current policy to their needs (short-term) until policy is changed (long-term).

²⁶ If ADM S&T’s intent for industry engagement was clearly communicated, the procurement strategies would be better aligned, and therefore more easily approved.

mechanisms for pre-qualifying more than one contractor on a standing offer, ways to be open and transparent but yet have flexibility”. It was recommended that “there needs to be more information and clarity on the options that are available, whether it is a standing offer or supply arrangement or Task Authorization contract in order to determine what is the best vehicle for a given situation” including the appropriate use of sole source contracts²⁷ and Advance Contract Award Notices.²⁸ There must be “better mechanisms developed to engage the international community and better ways to engage academic communities, more distinctions between contracts, grants and awards (i.e., “what are the differences and similarities and how they play out”) and opportunities for open calls with an appropriate vetting process.” Request for Proposals²⁹ (RFP) are one type of contracting mechanism. Proposals are submitted and evaluated by PWGSC and whoever ‘wins’ gets a directed contract.. One Centre uses a National Master Standing Offer for procuring items such as computers and software; equipment can be procured within one week with this method. In terms of new contracting vehicles, one solution may be to use a “Call for Proposal” or “Request for Proposal” process similar to an “Announcement of Opportunity” (a process similar to the US contracting mechanism known as a “Broad Agency Announcement³⁰”) whereby proposals received in response to an announcement are evaluated through a peer or scientific review process. A no-bid³¹ contract is awarded for the best proposal.³² In addition to the creation of contracting vehicles, there is a requirement for understanding when to use a particular one. Specifically, DRDC needs to assess the different types of contracts and identify its parameters in order to recommend a contractual approach for a contract of a particular type (i.e., what types of contracts are acceptable and aligned with the strategic intent.)

The human sciences face unique challenges because “contractors are a small consortia” and contract requirements do not involve the building of equipment, or an engineering solution, but rather “producing basic knowledge at the theoretical level that requires tapping into expertise that frankly industry does not have”. ‘Call-ups’ seem to be the only mechanism to remedy this, so “understanding the tools available or to be able to develop ones to address this issue would mitigate the problem.” Some organisations are trying to change the culture by showing that larger contracts are a more effective solution and save standing offers for situations requiring quick turnaround (i.e., ‘we’ need to be responsive to military requirements). In some instances, ties to traditional vehicles such as standing offers “have contributed to being a crutch to some of the scientists” in essence becoming a way of not fully developing a research program. It may be the

²⁷ A sole source contract implies that there is only one person or company that can provide the contractual services needed and that any attempt to obtain bids would only result in one person or company being available to meet the need.

²⁸ An Advance Contract Award Notice (ACAN) allows departments and agencies to post a notice, for no less than fifteen (15) calendar days, indicating to the supplier community that it intends to award a good, service or construction contract to a pre-identified contractor.

²⁹ A Request for Proposal (RFP), while generally used for requirements of \$25 000 or more, is often employed for purchases where the selection of a supplier cannot be made solely on the basis of the lowest price. An RFP is used to procure the most cost-effective solution based upon evaluation criteria identified in the RFP.

³⁰ The Broad Agency Announcement is a technique for United States government agencies to contract for basic and applied research and certain development.

³¹ No-bid contract is a popular term for what is officially known as a "sole source contract." A sole source contract implies that there is only one person or company that can provide the contractual services needed and that any attempt to obtain bids would only result in one person or company being available to meet the need.

³² This suggestion was offered by an informant. However, a procurement SME suggested that this process appears to be more like the solicitation for proposals process and it has not been used for contracts.

case that 'we' have not been as good at project management as we could be because poor procurement processes get blamed when in fact we don't have "a pre-thought, pre-planned, pre-articulated roadmap." "MERX is not an effective system for contracting with Universities—they simply do not use this system." There were mixed comments by informants about the implementation of the grants and contributions program. Some stated that they saw it as a "nice tool" to develop long-term relationships with a Centre of Excellence at a university, but others don't see it as a viable solution. That is to say, DRDC is talking about a grants and contributions framework and presenting it akin to Natural Sciences and Engineering Research Council of Canada & Social Sciences and Humanities Research Council of Canada³³ funding, yet the funds are not implemented similarly. That is, "with those two mechanisms, professors are awarded funds for research then "go off and do their own thing" with the funding; they will not be able to use this money in the same way." "It is [also] not clear how using this model [grants and contributions] is going to encourage academics to work with the Canadian Forces, or encourage them to build a future work force ("by having graduate students do work for us")."

As reported, the allocation of resources delays the process further. In the past, DGs had more flexibility and could take on risk by "managing cash." That is, they could get approved projects moving with the assumption that the money for these projects would arrive shortly. Also, there is less flexibility in the ways money can be allocated for projects. It is understood that the Centres should aim for spending 50% of funds for contracting, however, there should be a single operating budget ("uncoloured money") to work with rather than having resources parcelled into specific categories (e.g., capital funds, operation and maintenance funds, R&D contracting funds, et cetera); Management need to have some flexibility with the allocation of resources. And, DRDC should have the spending authority of 25K, the same as other government departments.³⁴

Another weakness identified as a problem with the procurement system is dealing with anything with a security classification; the time requirement for these projects and to grant security clearances for contractors seems unreasonable. Classified projects are difficult if not impossible to "push through." This is particularly problematic when the tasks are ones that are ADM S&T's priority projects. It is, however, important to realize that this is not a procurement problem. It is a problem outside the span of control of the Agency, yet it produces the effect of making procurement appear to be the source of the problem when in fact it is not³⁵. In addition to liaising with PWGSC, informants report that these projects require input from legal advisors creating further delays in the process. "Classified and unclassified projects go in the same pile with a waiting time of approximately eight months to process."

Generally, informants reported that the process is overly complex and things move too slowly overall from submission of orders to receipt of deliverables. "Contracts are submitted and wait in a queue for processing." When revisions to documentation are required, the paperwork is placed at the end of the queue, increasing the length of time to process requests. Projects approved early in the fiscal year fall through due to the inability to get contracts in place. Year-end overload (due to slow process) coupled with year end fiscal reporting obligations further encumbers the process

³³ Canadian government divisions that provide grants for research in natural sciences, social sciences, and engineering.

³⁴ The Minister of National Defence did not accept the 25K delegation granted by the PWGSC Minister (Mylene Ouellet, personal communication, August 4, 2009).

³⁵ This is similar to the problem of financial approval taking a long time when in fact it manifests itself during the procurement process but is not a procurement "problem" (Noel Thomas, personal communication, August 6, 2009)

resulting in one quarter of the year lost in terms of submitting contracts and new requisitions. Bulk bi-annual acquisition of the licensing and buying of software and hardware co-ordinates purchases and reduces multiple individual requisitions. But future requirements for these items sometimes arise and there is no flexibility with the system to deal with this issue.

Finally, the Agency's inability to manage risk in a variety of ways was raised in many of the interviews. Essentially, the business of procurement is conducted in a risk-averse manner across the federal government and this is also true for DRDC, DND and the government at large³⁶. Managers of the various Centres espoused a willingness to take on risk, yet they feel that they can not due to the lack of a clear definition of what it means to 'manage risk' and the lack of policy and guidance on the issue.

3.2 Organisations and their People

Notably, people were consistently raised as a major strength in the procurement system; key is the incumbents in the procurement positions. There is strong leadership, experienced persons, who are "committed and work very hard" as evidenced by accumulated over-time hours. However, it was reported that they also "do not get a lot of recognition for that [effort] and may feel under-appreciated." Traditionally, Corporate Services has been viewed as a "support and service" function. In order to bridge the cultural divide between clients and procurement staff, it was suggested that managers need to develop a professional partnership philosophy viewing procurement staff as a professional body requiring people with specific expertise and knowledge who have a unique set of responsibilities. Management must "support and encourage professional development of procurement staff," and not merely view this in terms of mandatory skills training on FMAS. Procurement "needs to be seen as an integral part of doing business" rather than "an afterthought to an S&T project." Roles and responsibilities need to be clarified. There is an overarching necessity for greater intra-organisational communication and collaboration between the Scientific and Corporate Services streams. Clients need to "work with procurement to increase their knowledge of S&T," and Corporate Services need to "create opportunities to develop confidence in their handling of complex contracts" in order to "be seen as an enabler and to have the capability to achieve the Agency's vision."

Some Centres have developed 'Contracting 101' briefings to mitigate the "mentoring of bad habits" while others have instituted mandatory training (i.e., writing SOWs, legal requirements of contracting, employer-employee relationships) sponsored from Canada School of Public Service (CSPS). Feedback suggests that the information on policy advice did not meet the required needs as they [CSPS] did not necessarily understand the context within which we work nor know that we have different levels of delegation than other departments (i.e., 5K versus 25K limits for sole source contracting). This misunderstanding of policy restrictions creates problems with PWGSC who return contracts stating "this is lower than 'X' amount and it should not be coming to us."

Even though DRDC provides training for clients on how to write SOWs, they often, even with the assistance from the procurement staff, are returned from PWGSC requiring multiple revisions. The paper work goes back and forth repeatedly, causing people to make revisions, whatever they are (due to lack of consistency of standards and advice) in order to push things forward. Clients

³⁶ Mylene Ouellet, personal communication, August 4, 2009.

tend to “treat the system like a game.” “Different contracts are submitted which look to them [clients] to be essentially the same, and one of them is thrown back and the other one is processed—and so it looks like a ‘crapshoot.’” Perhaps, “we should not expect scientific staff to be contracting experts.” Nonetheless, this is the current practice; “we have some people who are scientifically capable but spend more of their time doing contracts” than science. Ultimately, the networks and partnerships between clients, managers and scientific authorities are strained. Essentially, there is a requirement for greater inter-organisational communication and collaboration between DRDC Centres and PWGSC.

At the strategic level, the limited number of procurement staff (from non-staffed or non-existent positions) along with the high turnover in the National Capital Region (NCR) of employees results in heavy workloads and produces time lags in the system. The lack of ability to succession plan creates more gaps in the system. On the positive side, employee turnover also introduces “young folks” who come with “tremendous enthusiasm, new skills, and new ideas and approaches”. At some Centres, the shortage of procurement staff has been addressed by hiring temporary employees. However, there is also a disproportional amount of work moving through DRDC Ottawa, which currently handles procurement for not only this Centre, but DRDC CSS, DRDC CORA, DRDC Corporate, and DGMPPRA. Consistently, informants commented that having procurement staff and access to or strong relationships with PWGSC staff greatly facilitates the process. However, this is not the case for the organisations routing everything through the DRDC Ottawa offices. One solution would be to create a critical liaison function aligned with but outside of corporate services and the science programs to facilitate the inter-organisational process between DRDC and PWGSC; someone to lead contracting strategy and contract formulation in a procurement advisor role. In addition, procurement experts should be part of a project team and be involved in the process at the earliest chance. One Centre has developed an internal strategy to move contracts through the process quickly. Because of the very strong personal relationships they had cultivated between the two organisations [themselves and PWGSC], they were able to meet with the people at PWGSC and brief them in advance on a very high priority project required for the Canadian Forces. When the contracts arrived at PWGSC, there were aware of the high priority and pushed the contracts through quickly. This same organisation also uses multiple PWGSC offices when they know that one is busier than the other. Both these solutions depend on having a strong partnership.

3.2.1 The Role of Leadership

When informants were asked to comment on their role, many reported that it is their responsibility to communicate the expectations by articulating the requirements, and defining what resources are required to enable the system. Leadership “should be committed to working from the perspective of problem solution, not just problem identification.” It is our responsibility “to make sure that our staff who are engaged in procurement understand the constraints, the processes, and the responsibilities of DRDC corporately.” It is also the role [of the DDG] to move things through as expeditiously as possible.

3.3 Technology

Current technology does not allow for the tracking, managing and follow-through of documents. Spreadsheets, email and telephone correspondence media are ineffective mechanisms for determining where things are in the process; these forms of communication rely on the contact being present in the office and responding to requests. Clients are constantly “pinging” contacts to move things ahead—owning the process as opposed to procurement owning the process and engaging clients as required. If people are away, the system halts, particularly when staff positioned managerially below the focal person do not want to make decisions without this person's “blessing.”

In sum, many problematic issues were identified by the interviews with senior management. Guidance and direction is required to align policies to meet the S&T strategic objectives. A range of contracting vehicles and approaches must be identified that are acceptable (i.e., approvable by DGs and ADM S&T). Delegation of authority must be increased with more flexibility in the allocation of contracting funds. In addition to this, required training and appropriate tools for facilitating the process were identified as enablers.

4 Procurement Staff Focus Groups: Results and Discussion

Focus groups were conducted with procurement staff from five DRDC Centres (DRDC Atlantic, DRDC Ottawa, DRDC Suffield, DRDC Toronto, and DRDC Valcartier) engaged in handling procurement contracts. Focus groups ranged in size from three to six persons. Two focus group sessions were held at DRDC Valcartier due to the size of their procurement division and the availability of participants. In order to afford participants the ability to speak openly about the process, managers of the procurement staff were not invited to participate in these focus groups.

The data arise from a set of predetermined questions intended to shape the discussion. Each group had the opportunity to comment on the current strengths and weaknesses of the system, describe the characteristics of an efficient and effective system, discuss the roles and responsibilities of the various people involved in the process (from the vantage point of the procurement staff) and were given the opportunity to provide recommendations for improving the procurement system.

4.1 Strengths and Weakness of the Procurement System

Respondents from the different DRDC Centres raised the same issues concerning the strengths and weaknesses of the procurement system. Overwhelmingly, people reported that the process is too complex. Respondents' stated that there were too many rules, and regulations, too many questions associated with transactions, and too many steps between the commitment of funds and the deliver of payments. Gaps in effective communication manifest in multiple ways. Participants reported that there is a lack of intra-organizational communication between themselves and finance staff and inter-organizationally between themselves and PWGSC. In-house financial staff do not give enough direction and advice to procurement staff. Difficulties interfacing with PWGSC include the lack of communicating changes in procedures, policies, and procurement tools; knowledge of these are typically discovered serendipitously. There are issues surrounding the consistency of advice from different PWGSC staff and their adherence to non-documented references and procedures which lead to frustration as many contracts are returned with requests for additional information. The constant recycling of documents for clarification and revisions creates one of the conditions for an increasingly unmanageable workload for procurement staff leaving them feeling caught between the clients and the PWGSC officer. This coupled with high staff turnover within both PWGSC and DRDC in the NCR leads to tired staff and increased levels of stress. Some reported fears associated with taking leave because work will continue to pile up. Other conditions creating the unmanageable workload include the low level of existing staff (i.e., not proportional to the increased workload as a result of ADM S&T's business model causing an unprecedented upsurge in contracting) and changes as a result of the Federal Accountability Act³⁷, staff feel they spend too much time doing reports, and some reports are unnecessary such as those required for standing offers. Essentially, procurement staff report that they are performing too many functions and therefore cannot get anything accomplished in a day, particularly with the lack of full-time administrative staff to manage the administrative aspects of the office (for example, paper and ink purchases) which translates to lack of support from management.

³⁷ Federal Accountability Act retrieved 29/06/09 from <http://www.faa-lfi.gc.ca/faa-lfi/faa-lfi00-eng.asp>

Fiscal issues raised include the timing of budget confirmations and an unreasonable burden on the procurement staff due to attempts to issue contracts at the end of the fiscal year to meet budgetary requirements. According to respondents, the \$5000.00 limit of delegation of authority is too restrictive resulting in multiple low dollar contracts. Acquisition cards, intended to facilitate low dollar purchases are difficult to manage [in terms of how much is spent on what].

4.2 Roles and Responsibilities

4.2.1 Procurement Staff

Procurement Staff see themselves as the experts in contracting and take ownership of the work. They reported that their biggest roles are to identify problems and find solutions to facilitate the process, part of which means they educate and advise clients. At one Centre, bi-weekly meetings provide opportunities to improve on the process; as an example of taking ownership in their work, they suggested that they should strive for better communication and interaction with the clients. Sometimes, they feel that their expertise is disregarded and that clients rely more on advice from PWGSC than from the procurement staff or challenge staff advice with unreliable guidance they get from researchers at other labs.

4.2.2 Scientific Managers

Procurement staff deems that the scientific managers have an important role to play both in terms of leadership and as participants in the procurement process. The major observation was that scientific managers need to increase their responsibility and accountability in the process. For example, it was recommended that managers pay more attention (i.e., review the documents) to the requisitions they sign. Further, managers need to validate work statements to maintain a standard of quality and assign responsibility to follow up on files. It was reported that they underestimate the complexities involved with issuing contracts and should strive to educate themselves and the clients about the requirement of contracting. Centres should take a strategic approach to procurement planning. Managers need to commit funds to sections, release budgets quickly, and enforce better follow through particularly when additional budgets are required.

As leaders in the procurement process, respondents felt that managers could play a larger role and provide more leadership with respect to communicating the role and value of the procurement staff. They would like to see leaders model greater support and respect to the process, assure rules, policies and procedures are respected and followed, give recognition to the staff for the advice they provide, and communicate [to clients] the value of the procurement process to the operations of the Centres across DRDC. Procurement staff sometimes feel stressed due to the multiple roles they fulfill; some felt that perhaps managers focus too much on the financial aspects vice the content of the requirement and that there is a 'push' for quantity over quality; they feel they are often 'pulled' between a strategic advisory role and that of the deliverer of the necessary goods and services for operational requirements

4.2.3 Clients

There was a general lack of response on the role of the clients from the view of the procurement staff. However, the major concern raised was that clients need first and foremost training in order to learn the procurement process, the tools that are available to facilitate the process, and also to be able to define their own requirements [as they relate to the statements of work]. It was also (almost) unanimously stated that the clients need to strategically plan [for successive years] their contracting requirements with respect to both the time it takes to initiate a contract as well as the financial requirements (i.e., budgets) dedicated to those projects. Most respondents felt that communication was the key enabler and that clients should implicate procurement officers from the outset of their contracting requirements.

To summarise, procurement staff typically addressed issues with the current process and lack of tools and staff to do the requisite work. They recommended that a strategic approach to contracting be adopted by the Agency, beginning with the inclusion of their advice in the program planning stage, better oversight provided by the scientific managers, and increased direction and communication of the role and value of procurement from the Senior Managers of the Centres.

5 Client Questionnaire Results

A questionnaire was administered electronically, Agency wide, to gather client biographical information and their views on the strengths and weaknesses of the procurement system.

5.1 Training

Respondents were asked two questions. One was intended to determine the number of people who had taken formal training related to contracting and provide information on the specific courses. Overall, 64% of respondents reported taking no formal training whereas 26% reported that they had. Figure 2 displays the percentage of respondents who reported taking formal training relative to those who did not.³⁸

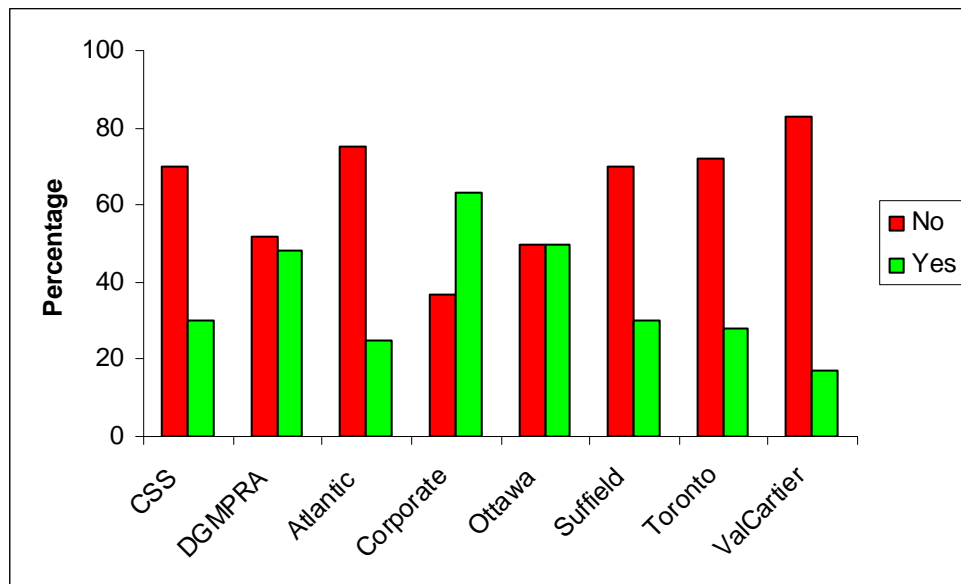


Figure 1: Respondent Reporting of Formal Training in Procurement as a Function of (current) DRDC Centre

Respondents were also asked to identify the kinds of formal training they had taken, the length of the training and the institution that offered the course. There was large variability with the types of training identified. Many respondents could not recall the specific names of courses, the length of a course or identify the learning institution that offered the training. Of those respondents who reported having taken formal training, most of them had stated that they engaged in training sometime during the decade of the 90's. Table 2 lists the variety of courses identified as well as their length. There was not enough data to report on the percentage of persons who had taken

³⁸ Data from DRDC CORA is not included due to the low (less than 5) number of responses.

specific courses.³⁹ However, *Writing a SOW* and the *Legal Requirements of Contracting* were identified more often than all other courses.

Table 2: List of Courses, Course Length, and Name of the Institution from which they were Offered

Course	Length (in days)	Institute
Basic Procurement and Contracting	2	ATC
Bid Evaluation and Contractor Selection Methodologies	4	ATC
Contract Law	2	unknown
Contracting 101	1	workshop
Contracting for Project Managers	5	ESI International
Contracting for Services	4	ATC
Contracting for the Acquisition Card holder	1 to 2	workshop
Delegation of Authority for Managers	5	CSPS
Developing a Statement of Work (SOW)	3	CSPS
Disposal of Surplus Moveable Crown Assets and Investment Recovery	3	CSPS
Employer-Employee relations	unknown	unknown
Essentials of Financial Management	0.5	GoC e-learn
Essentials of Managing in the Public Service	5	CSPS
Ethics and Contracting	unknown	unknown
Expenditure Management Course	3	e-learning
Fundamentals of Budget Formulation and Control	3	CSPS
Fundamentals 1: Introduction to procurement	4	CSPS
Fundamentals 3: Legal & Policy Environment for PMMRP	3	CSPS
Fundamentals 3: Machinery of Government & Life Cycle of Asset Management	3	CSPS
Introduction to Acquisition and Control	1	Health Can
Introduction to Procurement	3	CSPS
Introduction to Risk Management	1	CSPS
Leading in the Public Service (for executives)	unknown	CSPS
Legal Aspects of Contracting	unknown	ATC
Legal Requirements of Contracting	1.5	DRDC
Managing the Contractor	3	In-house
Managing in the Public Service or New Executives	5	CSPS
Managing the Contract for Services	2	CSPS
Negotiating Skills	3	CSPS
Overview of Materiel Management,	1	Campus Direct (e-learn)
Overview of Real Property Management	1	CSPS
Procurement Support for Technical Authorities	3	unknown
Section 32, 33, 34 (Financial Administration Act Courses)	unknown	e-courses
Writing a SOW	unknown	ATC

Note: ATC = Asticou Training Centre; CSPS = Canada School of Public Service

³⁹ Due to the inability of respondents to recall correct names of courses, it was not possible to provide percentages on the actual courses taken

5.2 Strengths and Weaknesses of Procurement System

Two open-ended questionnaire items generated a lot of information on the strengths and weaknesses of the system. The proliferation and unity of responses from survey participants revealed a multitude of problems and frustrations agency-wide with the current procurement system. There were literally hundreds of personal examples provided by respondents attesting to the inefficiency and ineffectiveness of the system. These examples are used to inform the broader systemic problems of the procurement system. These findings can generally be grouped according to process (quality, level, and timeliness of the service) and organizational issues, but more importantly, the data reveal the incredibly negative impact the process is having on the morale and motivation of the clients and procurement staff agency-wide.

5.2.1 Process

Overwhelmingly, respondents stated that the process is exceedingly complex, inflexible, and not well understood. A major source of frustration concerns the lack of consistency and uniformity in the process. Respondents report that there are no consistent set of rules and/or procedures to govern procurement requirements and too much time is spent to address minor wording changes and issues with translation. The multiple steps are treated sequentially including revisions to documents. This means that if a document must be revised due to wording (for both English and French versions) it ends up at the end of the queue rather than resuming a spot somewhere higher in the line.

There were many comments about an out-of-date process. For example, there is no effective internal mechanism in the system for the tracking of the status of procurement (i.e., who has signed off and when). There are few, if any, templates for creating contracts and SOWs. The existing forms created in Excel or Word are “simply transcribed version of old hard copy which do not leverage IT but represent the very worst use of it”. Multiple levels of approval further complicates the practice particularly where there is no electronic signature capability.

It was generally reported that the inability to carry-over funds from one fiscal year to another leads to wasted money either in the form of funds a) not being spent or b) wasted on unnecessary work or materials.

While clients do see the requirement for strategic procurement planning, they are not always able to predict all the requirements for a project. The conditions for using a credit card are overly restrictive. Last minute unforeseen items, then, take a longer than required amount of time to acquire due to the complexity of the process. Even when items are identified at the onset, (e.g., payment for human research participants), the inability to pay for procured services in a timely fashion results in the loss of potential “research participants” because they do not want to wait for weeks for their remuneration, often under \$20.00, to arrive in the mail. This method of payment for services is at odds with those of market or university researchers who pay cash “on-the-spot” (immediately after research participation), and most participants assume that the Centres do the same. “Once informed of our process many potential research participants walk away from the opportunity.”

There is also a general lack of understanding about existing (i.e., standing offers, service level agreements, and so on) and non-existing contracting vehicles. The known contracting options that are available do not work well for engaging with academia. Options are overly restrictive and are

not well adapted to support behavioral or social science research activities. The ability to sole source contracts to academic partners is the “kind of crucial flexibility” needed to foster and maintain collaborative working relationships with university researchers; this flexibility is lacking in the current system.

5.2.2 The Organisations and their People

There seems to be an overall lack of clarity in terms of peoples’ roles and responsibilities in the process. Scientific and technical staff report that they are asked to undertake tasks that should be performed by procurement personnel. Specifically, clients report they feel they are doing procurement staff work when they are asked to a) determine vendor price lists b) make corrections to SOWs or other documents submitted to procurement staff, c) complete ‘PAYE’ forms d) ensure that contracts are fulfilled and e) ensure contracts have been paid.

Training was raised as a key issue across all Centres. Respondents reported that everyone involved in the process requires at least basic contracting skills for one’s own responsibilities, as well as information about the entire procurement process. Figure (1) shows that variability of the number of persons who have engaged in formal training as a function of Centre and, as can be seen from table (2), there is much diversity in the content of training acquired. *How to Write a Statement of Work* and *Legal Requirements of Contracting* were the two most often cited training courses. Feedback on the course content consistently identified that the courses were a) too high level, and b) too general or generic (i.e. not geared to R&D contracting requirements). In addition, there is an absence of orientation training for new employees which results in many clients “muddling through” the process. Interestingly, less than half of the respondents involved in contracting have taken formal training.

References to communication problems both top down, horizontally and diagonally were pervasive across DRDC Centres and between organisations (i.e., between DRDC Centres and PWGSC). Change requests from procurement staff are handled via telephone; clients complain that when they return calls these people are rarely at their desks. The shortage of staff to process contracts further intensifies the un-timeliness and bottleneck problems in the system. Respondents further report concerns about the lack of (or perception of deficiency in) succession planning in order to replace the existing staff who leave either for new jobs or for retirement. Clients would like more feedback on specific contract requirements, and updates on changing requirements from PWGSC.

In terms of leadership, the perception on the part of respondents is that management trivializes the difficulties and complexities of the system. People report feeling insulted by the lack of authority they have to procure required items and incompetent due to the inefficiencies of the system to the point that their personal commitment to the research process wanes or disappears entirely. The view is that the system currently emphasizes accountability and transparency and rewards procurement practitioners for over-compliance and restrictive approaches rather than enabling the process. It was reported that this survey, although some noted that it was the first time people had been consulted in a large way on a change initiative, was really just a managerial tool to demonstrate that “they” [management] were “doing something” about the problem. Many people felt that completing the questionnaire was a “complete” waste of their time and that nothing would change as a result of it, but did feel thankful for the opportunity to vent their frustrations through a formal mechanism.

Generally, clients highlighted their frustrations with the current system. From their vantage point, they see the process as overly complex and frustrating to the point of individual de-motivation. They have a weak understanding of their own and others' roles and responsibilities in the process.

6 MASIS

Information on MASIS was gathered from the DRDC MASIS Rollout Project Manager⁴⁰.

Work is currently underway across the DRDC Centres preparing for conversion of systems and process from FMAS to MASIS. MASIS is expected to roll out in DRDC Atlantic, DRDC Corporate, DRDC CORA, DRDC CSS, DGMPPRA, and DRDC Ottawa in February 2010, DRDC Suffield in May 2010, DRDC Toronto in March 2011, and DRDC Valcartier in May 2011.

Current implementation of MASIS shows that it is effective for preparation of work orders, locating parts, planning and executing equipment repairs, and managing the configuration of complex weapons platforms. It is anticipated by the project manager that it will work similarly for the tracking of service and R & D contracts. It can track spending and generate reports on such things as number of contracts per buyer or per section. Information is exported nightly to a “Business Intelligence” warehouse where the records can be used to produce many different kinds of reports.

According to the project manager, MASIS is expected to resolve many of the technological problems associated with the current procurement system. MASIS is a single centrally-maintained system expected to automate and standardize the procurement process, eliminate the double entry associated with FMAS, allow for the tracking of assets, equipment and inventory, and simplify reporting.

⁴⁰ More information on MASIS can be found at <https://partners1.drdc-rddc.gc.ca/masis> or contact jane.dunlop@drdc-rddc.gc.ca, MASIS project manager.

7 General Discussion and Recommendations

The most widespread criticism of the procurement system, across all participants and methods of data collection, was frustration with the timeliness of the process. However, the length of time it takes to complete the process—from the creation of a research idea, identification of correct contracting vehicles, identifying potential contractors, writing of SOWs, submission of documentation, approval of contract, time in bidding process, receipt of deliverables, payment, to year end fiscal reporting is a second order effect produced by multiple and compounding issues. At each stage in this procurement cycle, events occur (or may in fact not happen) that produce impediments in the process. The following overall discussion and recommendations are intended to highlight the major points of friction and propose options for improvements. Suggestions at the Agency wide level must be endorsed by the most senior leaders of the organization and implementation must occur universally in order to be effective. Since the various DRDC Centres have specific mandates and requirements, the recommendations offered at the organisational and individual level should be developed and implemented in a way that “makes sense” for each particular Centre. Solutions offered are not intended to be the ‘ideal’ but instead provide a starting point for developing and implementing solutions.

7.1 Process

Respondents were readily able to point out dozens of problems with the process at a micro-level. Essentially, many of the problems associated with bureaucratic processes, time lags and bottlenecks are the result of a lack of planning at the macro level. To remedy this, the Agency must adopt a strategic approach to contracting beginning at the highest levels. That is, in order to enable the full engagement and capability development with external partners, work must begin at the program formulation and development stage. Research programs must be aligned with ADM S&T’s functional guidance on building strategic partnerships. At the organisational level, contracting strategies for various groups of contracts must be developed. Frustrations existed around lack of knowledge of what sorts of contracting vehicles existed and how to use them (steps and personal roles and responsibilities). What is required, then, is the identification or classification of particular types of contracts whether they are local, national, or international (based on some general parameter criteria) and then tied to a particular contracting vehicle (e.g., SAs, SO, RFPs, etc.).⁴¹ To assist with this, tools and guides must be developed that detail steps in the process and shares information across organizations. It is likely that distinct work is required for the development of partnerships with academia. Additionally, explicit examples of the required documentation (e.g., SOWs) must be created for each contract type along with unambiguous knowledge of each person’s role in the process as well as procedures on how to implement and monitor the work. Part of the contract monitoring process should involve an assessment of the contractor including measures for performance (ability to complete projects on time and on budget) and potentially other information including whether or not they completed the work or subcontracted it to another business. This type of information will help the Agency determine whether the business model is producing its intended effects.

⁴¹ This should be accomplished through a formal assessment process by a qualified researcher.

7.2 Policy

The GoC has created policies to ensure that funds, government-wide, are spent appropriately in an open and accountable manner. The ‘one-size-fits-all’ approach to policy as it relates to procurement is problematic for Defence R&D Canada. That is, DRDC functions differently from other S&T organizations (such as Environment Canada) because of its unique business model which provides for half of the scientific program to be delivered by industry and academia. Evidently, policy interpretation varies as a function of the individual regardless of whether they are at PWGSC or within a DRDC Centre While policies created for DND and the government at large cannot be changed, there are several things the Agency can do. Working in collaboration with PWGSC, the Agency (and individual Centres if required) should explicate broad interpretations of policy that allow for consistency in the application of guidelines, rules, procedures and regulations. In addition, policy at the organizational level should be reviewed to allow DGs greater flexibility and control over budget allocations.

7.2.1 Risk Mitigation

Risk management or the inability of the organisation to take risks was expressed as an issue by senior management from across the centres. While informants reported that they were in favour of taking risks, few are able to do so. Part of the problem is that the business of procurement is conducted in a risk-averse manner in the federal department as a whole. Essentially, high value contracts are approved through DRDC Corporate, and even after approval they may be rejected by PWGSC⁴². Additionally, audits by Chief Review Services finds that the proportion of sole-source contracts is too great⁴³ yet this is the type of contracting vehicle required due to the fact that the Canadian defence industry has a limited number of players. What is required then is a risk management policy that espouses thresholds for tolerances. That is, clear direction is required concerning what are acceptable levels of risk for contracts greater than \$1,000,000. In addition to this policy, it would be beneficial to the Agency if a Risk Management Specialist position were created to provide advice and guidance in identifying and evaluating contracting risks.

7.3 People and the Organisation

Hundreds of books have been written on the subject of corporate culture (Schein, 1992). Organisations are not separate entities, but collections of people. Corporate culture then is about people and the way they behave when in groups. Due to development and growth within DRDC, it has become apparent that the business culture and its tools are inappropriate for the future. Changing culture is extremely difficult; people cling to old systems and ways of doing things because they constitute known territory and they have spent years learning how to manipulate them to their advantage (McKee and Hill, 2006). All change produces winners and losers (i.e., people who are better off under the new arrangements and people who were better off under the old arrangements). For the successful implementation of a change initiative, people need “winning over”, so communication is vital.

⁴² This is mainly true for sole source contracts. If it has been decided that sole sourcing is technically justified, those working in the defence industry may still complain of unfair practices.

⁴³ N. G. Thomas, personal communication, August 10, 2009

7.3.1 Communication

In any business, the communication of information is an essential part of three key business activities: a) management decision-making, b) co-ordination of departments, teams and groups, and c) the motivation of individuals. Many of the problems identified within the current procurement process, in particular the timeliness of the process are the result of poor communication *vertically* (from managers to subordinates), *horizontally* (between people of the same “level”, usually in the same directorate, but sometimes in-between directorates, departments or organisations) and *diagonally* (interdepartmentally by people at different levels with different roles)(White, & Chapman, 1996).

The managers of the organisations are not only responsible for the day-to-day management of processes but have important responsibilities with respect to shaping organisational culture. The perspective from lower levels of the organisation, is that management is not aware of the issues, trivialises the issues, or does little to rectify problems. These views stem from a number of sources. Foremost, people outside of the management stream are often not aware of the pressures and responsibilities that exist within the senior management cadre, and as a result do not understand how decisions were made. This creates frustrations at the lower levels and deepens the “us-against-them” cultural divide (Tajfel & Turner, 1986).

Management must also work to bridge the cultural divide between clients and procurement staff. Corporate services should be viewed and treated as a professional body, entrusted with maintaining oversight of the process because of their specific expertise and skills, akin to the scientific stream. Clients and procurement staff must work collaboratively from the onset of a project, communicating roles, responsibilities, and expectations. In addition, relationships must be developed not only within Centres, but with PWGSC as well.

Generally, communication issues are one of the leading sources of frustration, dissatisfaction and misunderstanding. Management, starting with the ADM S&T and down must understand the depth and breadth of the issues associated with procurement, articulate the Agency’s requirements, and communicate their expectations and their constraints down to the lowest levels. To accomplish this, the Agency must develop a communication strategy, in collaboration with procurement staff and PWGSC, and use it to leverage the development and growth of external partnerships.

7.3.2 Strategic Staffing Requirements

The staff were generally viewed by senior management and clients as a positive asset to the procurement system, being key enablers of the process. There is notably a lack of staff to deal with the Agency’s current contracting requirements. This is likely to worsen given the increased reliance on contracting (with the increases and expected future increases in the DRDC budget) in the current business model. The lack of staff has serious implications for not only the timeliness (or lack thereof) of the procurement process; there could be serious repercussions for the existing staff. The long hours coupled with high volumes of work, and deficits of staff essentially mean these people cannot get training they request and require. These factors are producing a great deal of job-related stress, as indicated from the focus groups. Job related stress has been associated with a vast array of physical diseases and psychological disorders; it has been identified as one of the most debilitating sources of personal and professional dissatisfaction (O’Driscoll & Cooper,

2002). Stress can reduce employee motivation, job performance, and job satisfaction; it produces interpersonal conflict in the office and home environment, resulting in increased time away from the office. The easy solution is to simply hire more bodies. It was often recommended that a strategic advisory position be created outside, but in alignment with the procurement staff and the clients.⁴⁴ Another alternative is to explore alternative staffing options. Specifically, Centres should look for opportunities to engage people in acting or secondment positions. However, if the positions or the resources do not exist, or can not be created, an alternative solution to resolving these deficits and creating a motivating work environment is to use mentoring or coaching of junior procurement staff by those in senior positions. This on-the-job approach to training brings people to levels where the work load can be shared, corporate knowledge transferred and provides an environment for enhancing communication. In addition, it will afford those people the ability to engage in professional development training and use their leave entitlements—an important buffer for job related stress and burnout.

7.3.3 Training

Training was identified as one solution to renovating the procurement system. Training must not only be tailored to the needs of the Agency; it is required for all persons involved with procurement. The lack of consistent understanding by the senior management of the context of procurement, the ADM S&T's strategic intent, and managerial financial responsibilities must be addressed. Senior managers need to be aware of the same issues as the clients but have additional knowledge about the intent of policy and the impacts of the DRDC business model. Organisations should determine their specific training requirements while working in collaboration with other Centres to develop courses and training that suits the unique contracting requirements associated with S&T. Courses geared to specific skill training such as the writing of SOWs are necessary but not sufficient in terms of a solution. Training needs to be cooperative and sometimes common for scientific authorities, technical authorities, managers, and procurement staff to establish required skill sets, assist with the clarification of roles and responsibilities and to enhance intra-organisational communication.

7.3.4 The role of MASIS as a Technological Solution

The introduction of MASIS is expected to harmonise several processes, in particular gathering, capturing, and reporting of information. As was stated before, people do not like change. The successful implementation of this technology is contingent on its marketing. The new system will have to be “sold” to a skeptical audience because people naturally fear the unknown and assume it will be worse for them personally (Kotter, 1995). In addition to the fear associated with change itself, the complexity of the MASIS system suggests that training for procurement staff begin as soon as can be arranged. The complexity of this tool also plays into the role of succession planning in the DRDC Centres. Management must ensure that the right number and right persons are trained and able to use or be available to use MASIS. Failure to ensure there are trained MASIS users could result in the collapse of entire research programs as a result of this system.

⁴⁴ One centre is currently piloting this position. Feedback on the success of this initiative will assist in determining if this is a solution that should be implemented more widely.

7.3.5 Performance Measurement

Performance measurement is an ongoing systematic process of ascertaining how well, or how poorly, an organisation is meeting its goals and achieving its mission. Performance measurement enhances decision making, supports strategic planning and goal setting, and improves internal accountability and risk mitigation. Procurement transactions and spent budgets are weak indications of success and do not demonstrate where there are problems with the process. It gives the false impression that everything is functioning smoothly. Therefore, it is strongly recommended that a formal performance measurement system be implemented to not only ensure that the processes are working but to uncover areas for continued improvement and capability management of the procurement process.

7.4 Summary

The Agency must adopt a strategic approach to procurement. Relationships have to be developed between DRDC Centres and PWGSC. Contracting vehicles ought to be developed that address the unique requirements of the various DRDC Centres. Improving communication within and between organisations is fundamental for any significant change to occur. Finally, information on the process and training for all users will aid in developing a procurement system that will cultivate partnerships with industry and academia while enabling delivery on research programs.

The major recommendations have been synthesised and structured consistent with an organisational perspective. That is, they have been grouped according to whether they are an Agency-wide solution versus an individual end-user solution and are depicted in Figure 3. A more explicit breakdown of the activities appears in bulleted text below.

Agency-wide

- Create a formal practice to have greater interaction and planning between clients and procurement staff
- Identify, classify, and provide examples of how to use the various contracting vehicles
- Develop a risk-management policy
- Create a Risk Management Specialist position
- Training for Senior Management
- Create a cross-Centre best practices guide
- Increase collaborative contracting between Centres to procure bigger contracts that can be used by multiple Centres
- Create a central repository for records and information that lists and describes tasks in the process
- Increase delegated spending authorities for DGs
- Post list of existing standing offers and Service level agreements

Organisations

- Dedicate resources to hire the requisite amount of people to handle the volume of contracting

- Create and staff position for which the primary role is to function in an advisory capacity for clients/managers
- Centres need to find a way to distribute workload and so that people can take leave. Reducing stress by easing workload and having the appropriate number of staff to carry out the work will manifest in increased employee morale, overall mental health, and job motivation
- Further improve alignment of finance and procurement staff to facilitate communication
- Working with PWGSC, explicate broad interpretation of policy that allow for consistency in the application of guidelines, rules, procedures, and regulations.
- Develop relationships between the Centres and with PWGSC to share process ideas, keep abreast of changes to system and available tools. Hold joint working sessions and meetings to clarify policy interpretations
- Develop adapted standard mandatory training for clients and procurement officers
- Develop a user orientation guide
- Create templates and provide examples of the various SOWs (contract for services vs. materials).

Individuals

- Incorporate the time it takes for procurement into project planning
- Follow through on files
- Greater commitment to quality control

In sum, developing a) partnering arrangements among S&T Enterprise members, b) an international partnering framework with supporting agreements, and c) a partnering framework for industrial, academic and other government departments, requires an effective and proficient procurement system. The findings of this study suggest that there are many things that the Agency can do to streamline procurement while accruing savings to be re-directed to the science program. In the past, piece-meal solutions have not worked as anticipated due to lack of support and follow-through. It is important that changes to the current system are strongly endorsed by the senior leaders and that interim assessments occur to ensure changes are fully implemented in order to “fix” procurement.

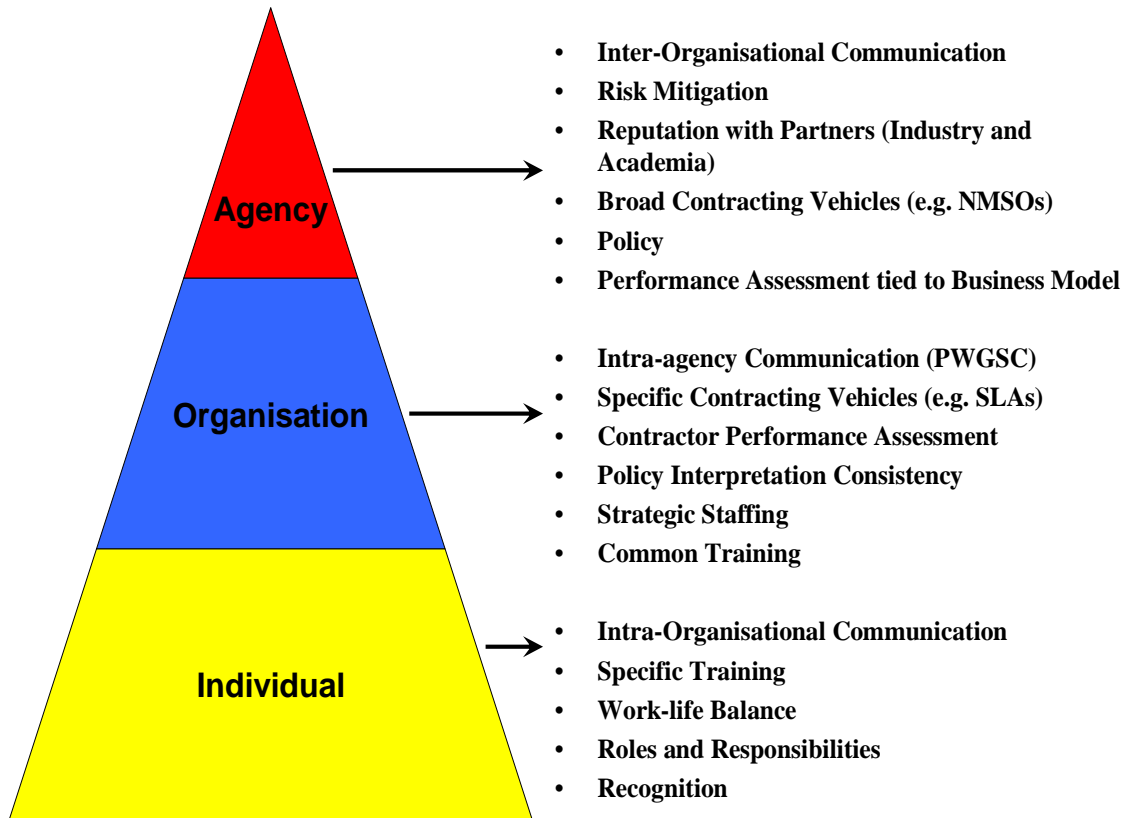


Figure 2. Major Recommendations Organised According to Breadth and Depth of the DRDC Enterprise.

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Appendix A Recommendations Actioned from 2002 report

The following lists the recommendations based on the 2002 report and the status of their implementation. The information is based on corporate memory and information gathered at site visits. The items listed below correspond directly with the 2002 report.

A. Process

1. *Implement a standard process, including standard form, across the Agency:* Progress has been made across the Agency towards standardization, and most centers have implemented (at least "on paper") the combined procurement/payment process. Observations from recent visits (to most DRDC Centres) suggest that the process is still not universally applied or accepted. Significant effort has been expended on developing standard forms, but the project was abandoned just before the official release. Although forms are similar, they are not standard. It is expected that introduction of MASIS will standardize this; development of a common user interface still requires action.

2. *Possession of acquisition cards to procurement personnel:* Effort has been made to reduce the distribution of acquisition cards to clients (though there are still a few in circulation).

3. *Maximize use of acquisition cards by procurement personnel:* Has been implemented across the organization.

4. *Procurement staff should be the ones obtaining quotes in all but exceptional cases:* This is a standard practice in all Centers but one.

5. *Claims for progress/milestone payments be sent directly to the DRDC Administrative Authority, involving PWGSC only if there is a discrepancy of disagreement:* Partially implemented; some centers were already operating this way, and others have made effort to reduce the number of progress claims being processed through PWGSC. As far as can be determined this practice is done only at DRDC Suffield; the issue appears to be more one of PWGSC agreeing to a change as opposed to one we are not prepared to adopt.

6. *Once the recommended investment in tool and people has been completed, Service Level Agreement should be established between the procurement/payment organization(s) to provide a recognized level of service (i.e., turn-around times, advice, guidance, etc.):* Not implemented (and difficult to implement).

7. *Develop and deliver training to all procurement personnel and users once standard process has been agreed to:* Was initially implemented but it may not be adhered to.

B. Organization

8. *Integrate Procurement/Payment staff:* Fully implemented.

9. *Increase the qualifications and capabilities of procurement/payment staff:* Implemented for the most part; most Centers reclassified their PG positions.

10. *Standard where the procurement/payment unit is located within the organizational structure and how the functions are organized within the unit:* Implemented for the most part; there are a few differences in how the functions are organized in the procurement unit, but these are, I believe, unavoidable, as they reflect the local business and to some extent the skill sets of the individuals involved.

C. Authorities

11. *Delegation to lower level:* To date little progress has occurred.

12. *No further increases to delegated contracting authority:* Did not require action (status quo)

D. Tools

13. *Common automated procurement tool:* Not implemented, though a major initiative was launched to implement a common system. The initiative was abandoned in 2005, when the Agency was informed that MASIS would be implemented on an imminent basis (was supposed to be April 2005).

14. *Common financial reporting tool:* Not implemented, although new-improved versions of FMAS have been introduced since, resulting in achieving most of the objective of this recommendation.

15. *Central source of procurement information:* Very partially implemented; only the Standard Operating Procedures are on Descartes, and each Center has its own repository of procurement information.

16. *Electronic transfer of MSV, etc:* Implemented in most centers.

17. *Electronic approval:* Did not require action (status quo).

18. *Reduce number of databases:* Not implemented, as linked to item 13 above.

Appendix B Letters of Information for Participants

B.1 Client Questionnaire Cover Letter

Dear Respondent,

I am inviting you participate in a research project to study the DRDC procurement capability. Procurement is the action of obtaining material or services to satisfy a requirement. It begins with the identification of the requirement and the approved funding; it includes all associated contracting, contract management and financial activities required to satisfy that requirement and ends when the procurement files, including associated contracting and financial activities, are closed.

Following this letter is a short questionnaire that asks a variety of questions about your demographic characteristics, training, and perceptions of the current capability. The questionnaire should take you about 10 minutes to complete.

The results of this project will be used to identify problems with the current procurement capability in order to develop a comprehensive problem solution.

I do not know of any risks to you if you decide to participate in this survey and I guarantee that your responses will not be identified with you personally. I hope you will take the time to complete this questionnaire. Your participation is voluntary and there is no penalty if you do not participate. A final report will be made available on DESCARTES at the conclusion of the research.

If you have any questions or concerns about completing the questionnaire or about being in this study, you may contact me at katherine.banko@drdc-rddc.gc.ca; katherine.banko@forces.gc.ca 613-992-4567.

Director General Military Personnel Research and Analysis authorizes the administration of this survey within DND/CF in accordance with CANFORGEN 198/08 CMP 084/08 271214Z Oct 08.

Authorization number 730/09

B.2 Senior Leader/manager Interview Letter of Request

Hello All;

As part of the EXPEDITION 09 initiative to improve DRDC procurement capability, I hereby wish to cordially invite you to participate in an interview study of senior leadership and management. Procurement is the action of obtaining material or services to satisfy a requirement. It begins with the identification of the requirement and the approved funding; it includes all associated contracting, contract management and financial activities required to satisfy that requirement and ends when the procurement files, including associated contracting and financial activities, are closed.

These interviews are a key element of a three-fold Agency-wide exercise to validate and better comprehend procurement issues affecting DRDC. The other two elements consist of a survey to the procurement clientele as well as focus groups with service providers at each Center. Interviews with senior management are intended to explore the perceptions of senior leaders in order to assess their level of understanding of the issues surrounding procurement and to get a sense of their level of concern regarding this particular functional area.

Your participation as a senior leader is particularly critical to the success of this initiative because you are one of a select group of leaders positioned to have a strong impact on organisational change. Your perceptions are therefore of highest importance to this investigation.

Who will be participating?

All DRDC Director Generals, Deputy Director Generals, Chief Scientists, Corporate Service Managers and, as appropriate, particular individuals at the Section Head level identified as having pertinent information and participation within the procurement system will be invited to participate. It is hoped that all will be willing and able to contribute to our understanding of procurement now and into the future.

What will be involved?

Recognizing that demands placed upon senior leaders in DRDC, we will keep interviews to a maximum of one hour. Questions we will pose will be broad in scope; there are no “correct” answers to any questions. Specifically, we will be interested in several lines of inquiry as suggested by the following questions.

- 1) What are the strengths of the current procurement capability?
- 2) What are the weaknesses of the current procurement capability?
- 3) What do you think would constitute an efficient and effective procurement capability?

- 4) How do you see yourself and your role in the organization as part of the solution?
- 5) What kind of resources and/or support do you feel are required for the solution?

Interviews will be tape recorded, transcribed independently, summarized and analysed objectively by a third party not involved in the change initiative. This process will ensure that the material accurately captures the views of participants. A final report will be prepared as soon as possible at the conclusion of the interviews and will be made available to all participants as a follow-up activity, while concurrent action will be undertaken to address issues and improve the overall procurement capability.

When will this happen?

Interviews will be scheduled between February and March, 2009. Your Corporate Service Manager will contact you, as well as the other members of your executive team, to make arrangements for individual interviews at a time that will best suit your schedule. A one-hour time-slot is requested.

I have more questions, who should I contact?

Please feel free to contact the Project Manager for this initiative, Mylène Ouellet, with any additional inquiries or clarifications. Contact details are as follows.

Mylène Ouellet
Manager, Corporate Services and Comptroller
DRDC Valcartier
Tel.: 418-844-400 ext.: 4070
Email: Mylene.ouellet@drdc-rddc.gc.ca

Thanks!

Appendix C Ethics Approval

SOCIAL SCIENCE RESEARCH REVIEW BOARD DECISION

Date: 30 January 2009

Authorization number: 730/09

Title: Assessment of the Defence R&D Canada Procurement Capability

Researcher: Dr. Katherine Banko

Organization: DRDC Cora

Review and Discussion:

1. Your research proposal has been reviewed and SSRRB approval is granted to proceed. Your project is assigned the following authorization number 730/09.
2. This approval is valid for approximately 1700 Civilian employees at DRDC centres across Canada and DGMPRA in Ottawa. This approval is granted for the period of 1 February to 30 April 2009. Distribution must be complete by this date; otherwise, the protocol will require further review. In order to ensure that participants' language rights are respected, these surveys must be distributed in bilingual format.
3. The following text shall be displayed on the front page of your surveys and consent form(s):

Director General Military Personnel Research and Analysis authorizes the administration of this survey within DND/CF in accordance with CANFORGEN 198/08 CMP 084/08 271214Z Oct 08.

Authorization number 730/09

Direction générale – Recherche et analyse (Personnel militaire)

autorise l'administration de ce sondage dans le MDN/FC en accord avec le CANFORGEN 198/08 CMP 084/08 271214Z Oct 08.

Numéro d'autorisation 730/09

“The opinions expressed in this document are those of the author and are not necessarily those of the Department of National Defence or the Canadian Forces”

4. You are reminded that any changes to the approved protocol or any untoward incidents or injuries arising as a result of any subject’s participation in the study shall be brought to the attention of the Social Science Research Review Board Coordinator, Tracey Aker.
5. Please forward the following documentation upon completion of the research:
 - a. an electronic copy of any research reports arising out of this request/project, and
 - b. electronic copies of data used to produce the reported results.
6. Please accept our acknowledgements for your contribution to research within the Canadian Forces and the Department of National Defence.

Appendix D Managerial Interview Questions

D.1 Interview Questions

- 1) What are the strengths of the current procurement capability?
- 2) What are the weaknesses of the current procurement capability?
- 3) What do you think would constitute an efficient and effective procurement capability?
- 4) How do you see yourself and your role in the organization as part of the solution?
- 5) What kind of resources and/or support do you feel are required for the solution?
- 6) Is there anything else you would like to add?

D.2 Procurement Staff Focus Group Questions

- 1) What are the strengths of the current procurement capability?
- 2) What are the weaknesses of the current procurement capability?
- 3) What do you think would constitute an efficient and effective procurement capability?
- 4) How do you see yourself and your role in the organization as part of the solution?
- 5) How do you see the clients and their role in the organization as part of the solution?
- 6) How do you see the senior leaders/managers and their role in the organization as part of the solution?
- 7) What kinds of changes do you think would facilitate your ability to provide service?
- 8) Is there anything else you would like to add?

D.3 Client Questionnaire

1) Check the box to indicate the DRDC Centre where you work.

- | | |
|---|--|
| <input type="checkbox"/> DRDC CSS | <input type="checkbox"/> DRDC Ottawa |
| <input type="checkbox"/> DGMPRA | <input type="checkbox"/> DRDC Suffield |
| <input type="checkbox"/> DRDC Atlantic | <input type="checkbox"/> DRDC Toronto |
| <input type="checkbox"/> DRDC CORA | <input type="checkbox"/> DRDC Valcartier |
| <input type="checkbox"/> DRDC Corporate | |

2) What is your occupational group and level? _____

3) Are you involved in the procurement process? No ___ Yes ___

4) Place a number on the line to indicate how often in a fiscal year you use each of the following:

- ___ Contracts for Goods/Materiels
 ___ Service Contracts
 ___ R&D Contracts

5) Have you taken formal training in contracting? No ___ Yes ___

6) If you answered **Yes** to question 4, please complete the following table to the best of your ability (respondents could list as many courses as they desired).

Name of Course	Institution	Length (in days)

7) Comment on your perceptions of any aspects of the strengths of the current DRDC procurement capability (e.g., level of service, timeliness of the process, advice and assistance received on the process, managerial support, other) [open-ended, respondents had as much room to give responses as they desired].

8) Comment on your perceptions of any aspects of the weaknesses of the current DRDC procurement capability (e.g., level of service, timeliness of the process, advice and assistance received on the process, managerial support, other) [open-ended, respondents had as much room to give responses as they desired].

Appendix E Moderators Guide

MODERATOR'S GUIDE

DEFENCE R&D CANADA PROCUREMENT CAPABILITY ASSESSMENT

FOCUS GROUPS

Introduction

As part of Expedition 09, DGRDCS, has undertaken an initiative to enhance the strategic and operational capability of DRDC Corporate Services. As a first step in this initiative, there was a requirement to determine which of the Corporate Services areas particularly needed attention (i.e. were lacking strategic and operational capability, in one form or another). This was carried out through a combination of mechanisms; consultation with the Corporate Services Managers at each Center, with the Functional Directors at Corporate Office, review of various reports from previous years, informal discussion between DGRDCS and other senior executives (the ADM S&T, DGs from the Centers), some highlights from the DGRDCS tour of the Centers in early 08 and a formal consultation of the Chief Scientists' net and the Deputy Director Generals' net.

Procurement was identified as "the Agency's hot issue" and "the single largest irritant". Additionally, it is seen as the single most important mechanism to leverage and drive the DRDC Business Model of investing and partnering with academia and industry.

Procurement is the action of obtaining material or services to satisfy a requirement. It begins with the identification of the requirement and the approved funding; it includes all associated contracting, contract management and financial activities required to satisfy that requirement and ends when the procurement files, including associated contracting and financial activities, are closed.

To help review current needs and issues, DGRDCS has requested that a team be formed, with the mandate to "fix" procurement issues for DRDC and conduct focus groups of corporate service project managers.

Focus Group Rules of Conduct: Confidentiality: Voluntary exercise

Introductions – roundtable (civilian project managers)

PERSONNEL PRESENT:

- DRDC Focus Group Moderator
- DRDC Focus Group Note-Taker
- Focus Group Participants

PROCEDURES:

1. Ground Rules.

- a. Explain to participants the format of focus group discussion. (Casual atmosphere, sharing conversation time, etc)
- b. Statements of confidentiality, anonymity, and informed consent:

In agreeing to participate in the focus group:

- Your participation is **voluntary** and you can at **any time** decide not to continue your participation in the focus group without having to explain why to anyone;
- There will be no consequences to your career or your job whether you decide to participate in this study or not. However, if you do choose to participate, you should know that disclosures of conduct contrary to CF policy and/or Canadian and International Laws may impose on us a duty to report the disclosure to appropriate authorities. Should you have concerns about a specific incident, you may wish to remain after the group has concluded. A DEP representative will be present to help identify a proper resolution of your concern within your Chain of Command.
- Participating in the focus group indicates that you have given consent to use the data for the purposes for which it was collected. This normally entails a written report provided for the project sponsor.
- Access to Information.

You should be aware that under the Access to Information Act, Canadian citizens are entitled to obtain copies of research reports and research data (including notes pertaining to this project) held in Federal government files. Similarly, under the Privacy Act, Canadian citizens are entitled to copies of all information concerning them that is held in Federal government files including research databases. Prior to releasing requested information, the Directorate of Access to Information and Privacy (DAIP) screens the data to ensure **that individual identities are not disclosed**. In any case, we will not be retaining your name or identifying information in the project report.

Authorization of research. Social Science Research Review Board authorizes this research. CF Research Review Board Authorization number: 730/09.

List of symbols/abbreviations/acronyms/initialisms

ADM MAT	Assistant Deputy Minister Materiale
ADM S&T	Assistant Deputy Minister Science & Technology
CORA	Centre for Operational Research and Analysis
CS	Chief Scientist
CSM	Corporate Services Manager
CSS	Centre for Security Science
DDG	Deputy Director General
DG	Director General
DND	Department of National Defence
DRDC	Defence Research & Development Canada
DREnet	Defence Research Establishment network
FMAS	Financial Management Accounting System
GoC	Government of Canada
IT	Information Technology
MASIS	Material Acquisition Support Services
NCR	National Capital Region
PWGSC	Public Works Goods and Services Canada
R&D	Research and Development
RFP	Request For Proposal
SOW	Statement Of Work
TA	Task Authorization
UI	User Interface

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<p>4. AUTHORS (last name, followed by initials – ranks, titles, etc. not to be used)</p> <p style="text-align: center;">Banko, K. M.</p>		
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Considerable effort has been devoted to improving the DRDC procurement system. This is important in two ways. Past efforts have focused mainly on addressing issues with the process and the current technology. Some improvements have been observed, however, it is evident that there are larger cultural issues that should be addressed, as procurement remains to be one of the largest irritants to advancing science Agency-wide. To develop a comprehensive cross-organisational solution that deals with the issues from multiple perspectives, data was collected through interviews with senior leadership, focus groups with procurement staff, and from a questionnaire administered to the personnel across the DRDC Enterprise. The major findings advise that the Agency must adopt a strategic approach to procurement. Relationships have to be developed between DRDC Centres and PWGSC. Contracting vehicles ought to be developed that address the unique requirements of the various DRDC Centres. Improving communication within and between organisations is a key mechanism that will require considerable effort as it is fundamental for any significant change to occur. Finally, information on the process and training for users will aide in developing a procurement system that will cultivate partnerships with industry and academia while enabling delivery on research programs, communications that include a vision of industry engagement, and a need for increased delegation of authority.

On a déployé des efforts considérables pour l'amélioration du système des acquisitions de RDDC, ce qui est important à deux égards. Tout d'abord, le modèle de gestion de RDDC est fondé sur le fait qu'on consacre cinquante pour cent du budget à l'exécution des programmes de recherche à l'interne et cinquante pour cent à l'exécution à l'externe, ce qui se traduit principalement par des marchés. Deuxièmement, la Stratégie scientifique et technologique pour la Défense compte sur les acquisitions comme facteur favorisant la compétitivité et le perfectionnement de l'expertise dans l'industrie. Les efforts passés étaient surtout centrés sur le règlement des questions relatives au processus. Bien qu'on ait observé des améliorations, il est évident qu'il y a des questions culturelles plus vastes à régler, les acquisitions demeurant l'un des plus grands irritants en ce qui concerne le progrès de la science à l'échelle de l'Agence. Pour élaborer une solution interorganisationnelle exhaustive qui abordera les diverses questions sous plusieurs angles, on a recueilli des données au moyen d'entrevues avec la haute direction, de groupes de discussion formés d'employés affectés aux acquisitions et d'un questionnaire rempli par le personnel de toute l'entreprise de RDDC. La principale conclusion est que l'Agence doit adopter une approche stratégique pour les acquisitions. Il faut établir des relations entre les centres de RDDC et Travaux publics et Services gouvernementaux Canada. Des véhicules de passation de marchés répondant aux besoins uniques des divers centres de RDDC doivent également être élaborés. L'amélioration des communications au sein des organisations et entre celles-ci est un mécanisme fondamental qui nécessitera des efforts considérables puisqu'il est essentiel à la réalisation de tout changement important. Enfin, les renseignements sur le processus et la formation des utilisateurs contribueront à l'élaboration d'un système d'acquisition favorisant les partenariats avec l'industrie et le milieu universitaire, tout en permettant la réalisation des programmes de recherche, des communications incluant une vision d'engagement de l'industrie et la délégation de pouvoir.

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Procurement, Contracting, Process Assessment, Social Science Methods,



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