PROFESSIONALIZATION AND CONTINUOUS IMPROVEMENT OF CANADA'S DEFENCE PROCUREMENT WORKFORCE

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INTRODUCTION

Military procurement in Canada has a history challenged by continuously changing

landscapes in politics, economics, technology, and the defence environment.[1] It is possibly the

most complex peacetime activity the Department of National Defence (DND) contends with.

Many books were written on the challenges faced by defence procurement; highlighting the

wickedness of the problems that arise from it. DND is acutely aware of the struggles in

procurement yet remains paralyzed in implementing effective solutions.[2] The difficulties

encountered in defence procurement are not exclusively Canadian.[3] "Several of Canada's closest

allies have attempted significant reforms of their procurement systems. Yet these efforts … have

not prevented procurement files from becoming problematic."[4] Defence procurement's

inherently complex and risky nature has contributed to recurring cost overruns and schedule

delays the world over.[5] In Canada, "70 percent of all projects have not been delivered on time."[6]

Determining the causes of defence procurement delays in Canada is a daunting task.

Each procurement is unique, as are the contributing factors to their schedule delays. Some

common factors; however, can be sifted from the multitude of defence projects. A 2014 study

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[1] Aaron Plamondon, *The Politics of Procurement: Military Acquisition in Canada and the Sea King Helicopter* (Vancouver: UBC Press, 2009), 15-18.

[2] Ross Fetterly and Royal Military College of Canada. Graduate Studies and Research Division, "Arming Canada: Defence Procurement for the 21st Century", 2011), 120.

[3] Dave Perry, *Putting the 'Armed' Back into the Canadian Armed Forces: Improving Defence Procurement in Canada*, Conference of Defence Associations Institute, 2015), 4.

[4] *Ibid.*, 4.

[5] *Ibid*.

[6] Canada, Department of National Defence, *Strong, Secure, Engaged: Canada's Defence Policy* (Ottawa: National Defence, 2017), 74.

conducted by Elinor Slone lists five common themes: pursuing ambitious developmental projects to fulfill requirements; in-house preferences that are exposed as such once they leave DND; changing requirements as a result of battlefield experience; rough order of magnitude costs that do not change over time; and, no single point of accountability.[7] A 2015 Vimy Paper by the Conference of Defence Associations (CDA) Institute came to similar conclusions recommending the following procurement imperatives: improving trust; improving requirements generation; improving the match between budget and ambition and costing; and, improving the match between workload and capacity. Auditor General Reports from 1998 and 2004 state inexperience, inadequate training and insufficient staff as underlining recurring factors that contribute to procurement delays.[8]

The latest Canadian defence policy, "Strong Secure Engaged" (SSE), articulates similar procurement difficulties to those discussed above and provides some remedial initiatives. The overarching defence procurement objective within SSE is to streamline defence procurement in order to deliver relevant military equipment in a timelier manner.[9] The initiatives listed within SSE include, "reducing departmental approval times by 50 percent, increase contracting authority to allow 80 percent of procurement contracts to be managed internally, …, and strengthen the procurement workforce."[10] The question remains, how can these initiatives be achieved?

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[7] Elinor C. Sloan and Canadian Defence and Foreign Affairs Institute, *Something has to Give: Why Delays are the New Reality of Canada's Defence Procurement Strategy* (Calgary, Alta: Canadian Defence & Foreign Affairs Institute, 2014), 3-5.
[8] Canada, Office of the Auditor General of Canada, *Chapter 3: National Defence - Equipping and Modernizing the Canadian Forces* (Ottawa: Government of Canada,[1998]). Canada, Office of the Auditor General of Canada, *Chapter 3: National Defence - Upgrading the CF-18 Fighter Aircraft* (Ottawa: Government of Canada, 2004).
[9] Canada, Department of National Defence, *Strong, Secure, Engaged: Canada's Defence Policy*, 74-74.
[10] *Ibid.*, 16.

This paper will argue that the professionalization of the military procurement workforce and the adoption of continuous improvement processes within DND's project management framework will both contribute toward improving defence procurement timelines. The paper is divided in two main sections. The first section will review the state of Canada's defence procurement workforce and highlight areas where an increase in professionalization would be beneficial. The second section will review Canada's defence procurement *lessons learned* programme as it pertains to continuous improvement and make recommendations to increase its effectiveness.

PROFESSIONALIZATION OF CANADA'S MILITARY PROCUREMENT WORKFORCE

As emphasized by the 1998 and 2004 Auditor General Reports on military procurement, DND's inexperienced workforce in the fields of procurement and project management was assessed as a leading contributor to military procurement delays.[11] The professionalization of DND's procurement workforce has come a long way since the release of the 1998 and 2004 Auditor General Reports; however, there continues to be some areas that suffer from an inexperienced workforce that could benefit from an increase in professionalization. To ensure public accountability, professional education and training of personnel responsible for the strategic direction and practical application of procurement action is essential.[12] "Professionalism can only come from a full understanding of all issues involved, a sound knowledge of the legal and commercial aspects and the confidence to make decisions that

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[11] Canada, Office of the Auditor General of Canada, *Chapter 3: National Defence - Equipping and Modernizing the Canadian Forces.*

[12] Peter J. H. Baily, *Procurement Principles and Management*, 11th ed. (Harlow, Eng: Pearson Education, 2015), 116.

effectively balance these tensions."[13] A professional military procurement workforce that

enables a framework within which professionals in the fields of procurement and project

management to grow and gain experience is necessary to improve procurement outcomes. A

professional military procurement workforce would also be better equipped at handling the

continuously changing military procurement environment. A professionalized defence

procurement workforce would enable an increase of trust between elected government officials

and DND. An increase in trust in DND's ability to conduct defence procurement would allow

room for DND to increase its authorities in procurement by reducing the requirement for

additional bureaucratic checks and balances. Professionalism fosters competence and it can only

improve DND's procurement ambitions.

Procurement Professionals Required in the First Phases of the Procurement Process

In Canada, the military procurement process follows five phases: identification; options

analysis; definition; implementation; and, closeout.[14] These phases are comparable to the Project

Management Institute's (PMI) five process groups: initiating; planning; executing; monitoring

and controlling; and, closing.[15] The identification and options analysis phases are managed by

the Chief of Force Development (CFD) through element force development teams, being the

Royal Canadian Navy (RCN), Army, Royal Canadian Air Force (RCAF), or Special Operations

Force (SOF). [16] For large capital projects, the definition, implementation and closeout phases are

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[13] *Ibid.*, 117.
[14] "Defence Purchases and Upgrades Process," last modified June 16, accessed May 4, 2018, http://www.forces.gc.ca/en/business-equipment/procurement-projects/procurement.page.
[15] Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*, 5th ed. (Newtown Square, Penn: Project Management Institute, 2013), 5.
[16] "Defence Purchases and Upgrades Process"

primarily managed by the Assistant Deputy Minister (Materiel) (ADM(Mat)) branch and are closely supported by Public Services and Procurement Canada (PSPC).

The identification (or initiating) phase consists of identifying capability deficiencies, determining requirements, and conducting an initial assessment of options.[17] Within each CAF element, the process of identifying requirements is similar and normally begins with the identification of deficiencies by either lower-level units through formalized procedures or through Capability Based Planning (CBP) within CFD. These approaches enable the clients to inform deficiencies, which are in turn, evaluated and prioritized by each element command. The deficiencies are vetted against defence policies and translated into requirements by each element commander's force development team, which are led by a Director General. The Director General of force development of each element assigns requirements and allocates resources to a project team to finalize the identification phase. "The project team develops a list of the capabilities that the proposed equipment or service must be able to deliver, sets a proposed date to begin the project and, if approved, a proposed earliest date by which the equipment or service can be ready to use."[18]

By in large, the entire identification phase is managed by and comprised mainly of military officers. The military officers that lead and staff project teams in the identification phase come from diverse trades and most do not have project management experience. Basic project management courses are given to new members of project teams, which are meant to prepare military officers for their role in a given project. Military officers are typically in a project management position for a short period (two to four years) before moving on to other

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[17] Canada, Department of National Defence, *Procurement Administration Manual Revision 86* (Ottawa: National Defence, 2018), 99.
[18] "Defence Purchases and Upgrades Process"

jobs.[19] The limited amount of project management training given to military officers and their short duration in position, both contribute to the lack of experience in the identification phase of a given project. As the foundation of a project rests on the identification phase, it is essential that each project team is led by an experienced project management professional. As is mentioned in multiple defence procurement reviews, "successful project management requires highly skilled and well qualified project managers."[20] The lack of project and procurement professionals in the procurement process is also apparent in the options analysis phase.

In the options analysis phase, "the project team prepares a preliminary statement of operational requirement and a complete business case analysis of the options that would meet the identified capability requirement."[21] The 2016-2017 Annual Report conducted by the Independent Review Panel for Defence Acquisition (IRPDA) found that, "the majority of projects it reviewed required supplementary engagements, often because the rationale for the proposed options was underdeveloped or the supporting analysis was insufficient."[22] The IRPDA concluded that force development teams engaged in the options analysis phase require more resources and support.[23] The lack of project management and military procurement experience in the initial two phases of a given project's life creates difficulties for the follow-on definition, implementation and closeout phases.

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[19] Canada, Department of National Defence Chief Review Services, *Lessons Learned and Acquisition Management Issues: Close-Out/Termination of Major Crown Projects* (Ottawa: Department of National Defence, 1998), 10.

[20] Department of Defence Australia, *Defence Procurement Review (Australia) 2003* (Canberra, ACT: Department of Defence, 2003), 39.

[21] "Defence Purchases and Upgrades Process"

[22] Government of Canada, Independent Review Panel for Defence Acquisition, *Independent Review Panel for Defence Acquisition Annual Report 2016-2017* (Ottawa: Government of Canada, 2017), 6-7.

[23] *Ibid.*

The last three phases in military procurement are generally managed by a more experienced procurement workforce. The ADM(Mat) branch has implemented a comprehensive project management training program and has a solid foundation in procurement administration.[24] It allows staffs to grow and gain experience within the branch and is less encumbered by the military posting cycle. Larger projects are normally managed by the most experienced and professionally trained project managers. So, why do projects experience delays in the definition and implementation phases? Firstly, project handoff from force development teams to the ADM(Mat) branch is complicated by the lack of continuity between project staff under the CAF element force development and the ADM(Mat) branches. Secondly, as the first two phases of the procurement process were conducted by a generally less capable staff, projects entering the definition phase start on a shaky foundation. This slows the project team in the definition phase as they must potentially rehash the previous two phases or spend an inordinate amount of time understanding what the client requires.

In general, the increase in a project's duration creates compounding problems with respect to continuity of key project staff and corporate memory.[25] "In the private sector, strong project management skills and experience are usually developed over a career devoted to managing a series of projects of increasing complexity and size."[26] The CAF's force development teams should allow for military officers to grow and gain experience in the field of project management, perhaps by allowing career progression within the realm of force development by associating complexity and size of projects to rank. In addition, continuous improvement principles can facilitate learning throughout a project's life and perhaps bridge the

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[24] Canada, Department of National Defence, *Procurement Administration Manual Revision 86*
[25] Canada, Department of National Defence Chief Review Services, *Lessons Learned and Acquisition Management Issues: Close-Out/Termination of Major Crown Projects*, 39.
[26] *Ibid*.

gaps between changing staffs and projects. Perfecting procurement processes in DND can also be achieved by incorporating continuous improvement principles. The next section will discuss how a learning organization through continuous improvement can lead to better outcomes in the realm of military procurement.

CONTINUOUS IMPROVEMENT IN DEFENCE PROCUREMENT

"The term continuous improvement is rooted in the Japanese management concept of kaizen, and can be simply defined as a process of incremental improvement initiatives that focus on increasing successes and reducing failures."[27] It may be difficult to understand how continuous improvement in project management can be beneficial, as no two projects are the same. Defence projects, however, follow similar processes, which can allow for cross-project learning and continuous improvement.[28] Project learning can be defined "as the creation and acquisition of knowledge within projects and cross-project learning transfer as the subsequent transfer of such knowledge to other projects within the organization."[29] Allowing for continuous process improvement in defence procurement can support DND's objective, as described in SSE, to "streamline the procurement process."[30] In this section, DND's procurement self-improvement mechanisms will be reviewed and two continuous improvement theories will be discussed.

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[27]Jim Begley, Irwin M. Cohen and Darryl Plecas, *An Assessment of Surrey RCMP's Continuous Improvement Team*Centre for Public Safety and Criminal Justice Research, University of the Fraser Valley, 2015), 1.

[28] Jerry Julian, "How Project Management Office Leaders Facilitate Cross- project Learning and Continuous Improvement," *Project Management Journal* 39, no. 3 (2008), 43-58.

[29] Sue Newell and Linda F. Edelman, "Developing a Dynamic Project Learning and Cross- project Learning Capability: Synthesizing Two Perspectives," *Information Systems Journal* 18, no. 6 (2008), 569.

[30] Canada, Department of National Defence, *Strong, Secure, Engaged: Canada's Defence Policy*, 16.

DND's Procurement Lessons Learned Programme

In general terms, the lessons learned programmes implemented within DND aim to create an "organizational cultural change [within DND] so as to become [an] effective learning organization."[31] Dr. Richard Zarbo defines a successful lean culture of continuous improvement as "a work environment in which the leader can walk away and empowered employees can sustain themselves in pursuing higher quality targets by implementing continuous process improvements."[32] This, however, is easier said than done as "over 90% of those who attempt to create a lean [culture of continuous improvement] fail."[33] Why do attempts at creating a culture of continuous improvement often fail? Failures usually stem from the lack of a supportive management system and approaches that enable employees to "continuously define and eliminate wastes inherent in non–value processes."[34] Do the ADM(Mat) branch and element force development teams have a supportive management system that fosters a culture of continuous improvement? How can "lessons-observed" be translated into lessons learned within DND's procurement framework?

The ADM(Mat) branch and element force development teams conduct a form of continuous improvement through a lessons learned programme, which aims to preserve and transfer *corporate* knowledge through a shared database. A lessons learned programme can be beneficial if implemented correctly, however, it can also be detrimental if it is not. "Research on project learning suggests that often project teams do not meet their stated objectives and,

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[31] Dax Chambers, *The Royal Canadian Air Force Lessons Learned Programme* (Ottawa: Department of National Defence, 2014), 7.
[32] Richard J. Zarbo, "Creating and Sustaining a Lean Culture of Continuous Process Improvement," *American Journal of Clinical Pathology* 138, no. 3 (2012), 321.
[33] *Ibid*.
[34] *Ibid.*

moreover, there is limited organizational learning from the experiences of project work."[35]

Lessons learned practices are not unique to DND, thus reviewing research conducted on lessons

learned practices in other sectors may prove beneficial.

Lessons learned practices "involve project members in reflective discussions about what

went well and what went wrong with the aim of improving future project performance."[36] The

results are then documented and saved in databases for retrieval by future project teams so that

they may benefit from the learning which has already occurred within the organization.[37]

Although there is recognition in the merit of lessons learned practices, "researchers have found

their actual deployment in project management practice to be mixed."[38] A study conducted by

Hobbs and Aubry discovered that only 38% of project management offices consider lessons

learned programmes as an important project management office function.[39] Schindler and

Eppler's research on project learning methods found that there are significant differences

between an organization's requirement for project reviews through lessons learned programmes

and its actual utilization in practice.[40] What are the obstacles to effective lessons learned

programmes?

There are two basic barriers to effective lessons learned programmes. Firstly, time

pressures can prevent a thorough debrief and/or review of lessons learned from project teams.

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[35] Newell and Edelman, "Developing a Dynamic Project Learning and Cross- project Learning Capability: Synthesizing Two Perspectives," 567-591.

[36] Julian, "How Project Management Office Leaders Facilitate Cross- project Learning and Continuous Improvement," 44.

[37] Newell and Edelman, "Developing a Dynamic Project Learning and Cross- project Learning Capability: Synthesizing Two Perspectives," 569.

[38] Julian, "How Project Management Office Leaders Facilitate Cross- project Learning and Continuous Improvement," 43-58.

[39] Brian Hobbs and Monique Aubry, "A MULTI-PHASE RESEARCH PROGRAM INVESTIGATING PROJECT MANAGEMENT OFFICES (PMOs): THE RESULTS OF PHASE 1," *Project Management Journal* 38, no. 1 (Mar 1, 2007), 74.

[40] Martin Schindler and Martin J. Eppler, "Harvesting Project Knowledge: A Review of Project Learning Methods and Success Factors," *International Journal of Project Management* 21, no. 3 (2003), 219-228.

Secondly, and more importantly, are what is described by Argyris and Schön as defensive routines that can manifest within an organization. Organizational defensive routines are defined as, "any action, policy, or practice that prevents organizational participants from experiencing embarrassment or threat and, at the same time, prevents them from discovering the causes of the embarrassment or threat."[41] The fear of repercussions (embarrassment or threat) from the lessons learned process may prevent a healthy working environment and continuous improvement culture within an organization. Both time pressures and defensive routines can be overcome by implementing recommendations set forth in Dr. Julian's paper, "How Project Management Office Leaders Facilitate Cross-Project Learning and Continuous Improvement." These recommendations will be discussed next.

Improvement by Leader Brokering and Organizational Routines

Project management office leaders are generally responsible for "status reporting and governance, lessons learned practices, and knowledge sharing forums." They must also intervene "to (1) improve troubled projects, (2) improve processes common to multiple projects, and (3) transfer standards and practices to project teams."[42] Implementing effective lessons learned programmes comes down to institutional leadership. Institutional leaders, such as ADM(Mat) and element force development Director Generals are responsible for "exercising stewardship of the profession through the strengthening of professional capabilities and

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[41] Chris Argyris and Donald A. Schön, *Organizational Learning II: Theory, Method, and Practice* (Reading, MA: Addison-Wesley, 1996).

[42] Julian, "How Project Management Office Leaders Facilitate Cross- project Learning and Continuous Improvement," 54.

culture."[43] Institutional leaders are central to establishing effective lessons learned programmes, as success of these programmes rest on the institutional leader to establish "conditions in which organizational members can reflect productively on past experiences"[44] and reduce the effects of defensive routines.

Institutional leaders should "focus on accumulating social capital across multiple communities by establishing a network of strong relationships built on trust, professional development, and mutual understanding."[45] Just like the Royal Canadian Air Force's flight safety program, lessons learned programmes must highlight professional development opportunities over more punitive approaches. Trust between project leaders, their subordinates, and their superiors is necessary to prevent the "pervasiveness of defensive routines and their confounding effects on reflection and learning."[46]

Lessons learned programmes should "focus equal emphasis on learning from successful projects as those that appear to have failed or run off-course."[47] If lessons are primarily drawn from failed projects, an organization will have the tendency to excessively focus on policies that avoid risk and increase controls in order to prevent failures from happening again. "The resulting routines may shackle future project teams with burdensome processes that limit their innovative potential."[48] It is therefore imperative that DND's lessons learned practices not only

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[43] Canada, Department of National Defence, *Leadership in the Canadian Forces: Conceptual Foundations* (Ottawa: Published under the auspices of the Chief of the Defence Staff by the Canadian Defence Academy, Canadian Forces Leadership Institute, 2005), 100.

[44] Julian, "How Project Management Office Leaders Facilitate Cross- project Learning and Continuous Improvement," 55.

[45] *Ibid*.

[46] *Ibid*.

[47] *Ibid*.

[48] *Ibid*.

focus on preventing failures but must also focus on discovering the reasons why projects succeed.

Lessons learned programmes should allow for reflection "over the course of the project rather than only at project closure."[49] As DND projects tend to be long in duration, it may be difficult for project team members to recall memories on how problems were solved over the course of a project if they wait until the end of a project or project phase. Dr. Julian recommends that project management office leaders "encourage project teams to reflect more frequently over the course of the project life cycle, perhaps weekly or upon conclusion of each project milestone."[50] A similar approach to the RCAF flight safety program, which reviews flight safety lessons on a weekly basis, may prove beneficial to mimic for a continuous improvement framework in the project management realm.

Finally, DND can establish conditions more favourable to productive reflection and incorporation of lessons learned across the organization by introducing a skilled neutral facilitator or team.[51] Studies suggest that "the most effective outcomes tend to rely on methodologies that included continuous improvement teams or groups with both staff and managers."[52] Establishing a highly skilled team focussed on improving the organization by facilitating and mentoring project teams can help the group avoid defensive routines. The continuous improvement team can focus on the processes by which project team outcomes can be achieved.

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[49] *Ibid.*, 56.
[50] *Ibid.*
[51] *Ibid.*
[52] Begley, Cohen and Plecas, *An Assessment of Surrey RCMP's Continuous Improvement Team*, 2.

It is clear that DND's procurement objectives can be facilitated by utilizing an effective *lessons learned* programme. Simply upkeeping a database of lessons learned, however, is insufficient in creating an environment conducive to continuous improvement. A lessons learned programme serves to improve organizational outcomes by highlighting professional development opportunities and fostering a continuous improvement culture. Several recommendations to improve DND's lessons learned programme were discussed culminating in the requirement of skilled personnel and resources to establish a team focused solely on improving outcomes of defence procurement processes. The RCAF has successfully implemented a lessons learned programme under their flight safety programme that fosters an environment conducive to continuous improvement. The ADM(Mat) branch and element force development teams can significantly improve their lessons learned programmes by incorporating elements discussed above of the RCAF's flight safety programme.

Benchmarking is a technique, discussed in the next section, that can be used to compare lessons learned processes between organizations in order to improve the processes within DND. The Government of Canada has made it clear that it is committed to results through its 2016 release of a policy and directive on results.[53] In the next section, benchmarking as a means to continuously improving an organization and to satisfy the government's policy on results will be examined.

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[53] "Policy on Results," last modified Jul 1, accessed 8 April, 2018, https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=31300.; "Directive on Results," last modified Jul 1, accessed 8 April, 2018, https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=31306.

Improvement Through Measuring & Benchmarking

"Benchmarking is a process of comparing in order to learn how to improve."[54] According to Sylvia Codling, "benchmarking is the most powerful technique for gaining and maintaining competitive advantage … because it drives best practice oriented continuous improvement through the organization."[55] Can benchmarking principles used in commercial industries be applied in the context of defence procurement? The answer to that question is, it depends. Defence procurement is an activity that is influenced by continuously changing economic, political, environmental, and defence interests. Typically, benchmarking techniques can be difficult to apply in such contexts. It may also be difficult to find other organizations that conduct similar activities in the same context to compare to and evaluate. There are aspects of benchmarking, however, that can highlight areas that can be improved within the realm of defence procurement and project management.

The most common approach to benchmarking is called *process benchmarking*, or "a method for studying work process performance between two unique or distinct implementations for the same fundamental activity."[56] This involves conducting an internal examination of an organization's own performance and the study of another organization that is recognized for achieving superior performance in the same activity. "The objective of process benchmarking is not to calculate a qualitative performance gap, but to identify best practices that may be adapted for improvement of organizational performance."[57] This method can be used to analyze and compare implementation processes internally between projects. Understanding why a certain

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[54] Gregory H. Watson, *Strategic Benchmarking Reloaded with Six Sigma: Improve Your Company's Performance using Global Best Practice* (Hoboken, NJ: John Wiley & Sons, 2007), 3.

[55] Sylvia Codling, *Benchmarking* (Brookfield, Vt: Gower, 1998), 3.

[56] Watson, *Strategic Benchmarking Reloaded with Six Sigma: Improve Your Company's Performance using Global Best Practice*, 5.

[57] *Ibid*.

project had superior performance over another could go a long way in capturing best practices that can be applied in a broader context. This method can also be applied to compare other nation's defence procurement processes to those of Canada.

Another useful benchmarking method is known as *operational benchmarking*. This is "a benchmarking study that is focused on the way that a specific work process is performed with an objective of improving the performance of that specific process."[58] Operational benchmarking provides efficiency improvements by focussing on specific activities that will improve effectiveness, efficiency, or economy of routine operating activities. Operational benchmarking concentrates on specific work activities that require improvement. It seeks to discover work procedures, skills or competence training, or other analytical approaches that result in continued performance improvement as shown by objective measures of performance.[59]

Benchmarking requires the act of measuring. Deciding "what to measure is one of the initial hurdles managers must cross when benchmarking."[60] How do you measure performance in the realm of defence procurement? The Government of Canada is adamant on implementing policies that require departments to measure their performance on achieving results. The Government of Canada sets four objectives in their policy on results. The first objective is to ensure "departments are clear on what they are trying to achieve and how they assess success."[61] The second objective is for departments to "measure and evaluate their performance, using the resulting information to manage and improve programs, policies and services."[62] The third objective is to allocate resources "based on performance to optimize results, including through

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[58] *Ibid.*, 8.
[59] *Ibid.*
[60] Codling, *Benchmarking*, 8.
[61] "Policy on Results," 3.
[62] *Ibid.*

Treasury Board submissions, through resource alignment reviews, and internally by departments themselves."[63] The final objective is for departments to ensure "parliamentarians and the public receive transparent, clear and useful information on results that departments have achieved and the resources used to do so."[64] The Government of Canada's policy on results is similar to those found in Benchmarking literature. Experts in this field should be incorporated in DND to ensure the government's objectives are achieved.

Incorporating a robust performance measurement framework can serve to keep defence procurement leaders accountable for their decisions as well as help create a culture of continuous improvement. Issues in accountability is often cited in defence procurement reviews. Establishing accountability links to performance metrics can help clarify who is accountable for what. For example, authorities and responsibilities between Public Services and Procurement Canada (PSPC) and DND can be muddled at times.[65] Having appropriate individualized measures of performance for PSPC and DND can clarify who is accountable for what and provide feedback on how performance is affecting outcomes. Perrin, however, warns that "performance measures can fail to provide a meaningful account of actual performance"[66] and can lead to perverse outcomes.[67] De-linking measures of performance from rewards and punishment can help reduce perverse outcomes; especially incentives to distort results. Results focussed accountability should ask if "everything reasonable has been done with available

[63] *Ibid.*
[64] *Ibid.*
[65] Alan S. Williams, Breakout Educational Network and Queen's University (Kingston, Ont) School of Policy Studies, *Reinventing Canadian Defence Procurement: A View from the Inside* (Montreal: Published for Breakout Educational Network in association with School of Policy Studies, Queen's University and McGill-Queen's University Press, 2006), 71-72.
[66] Burt Perrin, "Bringing Accountability Up to Date with the Realities of Public Sector Management in the 21st Century: New View of Accountability," *Canadian Public Administration* 58, no. 1 (2015), 188.
[67] *Ibid.*, 183-203.

authorities and resources to influence the achievement of expected results."[68] Although

individuals should accept responsibility for their mistakes "if we wish to empower employees

and encourage them to innovate . . . we should focus on learning from the experience rather than

assigning blame."[69]

CONCLUSION

Military procurement lives in an everchanging environment fraught with risk and

complexities that DND must successfully navigate to achieve desired results.[70] This paper

argued that the professionalization of the military procurement workforce and the adoption of

continuous improvement processes within DND's project management framework will both

enable improved defence procurement timelines.

Several studies and reports on Canadian defence procurement, including some as recent

as 2017, suggest that DND's procurement workforce could benefit from further

professionalization. This paper reviewed the state of DND's procurement workforce and

surmised that the CAF's force development team, which is intimately involved with the

identification and options analysis phases of the procurement process, may substantially benefit

from an increase in professionalization. The CAF's force development structure should allow

for military officers to grow and gain experience in the field of project management, perhaps by

allowing career progression within the realm of force development by associating complexity

and size of projects to rank.

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[68] *Ibid.*, 198.
[69] *Ibid.*, 199.
[70] Perry, *Putting the 'Armed' Back into the Canadian Armed Forces: Improving Defence Procurement in Canada*, 4.

A professional military procurement workforce would be better equipped at handling the continuously changing military procurement environment. A professionalized defence procurement workforce would enable an increase of trust between elected government officials and DND. An increase in trust in DND's ability to conduct defence procurement would allow room for DND to increase its authorities in procurement by reducing the requirement for additional bureaucratic checks and balances.

This paper then argued that incorporating effective continuous improvement processes in defence procurement can enable DND's objective, as described in SSE, to "streamline the procurement process."[71] DND's lessons learned programme, as a method of continuous improvement, within the ADM(Mat) and CFD branches was shown to fail at creating the conditions required for continuous improvement. Simply upkeeping a database of lessons learned is insufficient in creating an environment conducive to continuous improvement. Time pressures and defensive routines prevent DND from having successful lessons learned programmes.

Trust between project leaders, their subordinates, and their superiors is necessary to prevent the "pervasiveness of defensive routines and their confounding effects on reflection and learning."[72] DND's lessons learned practices must not only focus on preventing failures but must also focus on discovering the reasons why projects succeed. If lessons are primarily drawn from failed projects, an organization will have the tendency to excessively focus on policies that avoid risk and increase controls in order to prevent failures from happening again; possibly preventing innovative potential. These recommendations to improve DND's lessons learned

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[71] Canada, Department of National Defence, *Strong, Secure, Engaged: Canada's Defence Policy*, 16.
[72] Julian, "How Project Management Office Leaders Facilitate Cross- project Learning and Continuous Improvement," 55.

programme culminated in the requirement of skilled personnel and resources to establish a team focused solely on improving outcomes of defence procurement processes. "The most effective outcomes tend to rely on methodologies that included continuous improvement teams or groups with both staff and managers."[73] Clearly, DND would benefit from a lessons learned programme that serves to improve organizational outcomes by highlighting professional development opportunities and fostering a continuous improvement culture.

Benchmarking and measuring were shown to enable continuous improvement within organizations. Two types of benchmarking (process and operational) were discussed and can be potentially incorporated within Canada's defence procurement framework. Process benchmarking can be used to identify best practices that may be adapted for improvement of organizational performance.[74] Understanding why certain projects, internal or external to the organization, had superior performance over other projects with similar objectives could go a long way in capturing best practices that can be applied in a broader context. Secondly, operational benchmarking could be applied to discover work procedures, skills or competence training, or other analytical approaches that result in continued performance improvement as shown by objective measures of performance.[75] The Government of Canada is adamant on implementing policies that require departments to measure their performance on achieving results. The Government of Canada's policy on results is similar to those found in Benchmarking literature. Experts in this field should be incorporated in DND to ensure the government's objectives are achieved. Finally, incorporating a robust performance measurement

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[73] Begley, Cohen and Plecas, *An Assessment of Surrey RCMP's Continuous Improvement Team*, 2.
[74] Watson, *Strategic Benchmarking Reloaded with Six Sigma: Improve Your Company's Performance using Global Best Practice*, 5.
[75] *Ibid.*

framework can serve to keep defence procurement leaders accountable for their decisions as well as help create a culture of continuous improvement.

It remains to be seen whether the Government of Canada is serious in implementing the objectives within SSE. In the mean time, DND must strive to increase its legitimacy by strengthening its procurement workforce through professionalization and continuous improvement methodologies. Professionalism and continuous improvement fosters competence and it can only improve DND's procurement ambitions.   Defence procurement is vital to the success of any military and it must be given the attention and resources it requires to succeed.

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