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## **“I Want to Speak to a Manager”: An Analysis of the Place Held by Management Sciences in the Development of Canadian Armed Forces Officers**

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**“I WANT TO SPEAK TO A MANAGER” : AN ANALYSIS OF THE PLACE HELD BY  
MANAGEMENT SCIENCES IN THE DEVELOPMENT OF CANADIAN ARMED  
FORCES OFFICERS**

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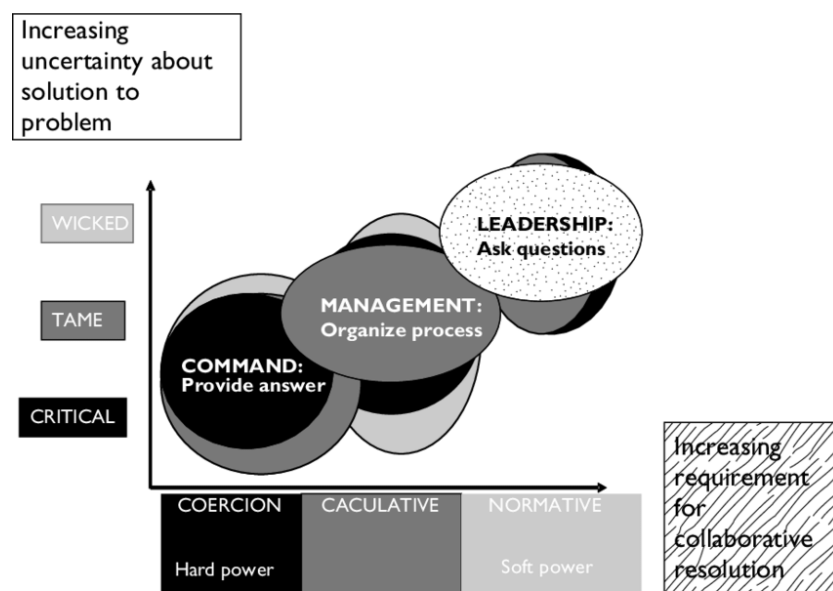
## **“I Want to Speak to a Manager”: An Analysis of the Place held by Management Sciences in the Development of Canadian Armed Forces Officers**

### **ABSTRACT**

Although Canadian Armed Forces (CAF) officer professional development is centered on Leadership, it alone is a blunt tool to face quantitatively complicated problems that demand precision and consistency. Without the additional development of managerial competencies, this has the potential to reduce the CAF’s operational effectiveness due to the misapplication of scarce resources and damage to public trust. Historical circumstances led to a series of deliberate institutional choices that resulted in an outsized focus on Leadership at the expense of the development of Command and Management skills in CAF officers. Diverging from the CAF’s approach, comparable organizations in the United States and United Kingdom appear to value the managerial competency of their officers as an important contributor to organizational performance. Comparatively, Canadian officers lack the tools needed to face the defence resource-mission mismatch that all too often results in attempts to “do more with less,” which can be detrimental to CAF member motivation, and result in institutional underperformance. The Canadian Armed Forces should follow the private sector’s re-orientation towards the fields of management sciences that include business digitization and quantitative methods, such as organizational performance measurement. By leveraging and expanding existing initiatives within the Department of Defence, the balance between Command, Leadership, and Management in professional development could be modified to equip officers with suitable tools to increase their unit’s performance, while ensuring the careful stewardship of finite defence resources in the process.

## CHAPTER 1 - INTRODUCTION

In 1973, design theorists Horst Rittel and Melvin Webber coined their famous “tame” and “wicked” problems theory: wicked problems being those that are difficult to solve as they do not obey set rules, are contradictory, or change without a definitive pattern.<sup>1</sup> While initially applied to social policy design, this theory has considerably broadened to include other fields. In the wake of the 2003 invasion of Iraq, Warwick UK leadership professor emeritus Keith Grint notably adapted the model to military affairs by expanding the definition to include critical (i.e.: urgent) problems. He further matched it to the concepts of Command, Management, and Leadership as the tools to address critical, tame, and wicked problems respectively.<sup>2</sup>



**Figure 1 – A typology of problems, power and authority**

Source: Grint, *Problems, Problems, Problems: The Social Construction of 'Leadership'*, 1477.

While the Canadian Armed Forces (CAF) faces its fair share of critical problems, such as military operations against an enemy, and wicked problems, as would be defeating sexual

<sup>1</sup> Rittel, H.W.J., Webber, M.M. “Dilemmas in a general theory of planning”. *Policy Science* 4, 155–169 (1973).

<sup>2</sup> Grint, Keith, "Problems, Problems, Problems: The Social Construction of 'Leadership'." *Human Relations* 58, no. 11 (11, 2005): 1467-1494.

misconduct within its ranks, tame problems are the most prevalent at all levels of the organization and worthy of attention.

Tame problems, which can be highly complicated, are those that are normally resolved through the application of processes and are likely to have occurred somewhere already. Therefore, an optimized solution often exists.<sup>3</sup> In a large public organization such as the Department of National Defence (DND) and the CAF, such problems might be manifested daily as budgetary challenges, ineffective supply chains, misallocated human resources, or a failure in delivering a project in a given timeline. Facing tame, but complicated problems, is not necessarily an easy task and can rapidly lead to a “resource-mission mismatch” where sub-optimal application of resources become so overbearing that military commanders are unable to meet their mission at the required standard.<sup>4</sup> Although not extensively studied for its impact in the CAF, the concept of resource-mission mismatch is a common complaint of lower level commanders, which might in part serve to explain departmental underperformance.<sup>5</sup>

In a context where National Defence<sup>6</sup> has been struggling to meet its stated performance objectives (only reaching 37% of them in the 2019-2020 fiscal year<sup>7</sup>), could a lack of focus on management competency in the CAF therefore render “tame” problems more challenging than

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<sup>3</sup> Ibid. *Complicated* denotes something hard to comprehend, but explainable in an algorithmic fashion. Meanwhile, *complexity* indicates an inclusion of many unknown factors, which does not yield itself to a procedural deconstruction. For more on the difference between complex and complicated, see Chapter 5 in *It's Not Complicated: The Art and Science of Complexity for Business* by Nason.

<sup>4</sup> Reed, G.E., “Tarnished: toxic leadership in the US military”. (Lincoln, NE: University of Nebraska Press, 2015), 35-36.

<sup>5</sup> Allan English, “Corruption in the Canadian military? Destroying trust in the chain of command”, Canadian Foreign Policy Journal 23, No. 1 (2017), 36.

<sup>6</sup> The DND reports to the Deputy Minister (DM) of National Defence and the CAF to the Chief of the Defence Staff (CDS). Both the DND and the CAF report to the Minister of National Defence, and together are known as the Defence Team, or National Defence. While certain organizations have dual reporting relationships, and that both military members and public servants are employed in DND and CAF organizations, this research paper uses DND to refer to civilian public servants and organizations reporting to the DM, and CAF for military members and organizations reporting to the CDS.

<sup>7</sup> Treasury Board Secretariat. “DND Departmental Results Framework”, GC InfoBase, accessed 25 January 2021, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#orgs/dept/133/infograph/results>.

they ought to be? This research paper argues that the low level of importance the CAF places on formal development of officer management skills undermines the organization's effectiveness, sustainability, and institutional stewardship responsibilities. This is partly due to a long held belief that leadership fully encompasses a managerial capacity, and the lack of a deliberate institutional approach to incorporating business best practices amongst its officer corps

Using a content analysis methodology, core Canadian Armed Forces professional development doctrine and training material is analysed in an attempt to ascertain the balance between the development of Command, Leadership, and Management skills amongst its officer corps. Additional management expertise developmental opportunities within the DND and the CAF are further evaluated within the framework of Experiential Learning Theory. Comparable international military and public sector organizations are then also analysed to determine if the CAF is an outlier in its handling of the development of officer management competency. Finally, a theoretical look at the value of professional management practices in the context of the CAF formations and units leads to recommendations on which specific fields of management sciences should be considered for further analysis and inclusion in the CAF Officer General Specification.

## CHAPTER 2 - LITERATURE REVIEW

In preparation for this publication, research was conducted into the topics of general management, defence management, and CAF officer professional development. The research was loosely organized amongst the themes that are encompassed by the each of three core chapters of the article.

For the analysis of CAF doctrine, training, and officer development in Chapter 3, the works of Webber and Rittel,<sup>8</sup> later put into a military perspective by Grint,<sup>9</sup> were consulted to capture the model of how critical, tame, and wicked problems relate to Command, Leadership, and Management (CLM). Publications by Okros,<sup>10</sup> Young, and Dulewic were then reviewed to refine Grint's model further as it relates to the CLM trifecta.<sup>11</sup> As the basis for the content analysis of CAF officer professional development doctrine and common training, a series of official DND publications were analysed, notably *Duty with Honour*,<sup>12</sup> the *Leadership in the CF* series,<sup>13</sup> and the Officer General Specification.<sup>14</sup> The training material, in the form of Qualification Standards, Training Plans, and Course Outlines, was gathered from various sources

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<sup>8</sup> Rittel, H.W.J., Webber, M.M. "Dilemmas in a general theory of planning". *Policy Science* 4, (1973), 155–169.

<sup>9</sup> Grint, Keith, "Problems, Problems, Problems: The Social Construction of 'Leadership'." *Human Relations* 58, no. 11 (11, 2005): 1467-1494.

<sup>10</sup> Alan Okros. "Civil-Military Relations: The Broader Context". *The Defence Team: Military and Civilian Partnership in the Canadian Armed Forces and the Department of National Defence*. Kinston, ON: Canadian Defence Academy Press, 2015, 63.

<sup>11</sup> Mike Young and V. Dulewic, "A Model of Command, Leadership and Management competency in the British Royal Navy", *Leadership & Organization Development Journal* 26, no. 3 (2005): 230.

<sup>12</sup> Department of National Defence, A-PA-005-000/AP-001, *Duty with Honour: The Profession of Arms in Canada* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2003).

<sup>13</sup> Department of National Defence, A-PA-005-000/AP-004, *Leadership in the Canadian Forces: Conceptual Foundations* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2005), 9; Department of National Defence, A-PA-005-000/AP-003, *Leadership in the Canadian Forces: Doctrine* (Kingston ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2005); Department of National Defence, A-PA-005-000/AP-005, *Leadership in the Canadian Forces: Leading People* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2007); Department of National Defence, A-PA-005-000/AP-006, *Leadership in the Canadian Forces: Leading the Institution* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2007).

<sup>14</sup> Department of National Defence, A-PD-055-002/PP-003, *Canadian Forces Officer General Specification* (Ottawa, ON: Chief of Military Personnel, 2009).



on the Defence Wide Area Network (DWAN), as well as from current candidates and training staff on CAF courses. To provide historical context to the development of this doctrinal work and training, the works of Bercuson,<sup>15</sup> and the Report of the Somalia Commission of Inquiry were used.<sup>16</sup> Landmark works by American educator David Kolb and his peers were consulted to set multiple CAF professional Development initiatives in the framework of experiential learning theory.<sup>17</sup> Articles from digital news publications, both DND internal and external, were used as written sources for these various departmental initiatives. Publications from the Project Management Institute, as well as an article by Dempster,<sup>18</sup> highlight the value of project management competency in defence. Finally, the work of Canadian researchers Pigeau and McCann into command effectiveness was used to recommend an approach to increasing management competency commensurate with the level of responsibility.<sup>19</sup>

For Chapter 4, a review of the place held by management sciences in organizations comparable to the CAF, a series of Canadian, American, and British government publications were selected for analysis. These included primary sources on defence human resource

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<sup>15</sup> David J. Bercuson. "Up from the Ashes: the Re-Professionalization of the Canadian Forces after the Somalia Affair", *Canadian military journal* 9, no. 3 (January 2009).

<sup>16</sup> Commission of Inquiry into the Deployment of Canadian Forces to Somalia, *Executive Summary of Dishonoured Legacy: The Lessons of the Somalia Affair: Report of the Commission of Inquiry into the Deployment of Canadian Forces to Somalia*, (Ottawa, The Commission, 1997), 15-20.

<sup>17</sup> David A. Kolb. *Experiential Learning: Experience as the Source of Learning and Development*, Englewood Cliffs, Prentice Hall, 1984, 41; Mainemelis, Charalampos, Richard E. Boyatzis, and David A. Kolb. "Learning Styles and Adaptive Flexibility: Testing Experiential Learning Theory." *Management Learning* 33, no. 1 (03, 2002): 11-12.

<sup>18</sup> Douglas Dempster, "Capability Acquisition and Canadian Defence Policy: Programme Achievability and Resilience?", *Canadian Defence Policy in Theory and Practice*. Canada and International Affairs: Palgrave Macmillan, 2019, 343.

<sup>19</sup> Ross Pigeau and Carol McCann. "Reconceptualizing Command and Control." *Canadian Military Journal* 3, no. 1 (2002): 53-63.

management,<sup>20</sup> personnel statistics,<sup>21</sup> and development programs for each country.<sup>22</sup> Secondary sources, which included academic studies and unpublished reports analysing the impact of specific programs, were also reviewed. The Currie et al. study commissioned by the United States Air Force to look into its leadership development programs was particularly insightful.<sup>23</sup> Key British strategic defence reviews, the *Levene* and *Grey* reports,<sup>24</sup> provided a justification for their reorientation towards management skills development. Information on British officer development initiatives was provided via a combination of government documents, published articles, and digital news sources.<sup>25</sup> Much of the information on the success of the United Kingdom's direct entry police superintendent program came from the public record of

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<sup>20</sup> Airforce.com, "Officer Careers in Operations Administration", accessed 3 March 2021; LCol D.J. Butcher, "The Evolution of Learning Practices in the RCAF", (Master's Thesis, Canadian Forces College, 2016), 47; Hannah Davison and Joanna Harvey, "The Development of a Framework for Appointing and Appraising UK Military Personnel", (Lisbon, Portugal: International Applied Military Psychology Symposium, 2015); British Army, *Career Management Handbook – Part 3 Guide to Army Career Management*, (London, UK: Military Secretary, 2020), 50-51; *British Army, Personnel Management Strategy Booklet – Develop, Nurture, Achieve*, (London, UK: British Army, 2020), 3.

<sup>21</sup> Air Force's Personnel Center, "Military Demographics", 31 October 2020; Bureau of U.S. Labor Statistics, "Occupational Outlook Handbook – Air Force Executive, Administrative, Managerial, Human Resources, and Support Services", 19 February 2021; U.S. Department of Defense, 2014 Demographics: Profile of the Military Community, (Arlington: DoD, 2014), 41; Statistics Canada, 2016 Census - Major Field of Study - Classification of Instructional Programs (CIP) 2016 (432), Occupation - National Occupational Classification (NOC) 2016 (693A), 17 June 2019.

<sup>22</sup> Air University, "Air University Catalogue – Academic Year 2020-2021", Maxwell Air Force Base, AB: Air University, 2019, 65-108, 174-178; Department of National Defence, *Syllabus – Joint Command and Staff Programme* (Canadian Forces College, 2020), 14-15; UK Defence Academy, *Capability and Acquisition Series – CAPACA*, accessed on 15 March 2020; Cranfield Defence and Security, *Management, Leadership and business skills 2018-2019*, (Shrivenham, UK: Cranfield University, 2019); Canadian Armed Forces, *CANFORGEN 118/20 CMP 061/20 081608Z SEP 20 – 2021 Post-Graduate Training (PGT) (Sponsored) Competition* (Ottawa, CA: Chief of Military Personnel, 2020); British Army, *Army Command Order 2019/04 - Army Accreditation Offer*, (London, UK: Head Army Personnel Services Group, 2019), 1.

<sup>23</sup> K. Currie et al, "Air Force Leadership Study – The Need for Deliberate Development", Maxwell Air Force Base, AB: Air University, 2012

<sup>24</sup> Lord Peter Levene, *Defence Reform - An independent report into the structure and management of the Ministry of Defence*, (London, UK: Ministry of Defence, 2011); Bernard Gray, *Review of Acquisition for the Secretary of State for Defence*, (London, UK: Bernard Gray, 2009), 179-181.

<sup>25</sup> Peter Tatham and Trevor Taylor, "Five Key Challenges for the Management of UK Defence: An Agenda for Research?", *International Journal of Defence Acquisition Management I*, (2008): 24; Trevor Taylor and Andrew Curtis, *Management of Defence After the Levene Reforms - What Comes Next?*, (London, UK: Royal United Services Institute, 2020), 11-14; Mike Butler, "From the Coal Faces – External Placement (Academic)", *The British Army Review 171* (Winter 2018): 103-109.

government proceedings,<sup>26</sup> the College of Policing,<sup>27</sup> and a journal article by Smith.<sup>28</sup> Finally, Sullivan's comprehensive review of the impact of Masters in Business Administration programs was combined with the publically available curricula of some Canadian business schools to paint a picture of private sector management education.<sup>29</sup>

Chapter 5 consists of an analysis of the value of management sciences for tactical and operational level managers, with an outlook as to how improvements at these levels might increase institutional performance. Works by Reed and Taylor help provide context to the challenges of defence management and the importance of developing its skills.<sup>30</sup> Although inspired by the author's own experience, the responsibilities of tactical level managers is put into a broader institutional context using the Treasury Board of Canada's Departmental Results Framework,<sup>31</sup> DND internal audit reports,<sup>32</sup> and the academic works of other CAF members.<sup>33</sup> A report from consulting firm McKinsey & Company provides the theoretical underpinning for the concepts of organizational performance measurement.<sup>34</sup> Finally, publications by the Assistant

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<sup>26</sup> The London Assembly, *Metropolitan Police direct entry programmes*, 1 March 2019, accessed at <https://www.london.gov.uk/questions/2019/4065/>.

<sup>27</sup> College of Policing, *Five-year report on direct entry published*, 20 July 2020, accessed at <https://www.college.police.uk/News/College-news/Pages/Direct-Entry-five-year-evaluation-report-published-July-2020.aspx/>.

<sup>28</sup> Richard Smith, "Don't call me Ma'am: Direct entry into leadership roles in British Policing.", *The Police Journal: Theory, Practice, and Principles* 89(4), (2016): 312.

<sup>29</sup> Kerry Sullivan, "Value in the MBA: A UK Perspective", (Doctoral Thesis, University of Surrey School of Management, 2010), 177-188.

<sup>30</sup> G.E. Reed, "Tarnished: toxic leadership in the US military". (Lincoln, NE: University of Nebraska Press, 2015), 35-36; Trevor Taylor. "The Place of Management in Defence (and Defence Education), *The RUSI Journal* 150, No. 2 (April 2005), 25-26.

<sup>31</sup> Treasury Board Secretariat, "DND Departmental Results Framework", *GC InfoBase*, accessed 25 January 2021, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#orgs/dept/133/infograph/results>.

<sup>32</sup> Department of National Defence, *Evaluation of Air Force Readiness*, (Ottawa: ON, Assistant Deputy Minister (Review Services), 2017).

<sup>33</sup> Maj K.E. Dubreuil, "Agile and Responsive? Is the Royal Canadian Air Force Contracting Out its Agility and Responsiveness Through Outsourcing Supply Chain Management?", (Master's Thesis, Canadian Forces College, 2018, 49; VAdm R. Lloyd, Comd RCN, briefing to the Joint Command and Staff College, Canadian Forces College, 17 May 2018; Maj Melissa Snook, "RCAF Leadership and the Cult of the Pilot: Reassessing a WWII Organizational Structure." (Master's Thesis, Canadian Forces College, 2018), 68.

<sup>34</sup> Raffaele Carpi, John Douglas, and Frédéric Gascon, "Performance Management: Why Keeping Scores is so Important, and so Hard.", 4 October 2017.

Deputy Minister for Data, Innovation, and Analytics,<sup>35</sup> as well as a report from the International Air Transport Association,<sup>36</sup> inform the analysis of the value of business digitization and quantitative methods of management in an organization like the CAF.

Other contextual references from the wider field of management were also reviewed in preparation for this publication. While not directly cited, they notably include: *Managers and Management*,<sup>37</sup> *High Output Management*,<sup>38</sup> *The Fifth Discipline*,<sup>39</sup> and *Defence Management: An Introduction*.<sup>40</sup> These references, as well as all other cited works not mentioned above, are found in the bibliography adjoined to this paper.

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<sup>35</sup> Walsh, John, “Director General Data Analytics, Strategy and Innovation”, Presentation, Canadian Forces College, Toronto, ON, 18 November 2020; DND, “DND/CAF Data Strategy”, accessed 21 January 2021, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/data-strategy.html>.

<sup>36</sup> International Air Transport Association, “Data Science Hype or Ripe for Aviation?”, *Aviation Data White Paper Series* (Montreal: QC, IATA, June 2019).

<sup>37</sup> Stephen P. Robbins, Mary Coulter, and David A. Decenzo. “Managers and Management.” Chap. 1 in *Fundamentals of Management*. 10th ed. Pearson Education Inc., 2017.

<sup>38</sup> Andrew S. Grove, *High Output Management*, New York: US, Penguin Random House, 2015.

<sup>39</sup> Peter Senge, *The Fifth Discipline – The Art and Practice of the Learning Organization*, New York, US: Doubleday/Currency, 2006.

<sup>40</sup> Bucur-Marcu, Fluri, and Tagarev, *Defence Management: An Introduction*, Geneva: SW, Geneva Center for the Democratic Control of Armed Forces, 2009.

## CHAPTER 3 – OVERVIEW OF MANAGEMENT SCIENCES IN THE CANADIAN ARMED FORCES

*We have been over-led and undermanaged.*

— Lieutenant-General M.N. Rouleau to the class of JCSP 47, 2020

### 3.1 Current Doctrinal View of Management

Although the CAF recognize that elements of management are part of the development of its officer corps, it is assigned a relatively small importance in the “conflated trinity”<sup>41</sup> of Command, Leadership, and Management. An analysis of cornerstone professional development and leadership doctrine exposes this glaring imbalance. The fact that the CAF has not capitalized upon the opportunities of advancing management concepts as core officer competencies indicates that there might be an overall lack of expertise and understanding of what it could bring to the efficiency and efficacy of institutional practices, and how it could help deliver the best possible results at the tactical level. There is a strong bias towards leadership at the expense of management that in part find its roots in the institutional efforts made to support the re-professionalization of the Canadian military in the wake of the troubled period of the 1990s.

As a professional community, the CAF understands that all of its members are accountable to the Canadian public, not only for the effective accomplishment of their duty, but also for the careful stewardship of finite defence resources in the process.<sup>42</sup> In fact, the *DND and CAF Code of Value and Ethics* clearly outlines this institutional expectation by stating that: “DND employees and CF members shall responsibly use resources by ... Effectively and efficiently using the public money, property and resources managed by them.”<sup>43</sup> This careful stewardship is vital considering that the taxpayers, who understand that a portion of their hard-

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<sup>41</sup> Okros, Alan. “The Conflated Trinity: Command, Leadership and Management.” In *Leadership in the Canadian Military Context*. Kingston, ON: Canadian Forces Leadership Institute, 2010.

<sup>42</sup> Department of National Defence, A-PA-005-000/AP-001, *Duty with Honour: The Profession of Arms in Canada* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2009), 13.

<sup>43</sup> Department of National Defence, *Department of National Defence and Canadian Forces Code of Values and Ethics*, Chapter 1, Table 5.2 – Stewardship. (Ottawa, ON: Department of National Defence, 2020).

earned money is funneled to achieve the defence goals that are in the national interest, expect it to be managed in a most efficient manner. Doing otherwise threatens the public trust in their armed service. Therefore, there exists a tension between the need to accomplish the mission against the requirement to optimize use of public funds, personnel and materiel. This phenomenon is well studied in the context of strategic level civil-military relations. In his contribution to *The Defence Team: Military & Civilian Partnership in the Canadian Armed Forces & the Department of National Defence*, Dr. Alan Okros explains that while the military side of the Defence Team is mainly concerned with effectiveness, the efficient allocation of resources is perceived as more of a responsibility for the Deputy Minister (in the role of Accounting Officer to parliament) and civilian staff. He highlights that this can be a significant source of tension at the highest levels of the organizations:

“Nowhere is the clash of priorities more evident than in decisions over resource allocation. First, the Defence Team must decide how to balance military effectiveness with political benefits when making major decisions involving equipment, base locations, infrastructure and even the local purchasing of goods and services. Second, allocating time, effort and money to conduct the missions of today must be balanced against building capacities for the missions of tomorrow. Balancing these multiple and often conflicting priorities can easily lead to sharp differences of opinion between the CAF and DND.”<sup>44</sup>

As a necessary concept of civil control over the Canadian Armed Forces, the concentration of authority over departmental resources is held in the hands of the public service. Since achieving military objectives normally require some form of application of “funds, property, or resources”, the ability of military commanders to fulfill their mandate is necessarily limited by the authorities granted to them. While this ensures a significant amount of oversight, it restricts the flexibility and timeliness of expenditure

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<sup>44</sup> Alan Okros. “Civil-Military Relations: The Broader Context”. *The Defence Team: Military and Civilian Partnership in the Canadian Armed Forces and the Department of National Defence*. Kinston, ON: Canadian Defence Academy Press, 2015, 63.

management, but ultimately negatively affects the operational effectiveness of the organization. This is nowhere more evident than in the delegations of financial authorities afforded to formation, unit, and sub-unit commanders.

For instance, the commander of Canada's largest air base, CFB Trenton, overseeing a workforce of approximately 5,000 individuals and charged with the Canadian Armed Force's worldwide air mobility mandate, is generally restricted to a \$25,000 dollar spending authority. Prohibitions on spending on infrastructure, or centrally managed goods such as vehicles, are only examples of further restrictions that exist depending on the nature of the expenditure.<sup>45</sup>

While these restrictions can be avoided in certain special cases, such as during emergencies or when obtaining goods or services from a limited list of standing government contracts, it appears hardly fitting for a Colonel running what would be considered a very large corporation in the private sector.<sup>46</sup> A similar statement could be made for unit commanders, generally Lieutenant-Colonels with a \$5,000 spending authority. Consequently, military commanders are constrained in such a manner due to their focus on the primacy operations, and are bound by the limited trust put in their ability to manage the scarce defence resources allocated to them by the public service.

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<sup>45</sup> Tim Durking, "RELEASE: CFB Trenton Commander Deming looks back at 2020", *Inquite News*, 25 December 2020, accessed at <https://www.quintenews.com/2020/12/25/251610/>; Department of National Defence, A-FN-100-002/AG-006, *Delegation of Authorities for Financial Administration for DND and the CF*, (Ottawa, DND Canada, 2017).

<sup>46</sup> Statistics Canada. "Economic Analysis (EA) Research Paper Series 11F0027M, No. 69", May 2011, Accessed at <https://www150.statcan.gc.ca/n1/pub/11f0027m/2011069/part-partie1-eng.htm>.



**Figure 2 – CAF Doctrinal Inter-relationships of Command, Leadership and Management**

Source: DND, *Leadership in the Canadian Forces: Conceptual Foundations*, 11.

The minimal trust granted to senior CAF officers with such significant responsibilities could be explained by analyzing their core competencies in the CLM framework. The CAF doctrinal view of CLM attributes is presented at Figure 2. The three CLM functions, and the inter-relationship between them, is a matter almost exclusive to the study of military leadership and management, as the concept of “Command” is seldom considered applicable to civilian ventures. Nonetheless, the attributes surrounding the Command element of these models can be easily transposed to a non-military context.

A CLM model used in the British Royal Navy to predict organizational performance characterizes Command as “coping with challenge” by “clarifying superior intent,” “ensuring subordinates meet their remit,” “timely decision making,” and “success through determination.”<sup>47</sup> In the CAF context, Okros describes Command as “the authority to initiate action,” emphasizing amongst other characteristics: “rational, logical deductive reasoning,” “rapid processing of fragmented data and information,” and “short time horizons.”<sup>48</sup> In neither case are these descriptions of attributes strictly exclusive to the military context.

<sup>47</sup> Mike Young and V. Dulewic, “A Model of Command, Leadership and Management competency in the British Royal Navy”, *Leadership & Organization Development Journal* 26, no. 3 (2005): 230.

<sup>48</sup> Okros, Alan. “The Conflated Trinity: Command, Leadership and Management.” In *Leadership in the Canadian Military Context*. Kingston, ON: Canadian Forces Leadership Institute, 2010, 9.



Therefore, although not often conceptualized as such by researchers, CLM frameworks could be used to describe the functions of any individual in an organizational leadership role, be it in the military, public or private sector. Of course, a valid argument exists in the sense that the term “Command” is unique to the framework of military operations. For example, as it is shown in the CAF interpretation at Figure 2, it includes more than the realm of management and exclusively governs the use of force, military justice, and the act of putting others in harm’s way. Seen from a different angle though, this is simply the exercise of existing *authorities* delegated to these individuals by law, or as Okros puts it: “Command is the authority to *initiate* action.” Consequently, the characteristics of Command revolve around the authorities given to an individual and are not strictly a military concept. A given person’s ability to deliver on any of the three CLM functions and the balance between them should therefore be perceived as independent of whether they wear a uniform or not, as the roles and responsibilities of civilian managers can be comparable to those of a military commander.<sup>49</sup>

One must therefore ask why it is considered that military officers must naturally emphasize the elements of Command and Leadership, while a public service manager would be perceived as naturally more suited to effect the elements of the Management function.

An analysis of CAF foundational professional development doctrine yields a possible answer to this question. In 2003, the DND published a momentous doctrinal document that would guide professional development of its members for years to come. *Duty with Honour: The Profession of Arms in Canada* became the cornerstone of the CAF professional development system and was widely published with the intention that every single member of the Armed

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<sup>49</sup> Department of National Defence, A-PA-005-000/AP-004, *Leadership in the Canadian Forces: Conceptual Foundations* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2005), 9.

Forces would read it.<sup>50</sup> It was followed in 2005 and 2007 with four companion pieces, in the *Leadership in the Canadian Forces* series, intended to broaden the concepts explored in *Duty with Honour: Doctrine*,<sup>51</sup> *Conceptual Foundations*,<sup>52</sup> *Leading People*,<sup>53</sup> and *Leading the Institution*.<sup>54</sup> A second and final edition of *Duty with Honour* was published in 2009.<sup>55</sup> These foundational publications have not been updated or rescinded since and are still used as a pedagogical material in CAF schools for all developmental levels. While *Duty with Honour* provides the broader “theoretical and philosophical underpinning of the profession,”<sup>56</sup> the *Leadership in the CF* series is of wider interest to the study of the balance between Command, Leadership, and Management. These manuals attempt to define this relationship and further detail the responsibilities of CAF leaders towards their subordinates and the institution. Their analysis is therefore essential to the examination of the relationship between Command, Leadership and Management amongst officers.

By the application of content analysis methods on this set of fundamental CAF doctrinal documents, it becomes apparent that a substantial bias exist towards Leadership in the professional development of CAF leaders. Content analysis is a technique of quantitative research used to study the frequency of certain words or phrases in a document in an attempt to reveal dominant themes, bias, or deep meaning of messages.<sup>57</sup> Using an online content analysis

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<sup>50</sup> Department of National Defence, A-PA-005-000/AP-001, *Duty with Honour: The Profession of Arms in Canada* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2003).

<sup>51</sup> Department of National Defence, A-PA-005-000/AP-003, *Leadership in the Canadian Forces: Doctrine* (Kingston ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2005).

<sup>52</sup> Department of National Defence. A-PA-005-000/AP-004, *Leadership in the Canadian Forces: Conceptual Foundations* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2005).

<sup>53</sup> Department of National Defence, A-PA-005-000/AP-005, *Leadership in the Canadian Forces: Leading People* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2007).

<sup>54</sup> Department of National Defence, A-PA-005-000/AP-006, *Leadership in the Canadian Forces: Leading the Institution* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2007).

<sup>55</sup> Department of National Defence, A-PA-005-000/AP-001, *Duty with Honour: The Profession of Arms in Canada*. (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2009).

<sup>56</sup> *Ibid.*, 1.

<sup>57</sup> Kimberly A. Neuendorf, *The content analysis guidebook* (New York: SAGE Publications, 2002), 1-12.

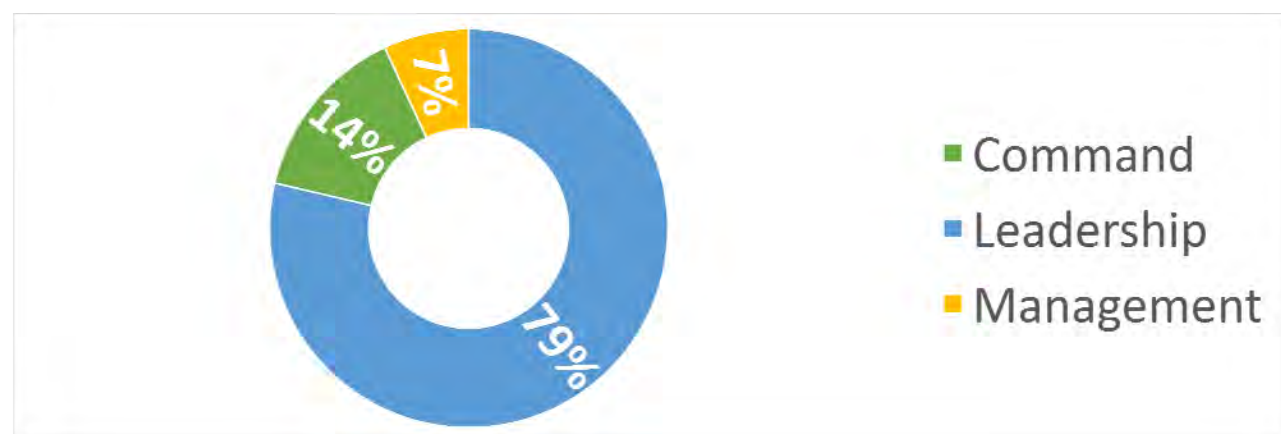
tool<sup>58</sup>, *Duty with Honour* as well as its four companion documents were analyzed for the frequency of the core functions of the CLM framework.

For Command, the terms *Command*, *Commander*, *Commanding* were counted. For Leadership, the words *Leadership*, *Leader*, *Lead*, and *Leading* were used. For Management, *Management*, *Manage*, *Manager* were included in the search. For all terms, variants based on verb tenses and plurals were included. As an additional adjustment to better reflect the values based on actual content, the titles, headers, footers, figures and bibliography were excluded from the search. The detailed results of the quantitative content analysis can be viewed at table 1, while a summary graphic is presented at figure 3.

**Table 1 -- Content Analysis (Word frequency) of Key CAF Doctrinal Publications**

	Number of occurrences (relative weight)		
	Command	Leadership	Management
Duty with Honour (2009)	57 (33%)	98 (56%)	19 (11%)
Leadership in the CAF - Leading the Institution (2007)	138 (10%)	1116 (81%)	127 (9%)
Leadership in the CAF - Conceptual Foundations (2005)	264 (12%)	1734 (81%)	156 (7%)
Leadership in the CAF - Leading People (2007)	71 (9%)	671 (88%)	22 (3%)
Leadership in the CAF - Doctrine (2005)	48 (8%)	538 (88%)	27 (4%)
Average	14%	79%	7%

Source: Author



**Figure 3 -- Relative Weight of Command, Leadership and Management in CAF Doctrine**

Source: Author

<sup>58</sup> Mladen Adamovic. "Text Analyzer", *online-utilities.org*, accessed 24 January 2021. <https://www.online-utility.org/text/analyzer.jsp>

At 79%, *Leadership* is the most prominent concept by a wide margin, followed by *Command* at 14%, and *Management* only having a 7% prevalence. Although not completely indicative of the absolute value given to each concept by the authors of these publications or of how they might be interpreted by its reader, the result of the content analysis teases a deep preference for discussions surrounding the concept of Leadership in core CAF professional development doctrine.

While the quantitative analysis of the publications reveals content heavily weighted towards Leadership, it is also relevant to examine the content qualitatively for positive or negative bias. In particular, there appears to exist occurrences of negative bias against the function of Management that further diminishes its importance. While the five publications surveyed generally recognize that Management must play a role in institutional leadership, there are certain instances where Management is showed as a concept to be potentially opposed. The first two passages refer to the role of CAF leadership in opposing “managerialism” to maintain primacy of the mission. The third one characterises resource-management as a necessary antithesis to Leadership and Command, but still downplaying the relative importance of good management practices.

The term “managerialism” in this context appears to be used in the pejorative form that has often come to be associated with it, as in the excessive and encumbering application of bureaucratic processes.<sup>59</sup>

In fact, institutional leaders, in their role of steward, need to be constantly vigilant that military professional attitudes, norms and values (that is, professional ideology) remain pre-eminent when the ideologies of managerialism and

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<sup>59</sup> Asbjørn Røiseland, Jon Pierre, and Annelin Gustavsen. “Accountability by professionalism or managerialism?”, *International Journal of Public Administration* 38, no. 10 (2015), 3.

entrepreneurialism, which are so influential in organizational governance, are confronted.<sup>60</sup>

An important process in this context is the development of a strong common understanding that different approaches to managing and applying knowledge do exist. Thus, market ideology (entrepreneurialism) and bureaucratic ideology (managerialism) both make important contributions to the DND/CF role in Canadian security policy, and each contains a particular occupational ethic of its own. The goal for stewards of the profession is to explain to both internal and external audiences how these ideologies can erode military professional ideology, especially its military ethos component.<sup>61</sup>

It is readily acknowledged, however, that the resource-management function – with its emphasis on dollars, quantitative methods, and efficiency – is a subordinate element of both general management and military command. It is this function that is often characterized as the antithesis of, but a necessary complement to, leadership and command.<sup>62</sup>

These instances strengthen the argument that CAF professional development doctrine significantly de-emphasize the role of management practices. It is important to note however that although the two cited publications, *Leading the Institution* and *Conceptual Foundations*, imply a negative bias against Management, the ensemble of the doctrine recognizes the necessity of Management, and that it is a requisite skill for CAF leaders who are expected to be stewards of their profession. Notably, it continuously refers to the trifecta of Command, Leadership, and Management as required attributes for CAF leaders, and that core professional expertise must be balanced with management expertise to direct, manage, and control in a post-industrial organization.<sup>63</sup> Still, the publications remain light on content as to which management skills should be emphasized. This will later translate into how few management concepts are integrated into education and training of CAF officers.

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<sup>60</sup> Department of National Defence, A-PA-005-000/AP-006, *Leadership in the Canadian Forces: Leading the Institution*. (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2007), 5.

<sup>61</sup> *Ibid.*, 16.

<sup>62</sup> Department of National Defence, A-PA-005-000/AP-004, *Leadership in the Canadian Forces: Conceptual Foundations* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2005), 9.

<sup>63</sup> Department of National Defence. A-PA-005-000/AP-006, *Leadership in the Canadian Forces: Leading the Institution* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2007), 5.

This relative de-emphasis of Management in CAF professional development is the result of deliberate institutional choices. In fact, the decision to reduce its prevalence is by design and can be linked to the unfortunate events that transpired in Somalia and Croatia in 1993 and 1994. There is no need to review in details the difficulties experienced by the Canadian Forces in the 1990s. It is sufficient to understand that these doctrinal documents found their genesis in the actions of the Canadian Airborne Regiment in Somalia, which led to nearly 10 years of intense public scrutiny and the effective suspension of the ability for the Profession of Arms to govern itself.<sup>64</sup> In 1997, both the *Somalia Commission Report*, and the parallel *Report to the Prime Minister on the Leadership and Management of the Canadian Forces*, highlighted the significant leadership shortcomings that existed amongst officers.<sup>65</sup> They recommended that the CF improve the quality of leadership at all levels, and that leadership qualities be considered the core attribute to guide the “selection, training, development, and assessment of leaders.”<sup>66</sup> The 1996 reports of further shameful actions perpetrated by Canadian Forces members deployed at Bokovici, Croatia in 1993 and 1994 provided further incentive for the government to take radical action in reforming their armed forces.<sup>67</sup> The subsequent development of the CAF’s professional development doctrine in *Duty with Honour*, and its companion documents, is a result of this undertaking. In fact, *Leading the Institution* covers this linkage directly:

In retrospect, however, as the Somalia debacle unfolded and problems in Bosnia, most notably the Bakovici incident, emerged, there was a sense that management processes were being applied in lieu of leadership solutions or a full grasp of command responsibilities beyond planning, supervising and directing. There was

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<sup>64</sup> David J. Bercuson. “Up from the Ashes: the Re-Professionalization of the Canadian Forces after the Somalia Affair”, *Canadian military journal* 9, no. 3 (January 2009).

<sup>65</sup> Department of National Defence, A-PA-005-000/AP-006, *Leadership in the Canadian Forces: Leading the Institution* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2007), 12.

<sup>66</sup> Commission of Inquiry into the Deployment of Canadian Forces to Somalia, *Executive Summary of Dishonoured Legacy: The Lessons of the Somalia Affair: Report of the Commission of Inquiry into the Deployment of Canadian Forces to Somalia*, (Ottawa, The Commission, 1997), 15-20.

<sup>67</sup> Hugh Windsor. “Military brings new shame on Canada”, *The Independent*, 19 January 1997, accessed at <https://www.independent.co.uk/news/world/military-brings-new-shame-canada-1283978.html>.

definitely a sense in which the criterion of efficiency was privileged over effectiveness. [...] In fact, a major objective for the publication of both *Duty with Honour: the Profession of Arms in Canada* and *Leadership in the CF: Conceptual Foundations* was to provide a counterweight to the concept of “modern management” (for example, controlling, accounting, supervising) in the CF. Such practices are often inimical to operational goals if they are not placed firmly in the context of military professionalism, CF leadership doctrine and the military ethos. Thus, bureaucratic ideology and the ideology of the market (business planning et al) were countered by the articulation of a military professional ideology based on concepts of service before self, duty, and core military values.<sup>68</sup>

It can be appreciated that the findings of the aforementioned reports have a great deal of merit and that the release of strong leadership doctrine to correct course was necessary to avoid mistakes of the past. It should be noted however, that it is unlikely that much effort was expended at the time to evaluate the impact of diminishing the value of general management *too significantly* when it came to professional development.

If the trifecta of Command, Leadership, and Management relies on a balance between the three, an argument can be made that the pendulum has swung too far in a particular direction. The content analysis of core CAF professional development doctrine appears to indicate an outsized focus on Leadership. Without an update to these documents in the last 12 years, the CAF does not appear to have issued new guidance recognizing this potential gap. Therefore, CAF professional development has grown to focus extensively on Leadership, particularly at the expense of Management.

### **3.2 Current Education and Training Framework**

The intense scrutiny of the 1990s and the internal efforts to re-professionalize the Canadian Forces led to the release of the aforementioned set of professional development doctrine documents, but officers were also targeted by a unique initiative. The team that initiated

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<sup>68</sup> Department of National Defence, A-PA-005-000/AP-006, *Leadership in the Canadian Forces: Leading the Institution* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2007), 32.

the development of these publications was created as part of a mandate given in 1999 to a newly created office for the Special Advisor to the Chief of the Defence Staff for Officer Professional Development.<sup>69</sup> While the mandate of the team was later expanded to include NCM professional development, this initial focus on officers explains the 2001 release of the *Officership 2020* education strategy, which would later lead to the complete review of the Officer General Specification (OGS) based on the new body of doctrine developed with *Duty with Honour*.<sup>70</sup>

The OGS, updated in 2009 and reviewed in 2017, is the document that describes the performance and professional development requirements common to all Regular Forces and Reserves CAF Officers.<sup>71</sup> Using *Officership 2020* and the *Duty with Honour/Leadership in the Canadian Forces* series of doctrine, the OGS describes the core competency that must be shared by all officers as duty areas and sub-duty areas. These are displayed in a simplified manner in Table 2, with sub-duty areas related to management tasks highlighted and expanded to their topical lists.

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<sup>69</sup> Department of National Defence, *BG - 00.049. Archived – Officership 2020*, 4 April 2001, accessed at: <http://www.forces.gc.ca/en/news/article.page?doc=officership-2020/hnmx19pq>.

<sup>70</sup> Department of National Defence, A-PD-055-002/PP-003, *Canadian Forces Officer General Specification* (Ottawa, ON: Chief of Military Personnel, 2009).

<sup>71</sup> *Ibid.*, 1-1.



**Table 2 – OGS Performance Duty Areas – Management Tasks Emphasized**

Duty Area	Sub-Duty Area	
A - Lead Military Operations	A1 - Apply Basic Military Skills	
	A2 - Prepare for Military Operations	
	A3 - Plan Military Operations	
	A4 - Conduct Military Operations	
	A5 - Contribute to the development of national security policy/ strategy	
	A6 - Conduct Lessons Learned	
	A7 - Develop doctrine	
B - Lead the Organization and Institution	B1 - Steward the Military Profession	
	B2 - Ensure Succession of Institutional Leadership	
	B3 - Ensure Member Well Being and Commitment (at level of institution)	
	<b>B4 - Contribute to Defence Planning and Management (DP&amp;M)</b>	B4.1 - Institutional Strategic Planning
	<b>B5 - Develop Policy</b>	B4.2 - Capability-Based Planning
	<b>B6 - Manage Resources</b>	B4.3 - Integrated risk management
	<b>B7 - Develop DND as a Learning Organization</b>	B4.4 - Resource planning
	B8 - Foster Relationships with External Stakeholders	B4.5 - In-year management
	B9 - Enforce Regulations	B4.6 - Performance Management
C - Lead People	C1 - General	B4.7 - Government reporting
	C2 - Develop Personnel	B4.8 - Organization and establishment processes
	C3 - Oversee Well-Being of Subordinates	
	C4 - Maintain good order and discipline	
	C5 - Build Internal Integration	
	<b>C6 - Assess Personnel Performance</b>	B6.1 - General
	<b>C7 - Coordinate Management and Administration</b>	B6.2 - Control and Oversight
D - Lead Through the Application of Professional Competencies	D1 - Apply General Staff Skills	B6.3 - Financial
	D2 - Develop Cognitive Skills	B6.4 - Materiel
	D3 - Develop Social Capacities	B6.5 - Personnel
	D4 - Develop Change Capacities	C7.1 - Informing
		C7.2 - Grievances
		C7.3 - Personnel Management

Source: DND, *Canadian Forces Officer General Specification*, Annex C to Chapter 2.

Table 2 presents duty areas that are clearly linked to the contents of core CAF leadership doctrine and that are divided up in a similar way as the publications from the *Leadership in the Canadian Forces* series. Six of the 27 sub-duty areas (22%; indicated by orange highlighting) are considered by the author as most strongly linked to the field of management sciences. The list of management sub-areas are further broken down to their associated topical list. Many of these topics represent common functions of general management as identified in the CAF CLM model illustrated at Figure 2, strengthening the common thread identified for required management tasks between doctrine and the OGS. Without clear indication that a higher weight should be assigned to any of the particular duty areas, one possible interpretation based on the 2009 OGS is therefore that CAF officers should receive approximately 22% of their common education and training in management to ensure that they can fulfil their performance requirements.

An analysis of the main CAF courses that Officers are expected to undertake as part of their development reveals that this ratio is only partially achieved by the time they reach senior ranks, and that it lacks necessary depth concerning advanced managerial topics. The following analysis is concerned with a selection of eight courses that covers the vast majority of CAF officers before they reach the rank of Lieutenant-Colonel.

Seven of these developmental training opportunities should normally be completed before promotion to the rank of Major, with the Joint Command and Staff Program (JCSP) being the single Development Period 3 course for Majors and Lieutenant-Colonels. To add depth to the analysis and increase the number of data points, the list of courses includes common Canadian Army and Royal Canadian Air Force training, which includes 81% of all officers.<sup>72</sup> Using the latest available training documents (either a Qualification Standard, Training Plan, or course outline), the following eight courses were analyzed for their management content on either a training-hours or per-topic basis: Basic Military Officer Qualification (BMOQ), CAF Junior Officer Development Program (CAFJOD), Army Tactical Operations Course (ATOC), Army Junior Staff Officer (AJSO), Army Operations Course (AOC), Air Force Officer Development Program (AFOD), Air and Space Power Course (ASPOC), and JCSP. The results of the analysis is presented at Table 3.

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<sup>72</sup> Jungwee Park. "A profile of the Canadian Forces", *Perspectives on Labour and Income* 9, no.7, (Ottawa, Statistics Canada, July 2008), 19.

**Table 3 -- Content Analysis (Topics) of Key CAF Officer Courses**

Course	Type of document analysed	Analysis based on	Audience	Duration (Days)	% CAF senior officer population intended to be covered	Weight as part of evaluated officer PD (By duration and pop. covered)	Share of program dedicated to management	Weighted share of evaluated officer PD dedicated to management	Notable examples of management topics:
BMOQ	TP	Performance Objectives	All officers	60	100%	32%	13.3%	<b>4.2%</b>	- Manage Resources - Execute Staff Responsibilities - Develop Learning Organisation
CAFJOD	TP	Program Hours	All officers	12.6	100%	7%	25.9%	<b>1.7%</b>	- Conduct resource management - Conduct capability based planning - Conduct personnel administration
ATOC	QS	Performance Objectives	All CA officers	20	56%	6%	20.0%	<b>1.2%</b>	- Plan 1st Line Sustainment of sub-unit operations
AJSO	TP	Enabling Objectives	All CA officers	8	56%	2%	37.5%	<b>0.9%</b>	- Manage personnel - Apply Army Knowledge Management Processes - Contribute to Army Capability Development
AOC	TP	Enabling Objectives	All combat-arms and selected support CA officers (approx. 25%) before promotion to major	90	36%	17%	4.5%	<b>0.8%</b>	- Evaluate the effectiveness of operations
AFOD	QS	Target Standards	All RCAF officers before promotion to Major	34.6	25%	5%	44.0%	<b>2.0%</b>	- Establishing team performance standards and agenda, and evaluating performance against them - Controlling activities to maintain time-line and achieve goals - Identifying benefits versus risks/costs for adoption of possible solution versus the status quo - Applying project management principles at the tactical/unit level IAW the Project Management Book of Knowledge - Applying material resource management policies
ASPOC	QS	Target Standards	10% of all RCAF Captains	25	3%	0%	0.0%	<b>0.0%</b>	- None
JCSP	Course Outlines	Program Hours	All officers before promotion to LCol*	192	31%	31%	1.4%	<b>0.4%</b>	- Management 101 - Change Management - Risk and Risk Management - Systems Thinking
<b>Total:</b>								<b>11.2%</b>	

\*6717 senior officers total with 2085 Col/Lcol (31%). Assumes all Col/Lcol are DP3 qualified (JCSP, DL, or foreign). Some majors have JCSP and some LCol don't yet. Assumes it approximately negates each other.

Sources: Multiple<sup>73</sup> and author.

When appropriately weighted in accordance to the percentage of CAF officers who should attend each of these courses, as well as the course durations, the approximate percentage of content that relates to general management topics in common CAF officer training is assessed at 11.2%. This is only half of the requirements identified in the *Officer General Specification* (22%). It is also notable that many of these course include only very basic topics of management (e.g.: managing

<sup>73</sup> Ibid; Stephen Fuhr. "Improving Diversity and Inclusion in the Canadian Armed Forces", *Report of the Standing Committee on National Defence – 42<sup>nd</sup> Parliament, 1<sup>st</sup> Session*, (Ottawa, House of Commons, 2019), 63; Department of National Defence, *Training Plan – Basic Military Officer Qualification* (St-Jean-Sur-Richelieu, Canadian Forces Leadership and Recruit School, 2020); Department of National Defence, *Training Plan – CAF Junior Officer Development Program* (St-Jean-Sur-Richelieu, Canadian Forces Leadership and Recruit School, 2018); Department of National Defence, *Qualification Standard – Army Tactical Operations Course* (Kingston, Canadian Army Doctrine and Training Center, 2017); Department of National Defence, *Training Plan – Army Junior Staff Officer* (Kingston, Canadian Army Doctrine and Training Center, 2017); Department of National Defence, *Training Plan – Army Operations Course* (Kingston, Canadian Army Command and Staff College, 2006); Department of National Defence, *Qualification Standard – Air Force Officer Development Program* (Winnipeg, Canadian Forces School of Aerospace Studies, 2016); Department of National Defence, *Draft - Qualification Standard – Air and Space Power Course* (Trenton, RCAF Aerospace Warfare Center, 2019); Department of National Defence, *Course Outline – DS556 Command* (Toronto, Canadian Forces College, 2019).

resources, administering personnel, etc.), but a commendable exception is made with regards to the Air Force Officer Development program, which appears to include some more advanced topics. Risk/cost/benefits analysis, project management, performance management are therefore introduced to all RCAF officers through the AFOD program (delivered approximately 25% residential and 75% via distance learning).<sup>74</sup> This interesting angle taken by the RCAF in further emphasizing management skills in its environmental training might be explained by a cultural difference due to it being “the only service created during 'modernity' and is reflective of the scientific management models that emerged when powered flight was developed and incorporated into the military.”<sup>75</sup> Nonetheless, of the wider CAF officer audience, this training only reaches 25% of the total population.

With the notable exception of the RCAF’s AFOD program, the topics remain otherwise fairly basics and only brush the surface of the body of modern management sciences, which in a top school might now include advanced data analytics, probability modeling, software design, artificial intelligence, and innovation.<sup>76</sup> The presence of a course entitled “Management 101” during the program intended to prepare officers for significant command and staff roles where they could oversee hundreds of personnel and millions of dollars of expenditures might raise questions about the appropriate time to deliver such training or why foundational management skills are had not been introduced earlier.<sup>77</sup>

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<sup>74</sup> Department of National Defence, *Qualification Standard – Air Force Officer Development Program* (Winnipeg, Canadian Forces School of Aerospace Studies, 2016), 2-3.

<sup>75</sup> Okros, Alan. “The Conflated Trinity: Command, Leadership and Management.” In *Leadership in the Canadian Military Context*. Kingston, ON: Canadian Forces Leadership Institute, 2010, 27.

<sup>76</sup> Yale School of Business. “Management Science Concentration Electives”, accessed on 31 Jan 2021 at: <https://som.yale.edu/programs/mba/integrated-curriculum/year-2-electives/management-science-concentration>.

<sup>77</sup> Department of National Defence, *Course Outline – DS556 Command* (Toronto, Canadian Forces College, 2019).

### **3.2.1 Moving Towards the Matching of Competencies and Responsibilities**

The Canadian researchers Pigeau and McCann have developed a model of Command effectiveness based on striking a balance between Competency, Authority and Responsibility.<sup>78</sup> Simply stated, to remain effective, as one's authorities and responsibilities increase, so should their competency. Therefore, the complexity and scope of management training should strive to create a level of competency that naturally progresses with rank and experience of individual officers, matching the responsibilities that would be granted to them. For example, the JCSP course could instead be the perfect time to cover advanced managerial topics in depth. It could perhaps be analogous to the competency expected to be obtained in a Master's of Business Administration program, a common stepping-stone to reaching executive levels in the private sector. All other common officer training preceding the landmark JCSP could instead offer introductory content on the concepts of management, not unlike that which is already being presented by the RCAF as part of their AFOD program, allowing officers to develop their competency gradually as their level of responsibility increases.

### **3.3 Other CAF Initiatives to Develop Officer Management Skills**

The aforementioned course-based training options, delivered by various DND/CAF educational establishments, are not the only tools used by the CAF to develop its officers. Limited opportunities are also being pursued for management and entrepreneurial focused experiential learning, through on-the-job training programs and targeted private sector collaboration. Multiple organizations within the DND and the CAF have stood up programs to engage more directly with the private sector to gain a better appreciation for industry best practices and foster innovative thinking amongst participants.

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<sup>78</sup> Ross Pigeau and Carol McCann. "Reconceptualizing Command and Control." *Canadian Military Journal* 3, no. 1 (2002): 53-63.

In his landmark *Experiential Learning: Experience as the Source of Learning and Development*, American educational theorist David A. Kolb conceptualized Experiential Learning as: “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience.”<sup>79</sup> The idealized model posits that knowledge is created from a cycle of Abstract Conceptualization, Active Experimentation, Concrete Experience, and Reflective Observation. It emphasizes the importance of practicing concepts acquired through theory inside the learning environment to maximize and balance an individual’s skill development.

Experiential Learning Theory as it applies to management education has been studied at length by Kolb himself and others, even being hailed as one of the most effective instruments of management development.<sup>80</sup> In particular, the intermediate results of a multi-decade longitudinal study into graduates of management programs indicate that students clearly benefited from an educational approach that balanced conceptualizing activities, such as classroom lectures and readings, and experiencing activities, better defined as “present moment, uncontrived, hands-on, real-world primary concrete experiences”.<sup>81</sup> Therefore, based on experiential learning theory, management skill development is optimized by including actual practical experiences instead of an exclusive focus on classroom theory.

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<sup>79</sup> David A. Kolb. *Experiential Learning: Experience as the Source of Learning and Development*, Englewood Cliffs, Prentice Hall, 1984, 41.

<sup>80</sup> Mainemelis, Charalampos, Richard E. Boyatzis, and David A. Kolb. "Learning Styles and Adaptive Flexibility: Testing Experiential Learning Theory." *Management Learning* 33, no. 1 (03, 2002): 11-12; Eyal Eckhaus, Galit Klein, Jeffrey Kantor. “Experiential Learning in Management Education.” *Business, Management, and Education*, 15, no. 1 (2017): 43.

<sup>81</sup> Mainemelis, Charalampos, Richard E. Boyatzis, and David A. Kolb. "Learning Styles and Adaptive Flexibility: Testing Experiential Learning Theory." *Management Learning* 33, no. 1 (03, 2002): 19; Thomas Howard Morris, “Experiential learning – a systematic review and revision of Kolb’s model”, *Interactive Learning Environments* 28, (8, 2020), 1071.

In the context of CAF officer development, a few formal educational opportunities exist to acquire concrete management experience in the private sector: the RCAF's Kitchener-Waterloo Flight Deck, a partnership with Creative Destructions Labs, and the RCAF's Fellowship Programme. Since 2017, the RCAF has maintained a permanent presence at Communitech, the Kitchener-Waterloo non-profit technology development support and innovation hub, out of a desire to foster a more innovative culture with the Air Force.<sup>82</sup> Through Communitech, the RCAF has a persistent, direct access to an ecosystem of enterprises to share ideas and best practices, and it maintains a small team of programmers to develop in-house software solutions to operational problems. More importantly, in the context of professional development, the RCAF cycles some of its members through the Flight Deck for a series of workshops teaching complex problem-solving and design thinking methodologies. As of early 2021, over 500 members have participated in these immersive experiences, attempting to leverage industry best practices through direct engagement to solve complex and "wicked" military issues.<sup>83</sup>

Since 2019, both the Royal Canadian Navy and the Canadian Special Operations Force Command have partnered with the Rotman School of Management's Creative Destruction Labs (CDL), a non-profit seed-stage venture program for developing science and technology start-up companies. Perhaps inspired by the RCAF's initiative in Kitchener-Waterloo, the collaboration with CDL was hailed by RAdm Donovan, then Director of Future Ship Capabilities, as a way to "explore non-military innovation and technological ecosystems" and "enhance and challenge

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<sup>82</sup> The Flight Deck, "About Us – Partnering for Excellence", accessed 21 February 2021, <https://www.theflightdeck.ca/about>.

<sup>83</sup> Ibid.

conventional thinking” of military participants.<sup>84</sup> Although a stated goal of driving a cultural change towards innovative thinking exists, the focus of the venture appears to be exposing member of the RCN and CANSOFCOM to cutting edge technological developments to influence procurement of future capabilities.<sup>85</sup>

Another noteworthy RCAF initiative, is their establishment of a Fellowship Programme, where selected Officers and Senior non-commissioned members are seconded to private and non-profit organizations. Aimed at instilling critical and strategic thinking into future RCAF institutional leaders, as well as learning from industry best practices, the Fellowship Programme has seen officers join the senior management teams of companies like Osisko mining and Via Rail for a period of months.<sup>86</sup> While only a few members able to participate each year, the program is a prized professional development tool.<sup>87</sup> While it no doubt advances the goal of developing broad management competency through experiential learning for selected RCAF members, it remains a limited opportunity with little effect on the overall CAF officer professional development.

Experiential learning initiatives such as the partnerships with Communtech and CDL, as well as the RCAF Fellowship Program, provides limited, but important avenues to expose CAF officers to management practices as they are exercised outside of the public sector. While the outright adoption of private sector business models and processes is not achievable nor desirable,

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<sup>84</sup> Royal Canadian Navy, “RCN and CANSOFCOM team up with Creative Destruction Lab to promote innovation and technology”, 2 May 2019, <https://navy-marine.forces.gc.ca/en/news-operations/news-view.page?doc=rcn-and-cansofcom-team-up-with-creative-destruction-lab-to-promote-innovation-and-technology/jv5bf9iz>.

<sup>85</sup> Royal Canadian Navy, “RCN increases awareness of new technologies at latest Creative Destruction Lab”, 9 November 2020, <http://www.navy-marine.forces.gc.ca/en/innovation/innovation-view.page?doc=rcn-increases-awareness-of-new-technologies-at-latest-creative-destruction-lab/kh13a0pk>.

<sup>86</sup> Maj I. Koussay, “Continuous Improvement Institutionalized” 40, *Royal Canadian Air Force Journal* 9, no. 1 (Winter 2020) : 40.

<sup>87</sup> The Maple Leaf, “Check Six: An Update on the Royal Canadian Air Force’s Past Year, 8 July 2018, <https://canmnews.ca/2018/07/check-six-an-update-on-the-rcafs-past-year/>.



increasing the variability of learning experiences and encouraging active experimentation by fostering innovative thinking, contributes to improving management skills development.

Following the framework of experiential learning theory as it applies to management education, the expected outcome should create well rounded, higher performing General Service Officers, who can ultimately deliver better results more effectively and efficiently for the Government of Canada. Expanding such programs could be explored to increase the availability of concrete management experiences for more General Service Officers.

### **3.4 A Potential Model: the DND Project Management Competency Development Program**

While the aforementioned industry partnerships focus on delivering experiences that are not available within the DND, it is important to consider possible formalization of management development skills using department resources. A possible template can be found within DND as it already runs an internal program to develop a sub-set of management sciences amongst both civilian employees and officers: The DND Project Management Competency Development Program.

In management sciences, one of the commonly accepted definitions for project management is “the application of knowledge, skill, tools, and techniques to project activities to meet the project requirements ...through the appropriate application and integration of the project management processes identified for the project”.<sup>88</sup> In 2007, officials within the DND Assistant Deputy Minister (Materiel)’s organization recognized the need to significantly bolster

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<sup>88</sup> A Guide to the Project Management Body of Knowledge (PMBOK® Guide), Project Management Institute, 2017. ProQuest Ebook Central, <https://ebookcentral.proquest.com/lib/cfvlibrary-ebooks/detail.action?docID=5180849>.

competency in this field in order to meet critical strategic objectives of the Government's major equipment recapitalization program for the CAF.<sup>89</sup>

The Department's framework, based off the Project Management Institute's *A Guide to the Project Management Body of Knowledge* and its globally recognized Project Management Professional (PMP) certification, was developed to ensure project management became a core competency to direct successful projects according to recognized standards. The program ensures that project managers are certified based on their experience, training, and demonstrated competency by allowing individual managers to progress and reach higher levels of certification progressively. In addition to providing a development framework that allows the quantification and management of talent, it ensures that only managers who have demonstrated their competency at a particular level are assigned to lead projects of higher complexity.<sup>90</sup> Overall, the program aims to reinforce a project management culture, enable talent management, and support the use of standardized practices.<sup>91</sup> In 2019, retired Major-General Douglas Dempster, now Executive Director at the Telfer School of Management in Ottawa, recognized the PMCD program as a relevant tool to bolster competency within the DND's procurement system and to make the best use of its existing capacity.<sup>92</sup> While the benefits of implementing such a comprehensive program are difficult to measure in the short term and will require the validation of results over a period spanning multiple years, it does provides a relevant model of a framework, currently available to CAF officers, which develops a subset of management skills, and aims to change organizational culture. In addition to demonstrating that some organizations

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<sup>89</sup> Project Management Institute, *Building High-Performance Project Talent — A Transformational Initiative* (White Paper, December 2015), 1.

<sup>90</sup> *Ibid*, 3.

<sup>91</sup> *Ibid*, 4.

<sup>92</sup> Douglas Dempster, "Capability Acquisition and Canadian Defence Policy: Programme Achievability and Resilience?", *Canadian Defence Policy in Theory and Practice*. Canada and International Affairs: Palgrave Macmillan, 2019, 343.

within DND have recognized the need to improve at least certain management competencies amongst officers, the extrapolation of this model to develop other areas of management sciences could be valuable and improve the delivery of services in other parts of DND and the CAF.

### **3.5 Summary**

While it is undeniable that the CAF recognize the necessity of management skills in the development of its officers, it does not appear to grant it sufficient weight in regards to the depth and volume of doctrinal and training content. CAF officer professional development courses dedicate only approximately half of the time required to cover management concepts to the extent required by the Officer General Specification; what is covered is done at a relatively elementary level. Although a few initiatives do exist to provide CAF managers with concrete experiences and exposure to best practices outside the public sector, these opportunities are fairly limited, subject to cancellation, and not systematically implanted in the General Service Officer professional development framework. The PMCD program, developed internally according to recognized international standard, provides an example of how management competency might be developed and validated amongst the officer corps. Until changes are made to the way the CAF educates, trains, and develops its officers, an outsized cultural and practical focus will remain on exclusively on Leadership. This will continue to occur at the expense of devaluing management expertise, which will remain perceived as the exclusive business of civilian employees within the department.

## CHAPTER 4 – VIEWS ON MANAGEMENT IN COMPARABLE ORGANIZATIONS

*Human beings, who are almost unique in having the ability to learn from the experience of others, are also remarkable for their apparent disinclination to do so.*

— Douglas Adams, *Last Chance to See*

Having considered the place occupied by management in CAF officer professional development, there is value in looking beyond the borders of the Canadian defence enterprise to evaluate if other models exist in comparable organizations. An analysis of professional development practices in the United States Air Force and in the British Armed Forces yields pertinent insight into how other armed services handle this question. Although military services have a unique mandate, structure, and culture that renders comparison with civilian organizations challenging, police services also share many characteristics with armed forces. They therefore provide an opportunity to examine specific cases studies, which could offer a different perspective on the development of a military organization's leadership cadre. Finally, with the stronghold of private sector management education still found in university business schools around the globe, an examination of Canadian trends in Master's in Business Administration curricula can inform future approaches for CAF officer management skills development.

### 4.1.1 Other Armed Services – The United States Air Force

Drawing direct comparisons between the CAF and the colossal United States Armed Forces is often of limited value considering the vast difference in mandate, capabilities, size, and financial resources. Nonetheless, because of this position, the United States tend to be at the vanguard on multiple aspects of military matters, with other western nations often inclined to follow their lead. This situation, taken from the perspective of management skills development, should be particularly relevant considering that the sheer volume and complexity of their resource pool would normally require them to lead in this area as well. This could be especially true for the United States Air Force (USAF), which as previously noted is the service most likely

to have made the adoption of advanced scientific management practices, and therefore becomes a pertinent subject for this analysis.<sup>93</sup>

According to its official statistics, the USAF has 329,839 active duty members and of this total, there are 64,025 officers.<sup>94</sup> Those officers are split amongst 97 different occupations, which is a significantly greater number than the 16 of the Royal Canadian Air Force, therefore denoting a higher degree of specialization for individual officers. Indeed, no less than seven occupations constituting 18% of all USAF officers directly relate to resource management, planning, and procurement: Acquisition Manager, Operations Research Analyst, Personnel Officer, Financial Management Officer, Contracting Officer, Cost Analysis Officer, and Planning and Programming Officer.<sup>95</sup> The Canadian equivalent to this array of specialists is the highly multi-disciplinary Logistics Officer.<sup>96</sup> The phenomenon of a high degree of specialization in the US military is well known in defence circles, and is sometimes cause for a point of pride amongst those members of the CAF who value the adaptability and broad based competency of its members. Nonetheless, this high degree of specialization does tend to shape the professional development of the officer cadre. In fact, the USAF recognizes that for approximately the first 10 years of an officer's career, the focus should be on developing their expertise in their "core capabilities" until they reach the rank of O-4 (Major), a point at which they will start to pivot to a

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<sup>93</sup> The December 2019 foundation of the US Space Force certainly complicates this narrative considering the relative youth of the organization and their advanced subject matter. Nonetheless, it does not yet appear to have developed its own force generation structures independent from the USAF and few, if any, analysis has been released publically on what officer development for the space forces will look like in the future or the place of management sciences within.

<sup>94</sup> Air Force's Personnel Center, "Military Demographics", 31 October 2020, <https://www.afpc.af.mil/About/Air-Force-Demographics/>

<sup>95</sup> Airforce.com, "Officer Careers in Operations Administration", accessed 3 March 2021, <https://www.airforce.com/careers/browse-careers/operations-administration/>; Bureau of U.S. Labor Statistics, "Occupational Outlook Handbook – Air Force Executive, Administrative, Managerial, Human Resources, and Support Services", 19 February 2021, <https://www.bls.gov/ooh/military/military-careers.htm/>.

<sup>96</sup> Government of Canada, "Canadian Armed Forces Careers – Logistics Officer", accessed 3 March 2021, <https://forces.ca/en/career/logistics-officer/>.

focus on leadership and management through tailored experiences and short courses.<sup>97</sup> This is not unlike the approach taken by the CAF in its development of officers, with the aforementioned exception that US officers are expected to be further specialized in their field than Canadian officers would be.

From the standpoint of common formal education, the USAF does not seem to deliver significantly more than the CAF in the way of advanced management training to its broader officer corps. The analysis of publically available course descriptions and curricula for the three common core USAF officer courses up to O-4 (Officer Candidate School, Squadron Officer School, Air Command and Staff College) reveals few mentions of management themes, and that what little exists is normally covered within “leadership” courses. A notable exception exists for those students pursuing a Leadership Concentration during their Air Command and Staff College. These students are presented with two courses (Foundations of Officership and Organizational Leadership) which promise a deeper understanding of organizational theory, application of continuous improvement strategies to increase value, change management, financial and human resources management, and performance measurement.<sup>98</sup> This appears to be rather analogous to the Institutional Policy Studies stream available to senior officers at the Canadian Forces College.<sup>99</sup> Apart from this, the emphasis of USAF common core education seems to be focused on leadership, which appears to be in line with their intent for officers to operate effectively in what is referred to as the future Volatile, Uncertain, Complex, Ambiguous

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<sup>97</sup> K. Currie et al, “Air Force Leadership Study – The Need for Deliberate Development”, Maxwell Air Force Base, AB: Air University, 2012, 25.

<sup>98</sup> Air University, “Air University Catalogue – Academic Year 2020-2021”, Maxwell Air Force Base, AB: Air University, 2019, 65-108, 174-178.

<sup>99</sup> Department of National Defence, *Syllabus – Joint Command and Staff Programme* (Canadian Forces College, 2020), 14-15.

(VUCA) environment.<sup>100</sup> This seems to be analogous with the desire to reinforce leadership skills to address the “wicked” problems of the Ritter-Webber model. Although it is pursued for different reasons, the focus on leadership appears to be in line with the CAF’s own objectives for officer professional development. The core differences being that the USAF has access to potentially more advanced management and administrative expertise from a greater number of specialist officers in the fields of business and administration.

It is in regards to the USAF’s overtly open culture towards “management” that there seems to be a stark difference with the CAF, first in their widespread implementation of a Continuous Process Improvement program, then in the apparent prevalence of management related advanced degrees amongst their junior officers.

Since the early 1990s, the USAF has embraced various managerial quality management programs to improve the way it conducts business. From their early implementation of Total Quality Management as the *Quality Air Force (QAF)* program, through their *Air Force Smart Operations for the 21<sup>st</sup> Century (AFSO21)* initiative, the USAF has seen measureable success in improving the efficiency of its operations and support using continuous improvement best practices.<sup>101</sup> Their latest efforts in this regards are manifested through the widespread implementation of their *Continuous Process Improvement (CPI)* program officially released in 2016 and updated in 2019.<sup>102</sup> Building on decades of experience, CPI is strongly influenced by

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<sup>100</sup> K. Currie et al, “Air Force Leadership Study – The Need for Deliberate Development”, Maxwell Air Force Base, AB: Air University, 2012, 45.

<sup>101</sup> Binshan Lin, “Air Force total quality management: An assessment of its effectiveness”, *Total Quality Management* 6. No. 3 (1995): 1; AJ Briding, “Matrix Wings: Continuous Process Improvement an Operator Can Love”, *Air & Space Power Journal* 30, No. 3 (Fall 2016): 10.

<sup>102</sup> Department of the Air Force, *Air Force Instructions 38-401 – Continuous Process Improvement*, (Manpower and Organization, 23 August 2019), 1.

the Lean Six Sigma methodology that has seen widespread success in multiple fields of the public and private sectors.<sup>103</sup> Its stated purpose is as follows:

It is every commander's obligation to maximize the productivity of every asset and resource in both business and warfighting processes. Implementing performance management provides an effective means for commanders to execute their "Manage Resources" and "Improve the Unit" obligations outlined in AFI 1-2, Commander's Responsibilities. Accordingly, this instruction establishes USAF's CPI program. It also assigns detailed roles and responsibilities to support and implement the same. Further, it establishes performance standards and education and training requirements for certification.<sup>104</sup>

The mandatory program, implemented at every wing, group, and squadron, relies on trained specialists (yellow, green, and black belts) with obligatory familiarization training being interwoven into multiple common-core USAF courses including the Air Command and Staff College.<sup>105</sup> It has been noted that, with a strongly committed senior leadership, a cultural alignment exists within the USAF to support the use of such management best practices to improve operational efficiency and effectiveness.<sup>106</sup> Comparatively, the RCAF has long tried to effectively embrace quality management practices with programs such as AF9000 Plus, but the results have been inconsistent and exclusively confined to the realm of aircraft maintenance.<sup>107</sup> Ultimately, the embrace of a comprehensive and modern continuous improvement program in the USAF is indicative of a culture that embraces management processes in the service of improved operational performance.

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<sup>103</sup> Alireza Shokri, "Quantitative analysis of Six Sigma, Lean and Lean Six Sigma research publications in last two decades", *The International Journal of Quality and Reliability Management* 34, No. 5 (2017): 598.

<sup>104</sup> Department of the Air Force, *Air Force Instructions 38-401 – Continuous Process Improvement*, (Manpower and Organization, 23 August 2019), 3.

<sup>105</sup> *Ibid.*, 12-14; Air University, "Air University Catalogue – Academic Year 2020-2021", Maxwell Air Force Base, AB: Air University, 2019, 80, 81, 231, 252.

<sup>106</sup> Sandra Ortiz, "Senior Leadership Commitment to Continuous Process Improvement for a Culture Change: A Case Study of a U.S. Air Force Organization.", (Master's Thesis, University of Texas at San Antonio, 2019), v-vi.

<sup>107</sup> LCol D.J. Butcher, "The Evolution of Learning Practices in the RCAF", (Master's Thesis, Canadian Forces College, 2016), 47.



Further evidence of the USAF's deeper cultural appreciation of management sciences is found in the high prevalence of management related post-graduate degrees amongst its officers. Of the total officer corps of the USAF, 53.2% have obtained an advanced or professional degree of some type, impressively 39.9% of Captains have completed their post-graduate education, indicating that a significant number of officers do not achieve their first advanced degree by pursuing the Master's offered by military institutions during Major/Lieutenant-Colonel level professional military education.<sup>108</sup> Of note, the overall rate for all US Armed Forces Officers is 41.3%.<sup>109</sup> This impressive rate of post-graduate education appears to be due to a promotion system that strongly incentivizes completion of advanced academic degrees.<sup>110</sup>

Another point of interest to the analysis of the USAF's attitude towards management education is that 24% of all advanced officer degrees are a Master's in Business Administration or in another business related fields, twice as many as the next most popular discipline (airpower studies). This value compounds to 12.7% of all USAF officers having obtained a post-graduate degree in business. For captains, the overall rate of business degrees amongst post-graduates is even higher, at 27.3%, or four times as much as the next academic field.<sup>111</sup> The USAF conducted interviews with senior leaders to analyze this trend, some pointing to a positive perception of MBA-type degrees due to the nature of the work of their officers:

The question of what advanced academic disciplines should be pursued brought numerous and varied replies in the senior officer interviews. Some of the interviewees thought that any master's degree—particularly one pursued outside normal duties— showed initiative and discipline and should be rewarded accordingly... Other interviewees were more specific. One Pentagon general cited

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<sup>108</sup> Air Force's Personnel Center, "Military Demographics", 31 October 2020, <https://www.afpc.af.mil/About/Air-Force-Demographics/>

<sup>109</sup> U.S. Department of Defense, *2014 Demographics: Profile of the Military Community*, (Arlington: DoD, 2014), 41.

<sup>110</sup> K. Currie et al, "Air Force Leadership Study – The Need for Deliberate Development", Maxwell Air Force Base, AB: Air University, 2012, 22.

<sup>111</sup> *Ibid.*, 23.

a master of business administration (MBA) as the most useful degree for senior leaders, observing, “All we do here—all day—is work with spreadsheets.”

Comparatively, only 21.6% of all CAF Officers have post-graduate degrees. Of those, 21.3% are in the fields of Business, Management, and public administration, for a compound rate of 4.6%.<sup>112</sup>

With nearly triple the number of USAF officers per capita holding advanced degrees in business, it is therefore not surprising that their culture appears to accept the concepts of management more readily than the CAF, going so far as to operationalize a fully integrated Continuous Process Improvement system across their enterprise. Such a high rate of officers formally educated in management also helps rationalize the fact that the common core training available at the USAF’s own Air University does not appear to prioritize management skills development any more than the CAF. Nonetheless, their offering of an Air Command and Staff College stream that further emphasize management skills provides an opportunity for officers to develop themselves in this area if they have not previously obtained a degree in this field. Although comparable to the CAF’s offering at the Canadian Forces College, this limited approach is more relevant for the USAF considering the high rate of officers who have already acquired these skills previously, either as specialist officers or through advanced degrees.

#### **4.1.2 Other Armed Services – The British Armed Forces**

Although the management of defence in the United Kingdom is subject to little academic scrutiny, in the last 20 years, the British Armed Forces and Ministry of Defence have undergone a number of strategic reviews aimed at improving how these organizations are managed to

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<sup>112</sup> Statistics Canada, *2016 Census - Major Field of Study - Classification of Instructional Programs (CIP) 2016 (432), Occupation - National Occupational Classification (NOC) 2016 (693A)*, 17 June 2019, accessed at <https://www12.statcan.gc.ca/census-recensement/2016/>.

ensure that they can provide essential military capabilities sustainably.<sup>113</sup> The most notable documents produced by those reviews into the management of Defence are the “Gray Report” (*Review of Acquisition for the Secretary of State for Defence*)<sup>114</sup> and the “Levene Report” (*Defence Reform An independent report into the structure and management of the Ministry of Defence*).<sup>115</sup> These two reports, the former centering on acquisition and the later on broader defence management, delivered a series of recommendations on how to improve the UK’s defence enterprise. The majority of these recommendations were eventually implemented within the Ministry as part of their Strategic Defence and Security Review (SDSR) Defence Reform Programme, although the value of some of the core changes they recommended is still disputed.<sup>116</sup> A notable point, which was common to both reports, is that insufficient military personnel had an expertise in management, more specifically in project management, commerce, contracting, negotiations, acquisitions, finance, and human resources management.<sup>117</sup> This seems to have led to an increased emphasis on the importance of management skills and development opportunities for UK military officers.

The British Army, in particular, appears to have recently completed a re-orientation of its officer development framework to emphasize managerial expertise. It launched the “Army 2020” initiative in the wake of the aforementioned major defence reviews, which resulted in the reorganization of officer development into a variety of new career fields and Functional

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<sup>113</sup> Peter Tatham and Trevor Taylor, “Five Key Challenges for the Management of UK Defence: An Agenda for Research?”, *International Journal of Defence Acquisition Management 1*, (2008): 24.

<sup>114</sup> Bernard Gray, *Review of Acquisition for the Secretary of State for Defence*, (London, UK: Bernard Gray, 2009).

<sup>115</sup> Lord Peter Levene, *Defence Reform - An independent report into the structure and management of the Ministry of Defence*, (London, UK: Ministry of Defence, 2011).

<sup>116</sup> Trevor Taylor and Andrew Curtis, *Management of Defence After the Levene Reforms - What Comes Next?*, (London, UK: Royal United Services Institute, 2020), 11-14.

<sup>117</sup> Bernard Gray, *Review of Acquisition for the Secretary of State for Defence*, (London, UK: Bernard Gray, 2009), 179-181; Lord Peter Levene, *Defence Reform - An independent report into the structure and management of the Ministry of Defence*, (London, UK: Ministry of Defence, 2011), 59, 69.

Knowledge Skills and Experience (FKSE) groupings.<sup>118</sup> Recognizing the inadequacy of expecting officers to pick up the required skills for staff appointments on the job, this re-thinking of their professional development framework was aimed at adapting FKSE from civil service and industry to a military context.<sup>119</sup> Of these six career fields, two were specifically created to address the gap in managerial expertise identified in the Gray and Levene reviews: Capability and Acquisitions (C&A), and Management of Defence (MD). The *British Army Career Management Handbook* describes them as follows:

Capability and Acquisition (C&A): Posts that develop and execute capability and acquisition policy, strategy, planning and finance; infrastructure development; identify and manage capability requirements; conduct research including operational analysis; manage capability programmes and projects, engineering support and in-service capability management.

Management of Defence (MD): Posts that develop defence and sS [*sic*] policy and strategy, manage at the military strategic level and/or deliver Departmental and TLB non-operational outputs.

The remaining four career fields are Operations, Operations Support, Personnel, and Defence Engagement.<sup>120</sup> The manual further states that as defence increasingly requires staff officers with specialized expertise in one of these six areas, all positions across the service are assigned a career field and sub-career field to maximize the potential of individuals filling jobs in each employment category. Regardless of their occupation, officers are therefore developed and employed along these career fields, but encouraged to specialize in multiple areas to increase potential for promotion. As a notable example, it identifies that the most capable of infantry officers should seek experience in both Operations and Management of Defence.<sup>121</sup> Considering

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<sup>118</sup> Hannah Davison and Joanna Harvey, “The Development of a Framework for Appointing and Appraising UK Military Personnel”, (Lisbon, Portugal: International Applied Military Psychology Symposium, 2015).

<sup>119</sup> Joanna Harvey and Jean-Marc Daniel, “Design of a Knowledge Skills & Experience Framework for the British Army”, (Tallinn, ES: International Applied Military Psychology Symposium, 2014).

<sup>120</sup> British Army, *Career Management Handbook – Part 3 Guide to Army Career Management*, (London, UK:, Military Secretary, 2020), 50-51.

<sup>121</sup> *Ibid.*, 203.

that a third of officer career fields are management related, alongside core functions such as operations, and that high-performing officers are encouraged to pursue a management specialization, it is undeniable that management expertise now occupies a central part of British Army Officer development.

For officers to develop their expertise in these newly created career fields, specialized training as well as experiential learning opportunities have been created. As the British Armed Forces' higher education and training institution, the UK's Defence Academy at Shrivenham delivers a number of course related to each of the career fields. In many cases, these courses are pre-requisites for holding positions within a given employment area. For example, the four-week Capability and Acquisition Series courses provide an overview of the UK Ministry of Defence capability management systems, but it also includes training in commercial, financial, and investment appraisal processes, as well as the development and management of requirements.<sup>122</sup> In addition to the Defence Academy's delivery of pre-requisite military courses in the new management career fields, it collaborated with Cranfield University to create a series of Defence Management focused academic programs. These includes post-graduate degrees such as a defence-focused Master's in Business Administration, the Executive MBA (Defence). Apart from its programs aimed at developing general management skills, students can also specialized in fields such as negotiations, advanced systems thinking, economics of security, and supply network management.<sup>123</sup> Where officers are encouraged to pursue educational advancement related to their career fields, options such as those offered at Cranfield University complement the mandatory training offered at the Defence Academy.

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<sup>122</sup> UK Defence Academy, *Capability and Acquisition Series – CAPACA*), accessed on 15 March 2020 at <https://www.da.mod.uk/course/CAPACA/>.

<sup>123</sup> Cranfield Defence and Security, *Management, Leadership and business skills 2018-2019*, (Shrivenham, UK: Cranfield University, 2019).

To supplement the aforementioned educational opportunities, the British Army also operates an external placement initiative not unlike a more extensive version of the RCAF Fellowship Programme. Thirty-two positions are available for industrial placement, and more in various academic institutions, to help officers gain the experience required to address the skill gaps identified by the Army.<sup>124</sup> While the academic placement at institutions like the University of Oxford could be compared to a shortened one-year version of the CAF's own Sponsored Post-Graduate Training program, the main value for management skills development rests in their industry placement initiative.<sup>125</sup> The 8-12 months long placement in commercial and other public sector organizations have seen officers working on a full-time basis in corporate settings such as with British Petroleum, the BBC, and various NGOs. In addition to developing the management skills of the seconded officers, the program is also intended to allow both participant organization to share best practices and knowledge in fields of common interest.<sup>126</sup> If compared to the small scale of the RCAF Fellowship Programme, this type of experiential learning opportunity is available to British Army officers in a much wider measure than for members of the CAF. Considering the fact that both organizations have a comparable numbers of officers (approximately 14,000 in the British Army<sup>127</sup> and 16,000 in the CAF<sup>128</sup>) the one or two opportunities available each year to select RCAF officers is well below the 32 available in the

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<sup>124</sup> British Army, *Personnel Management Strategy Booklet – Develop, Nurture, Achieve*, (London, UK: British Army, 2020), 3.

<sup>125</sup> Mike Butler, "From the Coal Faces – External Placement (Academic)", *The British Army Review 171* (Winter 2018): 103-109; Canadian Armed Forces, *CANFORGEN 118/20 CMP 061/20 081608Z SEP 20 – 2021 Post-Graduate Training (PGT) (Sponsored) Competition* (Ottawa, CA: Chief of Military Personnel, 2020).

<sup>126</sup> British Petroleum, "Military Placement Program", accessed on 16 March 2021 at <https://www.bp.com/en/global/corporate/careers/professionals/career-areas/military-placement-programme.html/>; "External Placement Programme", YouTube video, 3:26. Posted by "British Army", 20 March 2017, <https://www.youtube.com/watch?v=bMFI7bYvgl>.

<sup>127</sup> James Kirkup, "The British Army has too many officers and not enough rank and file soldiers", *The Telegraph*, 28 August 2008.

<sup>128</sup> Statistics Canada, *2016 Census - Major Field of Study - Classification of Instructional Programs (CIP) 2016 (432), Occupation - National Occupational Classification (NOC) 2016 (693A)*, 17 June 2019, accessed at <https://www12.statcan.gc.ca/census-recensement/2016/>.

British Army, further emphasizing the relative importance given by the later to developing management experience.

Finally, the British Armed Forces have collaborated with a number of civilian accreditation bodies to ensure their programs reflect the current best practices in management, and incentivize individual development. Since 2010, the British Armed Forces has maintained relationships with three recognized accreditation organizations: The Chartered Management Institute (CMI), The Institute for Leadership and Management, and Cities and Guilds. In each case, it will reimburse application fees for its members seeking to apply for or upgrade their civilian management qualifications.<sup>129</sup> As an example, CMI has recognized the UK Defence Academy's Advanced Command and Staff Course to award their Level 7 Management and Leadership qualification, since it covers at an advanced level a significant number of management topics such as performance, financial, and information management.<sup>130</sup> Therefore, not only are members encouraged to develop their own management skills by attaining civilian qualifications, which might improve their employability after their service, but the British Armed Forces also ensure that the training curricula it delivers remain relevant and meet industry standards in management.

#### **4.1.3 Summary for Comparable Armed Forces**

While perhaps for a different reason and manner than the United States Air Forces, the British Armed Forces also appear to value the development of management skills as part of officer development. Much of this emphasis came in the last 10 years due to strategic reviews that transformed the collective perspective of what skills were required for officers to be

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<sup>129</sup> British Army, *Army Command Order 2019/04 - Army Accreditation Offer*, (London, UK: Head Army Personnel Services Group, 2019), 1.

<sup>130</sup> Chartered Management Institute, *Defence Academy – Advanced Command and Staff Course (ACSC) Factsheet*, (London, UK: Chartered Management Institute, 2016), 1.

effective. With a third of available officer careers streams focused on management, an array of educational and experiential learning opportunities, as well as the civilian accreditation of management training, the UK's armed services appear to be taking a significantly different approach from the CAF.

Considering the CAF's relative imbalance between Command, Leadership, and Management, the analysis of the position of the United States Air Forces and the British Armed Forces on this matter yields relevant information on how organizations with similar mandates value management. While the UK appears to have had a relatively recent epiphany to restore this balance, the USAF has long demonstrated its cultural orientation to management sciences using specialist officers, an incentive for advanced management education, and this widespread use of industry leading management practices. The CAF could potentially draw from both cases to supplement its own management skills development initiatives, or to inform an eventual review of CAF officer development objectives.

#### **4.2 Direct Entry Superintendents in British and Welsh Police Services**

As a public service organism, the management of the CAF is more akin to public administration than it would be of private sector business management. Indeed, a common argument against the adoption of private sector business practices, or management training, is that public organizations are not profit driven and therefore inherently different. The divergence of opinion regarding the effectiveness of the use of "business-like" New Public Management models in governments is an example of such arguments.<sup>131</sup> The fundamental purpose of armed services as the instrument of governments for the "ordered, lawful application of military

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<sup>131</sup> Kaboolian, Linda. "The New Public Management: Challenging the Boundaries of the Management Vs. Administration Debate." *Public Administration Review* 58, no. 3 (May, 1998): 189.



force”<sup>132</sup> does set them apart from most public and private organizations due to their unique mandate. It therefore challenges the ability to draw comparison with non-military bodies in the matter of how its affairs are managed.

Nonetheless, police services offer a number of similarities that can make a comparison viable. Indeed, police forces also act in service of the public, occasionally use necessary force on behalf of the government, and are a mostly self-regulated profession. While their financial and materiel allocations are often not comparable with well-resourced armed military services, the vast personnel requirements and the complexity of the tasks of law enforcement yields a worthy target for comparative analysis.

The United Kingdom government’s reform of police services in the early 2010s included a creative solution to addressing the skill gap of the leadership cadre in police forces across the nation: a direct entry scheme for inspectors, and superintendents. Identifying that those traditional promotion pathway, from entry level positions up the hierarchal ladder, did not yield the expertise and diversity of thought required for senior managers, two new avenues were trialed: a Fast Track program for serving police force members to join the ranks of management, and a Direct Entry scheme for personnel from outside the organization.<sup>133</sup> This Direct Entry scheme is of particular interest, as it is targeted towards applicants with senior management experience from various backgrounds (e.g.: private firms, armed services, international police forces, public organizations, etc), who can bring in a level of expertise that could not otherwise be generated internally by the nation’s police forces.<sup>134</sup> Successful applicants must undergo an

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<sup>132</sup> Department of National Defence, A-PA-005-000/AP-001, *Duty with Honour: The Profession of Arms in Canada* (Kingston, ON: Canadian Defence Academy — Canadian Forces Leadership Institute, 2009).

<sup>133</sup> Richard Smith, “Don’t call me Ma’am: Direct entry into leadership roles in British Policing.”, *The Police Journal: Theory, Practice, and Principles* 89(4), (2016): 312.

<sup>134</sup> *Ibid*, 311-317.

18-month training program with the College of Policing to give them the operational policing skills they would require in their respective positions.<sup>135</sup> The program has met its share of opposition internally, as many expected a culture shock with outsiders taking up senior leadership roles within British and Welsh police services.<sup>136</sup> With approximately 820 police superintendents for 207,140 total personnel, this would be comparable to the CAF hiring directly at the rank of Colonel.<sup>137</sup> Nonetheless, the program produced a number of qualified candidates who are now employed with police services across the island nation. As of March 2019, the largest such of services, the 44,000 strong London Metropolitan Police service employed 276 individuals (including 12 superintendents) issued from the direct entry program.<sup>138</sup>

While the direct entry program was run by the College of Policing for a five-year trial period and is currently under re-assessment, its superintendents are serving in 14 of 43 police forces in England and Wales with feedback that appears positive.<sup>139</sup> The majority of recruited superintendents were found to have fully adapted the management skills of their previous occupation to policing, while being described by peers and subordinates as being “operationally competent”. In several cases, they were considered “exceptional” due to their ability to manage complex problems and projects, and delivering high quality work.<sup>140</sup> Additionally, the scheme appears to have helped address concerns about diversity of backgrounds and perspectives at the

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<sup>135</sup> Ibid.

<sup>136</sup> Ibid.

<sup>137</sup> The Home Office, *National Statistics Police workforce, England and Wales: 31 March 2015*, 16 July 2016, accessed at <https://www.gov.uk/government/statistics/police-workforce-england-and-wales-31-march-2015/police-workforce-england-and-wales-31-march-2015/>.

<sup>138</sup> Metropolitan Police, *About the Met : Structure*, Accessed on 17 March 2021 at <https://www.met.police.uk/police-forces/metropolitan-police/areas/about-us/about-the-met/structure/>; The London Assembly, *Metropolitan Police direct entry programmes*, 1 March 2019, accessed at <https://www.london.gov.uk/questions/2019/4065/>.

<sup>139</sup> College of Policing, *Five-year report on direct entry published*, 20 July 2020, accessed at <https://www.college.policing.uk/News/College-news/Pages/Direct-Entry-five-year-evaluation-report-published-July-2020.aspx/>.

<sup>140</sup> Isla Campbell and Sarah Colover, *Direct Entry Superintendent Programme Five-Year Evaluation 2014-2019*, (Coventry, UK: College of Policing, 2020), 30.

higher ranks of police forces by recruiting women and minorities at twice the rate of the existing superintendent representation, but still below the national population average.<sup>141</sup>

Ultimately, the successful use of a direct entry scheme to bolster the senior management ranks of major policing organizations is an inventive way to help mitigate a management skill gap, which was perceived to exist with the previous leadership cadre. The existence of an effective senior level recruitment program, with documented results, in an organization comparable to the CAF is notable. Contrary to aforementioned military educational and experiential learning approaches targeted at currently serving officers, this creative method used by UK police services presents a highly different perspective on developing management skills at senior levels. If truly faced with a similar gap, the CAF may wish to consider an analogous limited trial program.

#### **4.3 Executive Management Education for the Private Sector.**

A final area worthy of observation is a comparison of the current educational offering of business schools to management practices in the Canadian Armed Forces. Chapter 3 of this research paper covered the contents of common core CAF officer education up to the rank of Colonel, establishing that only approximately 11% of training was dedicated to basic general management and staff work. The aforementioned training program enables an officer to meet the required prerequisites to move up the ranks and, before reaching senior officer appointments, normally attain a graduate degree through the completion of a Master's in Defence Studies concurrent with the Joint Command and Staff Program.<sup>142</sup> In the private sector, apart from internal or contracted corporate training programs, management education is routinely delivered

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<sup>141</sup> Ibid., 5.

<sup>142</sup> Royal Military College of Canada, *Arts Programs General Information – Master's of Defence Studies*, accessed 17 March 2021 at <https://www.rmc-cmr.ca/en/registrars-office/master-defence-studies/>.

in university-affiliated business schools; therefore, a reasonable civilian analog would be the ubiquitous Master of Business Administration (MBA).

Acknowledging that there are significant differences in educational objectives and contents between a Master's in Defence Studies and Business Administration, both are meant to deliver some management training, and are normally intended for mid-career professionals before accessing senior and executive appointments. The benefits derived from the advanced management education delivered during a MBA has been extensively demonstrated from a qualitative and quantitative perspective.<sup>143</sup> It is therefore relevant to examine the nature of the subjects covered during this type of degree for their applicability to the defence context.

After having considered the management-oriented portions of the military curricula of common core CAF courses, it is pertinent to note that significant differences exist between it and the current offering of some of Canada's top business schools. Table 4 shows the MBA course breakdown from the published curricula of Canada's Top 3 business schools according to a 2017 ranking by *Canadian Business* magazine.<sup>144</sup> The courses were further broken down by the author under the general themes of management, leadership, finances, and others.

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<sup>143</sup> Kerry Sullivan, "Value in the MBA: A UK Perspective", (Doctoral Thesis, University of Surrey School of Management, 2010), 177-188.

<sup>144</sup> Canadian Business Staff, *Canada's Best MBAs: The Top 10 MBA Schools Ranked by Reputation*, 28 September 2016, accessed at <https://staging.canadianbusiness.com/lists-and-rankings/best-mba-programs/2017-top-10-ranking/#gallery/canadas-top-10-mba-schools-2017/slide-10/>.

**Table 4 – Analysis of Curriculum for Top 3 Canadian MBA Program**

	Rotman - Toronto	Ivey - London	HEC - Montreal
Management	Managing Customer Value Fundamentals of Strategic Management Statistics Operations Management Decision Making with Models & Data	Quantitative Analysis Primer Decision Making with Analytics Developing and Executing Strategies Managing Operations Leveraging Information Technology	Leveraging and Managing Digital Technologies Organizational Design: People, Structure and Culture Strategic Management I: Strategy Analysis Strategic Management II: Strategic Action Management Simulation The Manager's Craft Politics and Influence in Organization Introduction to Data Science Operations Management
Leadership	Leading People in Organizations People/Teams/Diversity	Leading People and Organizations Leading Cross-Enterprise Communicating Effectively	Developing Leadership Teambuilding Workshop Professional Development Ethics and Social Responsibility
Finances	Managerial Economics Financial Accounting Finance I: Capital Markets and Evaluation Economic Environment: The Macroeconomy Finance II: Corporate Finance Economic Environment: The Global Economy Managerial Accounting	Accounting and Control for Managers Macroeconomics for Business Decision Managing Financial Resources	Preparatory Class : Managing with Financial Information Macroeconomic Environment Market Structure and Competition Finance 1: Investment Financial Accounting and Management Accounting Finance 2: Financing
Others		Marketing Products and Services	Strategic Marketing The Firm and its Local and Global Context Deployment of Tactics in Marketing

Source: Canadian Business 2017, (Rotman<sup>145</sup>, Ivey<sup>146</sup>, HEC<sup>147</sup> curricula)

At first glance, courses covering matters of finances and economics are prominently featured in all programs, which should not be surprising considering the importance of the bottom line for corporate managers and executives wishing maximize financial value for shareholders. Of course, financial administration is also important for managers in the CAF (although most have limited authorities as previously discussed), but administration of public finances is fundamentally different, especially in the military context of operational primacy. The presence of courses focused on leadership is also not particularly surprising. Few organizations invest as much time and energy as the CAF into developing the leadership skills required of its personnel, and as discussed in Chapter 3, this focus is perhaps outsized. For individuals otherwise employed

<sup>145</sup> Rotman School of Management – University of Toronto, *Full-Time MBA – Program Overview*, accessed on 18 March 2021 at <https://www.rotman.utoronto.ca/Degrees/MastersPrograms/MBAPrograms/FullTimeMBA/Program/ProgramOverview/>.

<sup>146</sup> Ivey School of Business – Western University, *MBA Curriculum*, accessed on 18 March 2021 at <https://www.ivey.uwo.ca/mba/academics/curriculum/>.

<sup>147</sup> HEC Montreal, *Full-Time MBA Structure*, accessed on 18 March 2021 at <https://www.hec.ca/en/programs/mba/full-time-mba/structure/index.html/>.

in public and private sector organization, few opportunities exist to develop these important skills through formal training outside of a business school.

It is instead by examining the contents of the courses grouped under management that a relevant gap manifests between the management taught in the CAF and these top business schools. The importance of quantitative methods in management appears to be recognized in many of the core courses offered during a MBA: Statistics, Decision making with models & data, Quantitative analysis, Decision making with analytics, Introduction to data sciences, and Operations management. The presence of courses highlighting the value of leveraging information and digital technologies is also notable; with the necessities of keeping up with a fast moving digital landscape, the nature of this content is primordial for managers hoping keep their companies competitive. Comparatively, as mentioned in Chapter 3, the topics covered in the CAF's Joint Command and Staff Program are limited to basic general management, risk management, and systems thinking.

In the Grint-modified Rittel-Webber model of critical, tame, and wicked problems, it is observed that management is the tool of choice to harness "tame" problems, which can be highly complicated from a quantitative point of view, in an optimal manner.<sup>148</sup> A focus on quantitative methods of management is therefore understandable from educational institutions attempting to deliver worthwhile training to students who hope to add value to the organizations that they will join or return to after their graduation. As will be discussed in Chapter 5, CAF leaders at the tactical and operational levels are faced with a litany of tame problems that can benefit from the application of better management tools. The leveraging of quantitative methods of management,

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<sup>148</sup> Grint, Keith, "Problems, Problems, Problems: The Social Construction of 'Leadership'." *Human Relations* 58, no. 11 (11, 2005): 1467-1494.

as well as the use of the latest digital tools, could add to the efficacy of these unit-level managers.

Ultimately, not all of the academic content of a business degree is directly applicable for military officers. The sheer nature of operationally focused warfighting is fundamentally different from a profit driven commercial enterprise. Still, many of the problems facing managers are the same, be it in the allocation of resources, delivery of projects, or in the optimization of effectiveness. Improving the ability of these managers to tackle the “tame” problems can equally benefit shareholders as it can taxpayers. It is therefore important not to cast aside what is happening in Canada’s business schools as irrelevant to the context of defending the nation, as the use of quantitative methods and the ability to effectively leverage digital systems remain important tools for managers in almost any organization.

#### **4.4 Conclusion**

While this chapter opened with a humorous quote from famous English author Douglas Adams, it is not devoid of sense. No individual can hope to develop and better itself without acquiring at least part of its knowledge from another, be it a teacher, expert, or simply someone more experienced. In the context of an organization, it remains true. The assumption, when attempting to resolve the “tame” problems of management, is that someone is likely to have already managed to solve it before its current iteration.<sup>149</sup> It is therefore primordial for organizations to learn from one another to find where one path may lead to success, while another might result in a failure.

By examining the cases of the United States Air Force and the British Armed Forces, one finds organizations with similar mandates as the CAF who appear to have embraced the value of

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<sup>149</sup> Ibid.

management practices in their own ways. The radically different approach employed by British and Welsh policing services to fill a management skill gap offers yet another perspective: that seeking an entirely external expertise might be complementary to internal personnel development programs. Finally, the focus of Canadian business schools on quantitative and digital approaches to management could inform the potential rework of a defence management training program. While no two organizations are identical, the lessons from others should be acknowledged and, when put in the right context, embraced for the betterment of the institution.



## CHAPTER 5 – KNOWLEDGE GAP OF CANADIAN ARMED FORCES OFFICERS

*Happily management was one of the significant weaknesses of the Third Reich.*

- Trevor Taylor

The apparent gap, existing between the requirements of the Officer General Specification and the CAFs professional development efforts towards management, leads to the following questions: What are the missing managerial skills that should be developed for all officers, and what is the optimal point in an officer's career to acquire them? Answering these questions requires the framing of the comparative analysis outcomes from Chapter 4 inside the reality lived by the majority of CAF managers. When current CAF management education is contrasted with what is available in comparable organizations and civilian business schools, it becomes increasingly apparent that the field of modern management sciences has moved beyond the current internal offering. It is therefore necessary to analyze the applicability of these different areas to the management of Defence, identifying their relevance and potential value for the institution.

Professor Trevor Taylor, Cranfield University's Head of the Department of Defence Management and Security Analysis at the Defence Academy of the UK, attempts to define this value by enumerating six reasons why the officers of an armed force should study management. The first is that management puts in place the capability elements required by commanders to conduct operations. Second, the efficiency and stewardship of resources through management is an ethical responsibility. Third, sound management prevents the significant misuse of resources that could lead the department to lose the government's trust. Fourth, understanding management is necessary for officers to properly articulate their actual resource requirements. Fifth, most operations outside of high intensity combat significantly benefit from efficient management. Finally, since defence resources are ultimately limited, eliminating waste is necessary to meet the

department's mandate.<sup>150</sup> These last three observations are of particular interest as they apply well to frame the everyday "tame" problems that are faced by officers employed in the Canadian Armed Force's frontline units and formations, centering on the optimisation of scarce resources to meet their assigned mission.

### **5.1 Doing More with Less - The Challenge of Unit Level Management**

The introductory portion of this essay alluded to the concept of "resource-mission mismatch", where the cascading demands from higher headquarters outstrip the ability of individual units to meet these competing requirements, leading to unsatisfactory work standards, and even to a dishonest, unethical culture.<sup>151</sup> The unwillingness to reduce operational outputs, coupled with an ever tightening availability of fiscal and personnel resources has been cynically described by unit-level managers as being asked to "do more with less." One could point to what Taylor identified as the need for officers to use heightened management competency to clearly articulate the resources they require to meet their mandate. However, success in this area rests on higher authorities acknowledging this evidence of a mismatch, as well as being willing to make additional resources available or to adjust their expected outcome. Even the most competent analysis however will be wasted if it falls on deaf ears. Therefore, commanders and their subordinate managers might instead be left to do their best with significantly more demands than resources.

The de-coupling between the CAF's mandates and the actual ability of its units to meet the requisite operational output is highlighted in reviewing the Departmental Results Framework (DRF) performance objectives that have not been met. The DRF is the Government of Canada's

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<sup>150</sup> Trevor Taylor. "The Place of Management in Defence (and Defence Education), *The RUSI Journal* 150, No. 2 (April 2005), 25-26.

<sup>151</sup> G.E. Reed, "Tarnished: toxic leadership in the US military". (Lincoln, NE: University of Nebraska Press, 2015), 35-36.

public report on performance of core responsibilities and programs for each of its departments against the plans submitted to Parliament. For the 2019-2020 fiscal year, for example, the DND sought to achieve its objectives by reaching established targets in 144 indicators. Of these targets, only 53 (or 37% of the total) were met.<sup>152</sup> Among others indicators, the list of unmet performance objectives includes targets that can be linked to unit level outputs such as the percentage of: force elements ready for operations (Result: 80.34%, Target: 100%), search and rescue operations that met standards (Result: 85%, Target: 100%), and aerospace equipment serviceable to meet training and readiness requirements (Result: 60.8%, Target: 85%).<sup>153</sup> Although not comprehensive, these three selected performance indicators are significant in the size of the gap between actual and expected performance, as well as in how they are directly linked to the performance of frontline units. For illustrative purposes, a RCAF search and rescue squadron would contribute to these objectives by ensuring its organisation is ready to conduct operations (as a force element), that it executes search and rescue operations according to established standards (i.e.: response time), and that its equipment (i.e.: aircraft) is serviceable for these operations.

Using the example of this hypothetical squadron, we can deconstruct how improved management practices could contribute to higher performance, and when scaled up across the organization, to the potential achievement of these institutional targets. For the RCAF, unit operational readiness is achieved by organizing the right amount of personnel, infrastructure, supplies, and materiel resources to accomplish a given mission.<sup>154</sup> For a given air force

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<sup>152</sup> Treasury Board Secretariat, “DND Departmental Results Framework”, *GC InfoBase*, accessed 25 January 2021, <https://www.tbs-sct.gc.ca/ems-sgd/edb-bdd/index-eng.html#orgs/dept/133/infograph/results>.

<sup>153</sup> *Ibid.*, data filtered for 2019-2020 National Defence indicators not met or to be achieved.

<sup>154</sup> Department of National Defence, *Evaluation of Air Force Readiness*, (Ottawa: ON, Assistant Deputy Minister (Review Services), 2017), iii.

capability, planning occurs on a recurring basis to attempt to determine the amount of flying hours require for that capability to remain ready (e.g.: by maintaining qualified air crews) and to accomplish its tasked missions. This number is referred to as the Yearly Flying Rate (YFR), and is considered “the key measure of RCAF performance and the primary cost driver for all flying activities”.<sup>155</sup> The careful balancing of unit resources required to achieve the planned flying schedule appears to remain a challenge as, even with in-year adjustments to the forecast, the average unit only manages to complete approximately 90 percent of the predicted YFR.<sup>156</sup> Worse, longer-term business planning YFR and actual completed flying seem critically disconnected. Significant over-planning, which should have been considered unreasonable under management scrutiny due to a lack of CAF resources, has resulted in large resource wastage on unused support contracts. In two specific cases with the CC-130J and CH-147 aircraft fleets, the improper allocation of personnel resources within the CAF resulted in the Department having to pay significant sums to contractors for services they never rendered.<sup>157</sup>

The improvement of unit performance necessary to achieve the tasked objectives effectively therefore rests on a resource optimization problem, a quantitative “tame” problem for which unit managers must be appropriately prepared. This was identified as a RCAF weakness in a key finding of an audit by the Assistant Deputy Minister for Review Services in 2017: “The RCAF collects a broad range of information and data to support resource decisions, but internal use of its Performance Measurement Framework and Lessons Learned Program has been

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<sup>155</sup> Ibid., 14.

<sup>156</sup> Ibid., 21.

<sup>157</sup> Maj K.E. Dubreuil, “Agile and Responsive? Is the Royal Canadian Air Force Contracting Out its Agility and Responsiveness Through Outsourcing Supply Chain Management?”, (Master’s Thesis, Canadian Forces College, 2018), 49. Contractors were paid based on planned YFR in a fixed or “tranche” model, with the RCAF being unable to actually meet this YFR due to a lack of trained aircrew and technicians in front line units.

limited.”<sup>158</sup> It stated that although volumes of data are collected for reporting, very little was actually used for management purposes. The applicability of this shortcoming to the wider CAF was echoed by then RCN Commander VAdm Lloyd in 2018: “the CAF is good at planning, great in execution, but does an exceptionally poor job of measuring and adjusting in order to ensure we learn from our mistakes.”<sup>159</sup> Indeed, a main purpose behind the quantitative method of performance measurement is the overall improvement of the organization, but the difficulty of connecting collected data with performance enhancing decisions is a known challenge of public management.<sup>160</sup>

In the case of the RCAF squadron managers attempting to optimize their scarce defence resources to meet YFR targets and ultimately help to achieve departmental objectives, modern performance measurements practices could potentially provide assistance. As can be seen at Table 2, both resource planning and management, in relation to performance management, are in fact considered sub-duty areas of competency required of CAF officers as part of the OGS. Unfortunately, the managerial skill gap in this matter is exacerbated by the fact that the bulk of supervising officers in an RCAF flying squadron are members of aircrew occupations, which receive very limited management and leadership training or experience.<sup>161</sup> Properly trained individuals, competently deconstructing the YFR problem with key performance indicators along the personnel, infrastructure, supplies, and materiel categories of resources that make up operational readiness, could be an avenue to success.

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<sup>158</sup> Department of National Defence, *Evaluation of Air Force Readiness*, (Ottawa: ON, Assistant Deputy Minister (Review Services), 2017), 49.

<sup>159</sup> VAdm R. Lloyd, Comd RCN, *briefing to the Joint Command and Staff College, Canadian Forces College*, 17 May 2018.

<sup>160</sup> Robert D. Behn, "Why Measure Performance? Different Purposes Require Different Measures." *Public Administration Review* 63, no. 5 (Sep, 2003): 586-606.

<sup>161</sup> Maj Melissa Snook, "RCAF Leadership and the Cult of the Pilot: Reassessing a WWII Organizational Structure." (Master's Thesis, Canadian Forces College, 2018), 68.

More importantly, the organization must ensure that the common pitfalls of performance measurements are avoided. According to management consulting firm McKinsey & Company, although performance measurement is a hallmark of successful organizations, some of these issues include poorly designed metrics and targets, as well as a lack of management engagement and consequences.<sup>162</sup> Are CAF officers sufficiently trained to design and employ effective organizational metrics, and carry out the necessary analysis to set the right targets to support their assigned mandates? The previously revealed lack of common CAF officer management training leads to the conclusion that they likely are not. Moreover, are officers ever held accountable and face consequences for failing to meet the set performance objectives of their organization? While this question likely requires further dedicated research, topline departmental figures and anecdotal observations from this author and colleagues seem to indicate that it is rare.

The focus of management by performance measurement invites the question of what training would actually be required to competently employ this tool to improve both the allocation of unit level resources, as well as the ability of officers to forecast and communicate resource requirements. The aforementioned focus of Canadian business schools on quantitative methods of management and modern digital technologies might yield inspiration to a potential redesign of the training curriculum of common CAF officer training.

Ultimately, this could provide those unit level managers with the tools they require to solve the “tame” issues which holds back their organizations from meeting their operational commitments, and they might perhaps also discover that more internal capacity existed than they previously understood. The illustrative problem of YFR management at an RCAF flying

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<sup>162</sup> Raffaele Carpi, John Douglas, and Frédéric Gascon, “Performance Management: Why Keeping Scores is so Important, and so Hard.”, 4 October 2017, accessed at: <https://www.mckinsey.com/business-functions/operations/our-insights/performance-management-why-keeping-score-is-so-important-and-so-hard/>.

Squadron is but one of these complicated challenges that officers are required to solve on a daily basis across the CAF. There are numerous other examples: managing the readiness status of hundreds of individuals in an infantry battalion to prepare for a deployment, determining the optimal phasing of vehicle fleet maintenance to ensure maximum availability for a scheduled task, or the sequencing of naval exercises to improve overall operational readiness.

Furthermore, if management tools such as organizational performance measurement can indeed contribute to correcting a root cause of the resource-mission mismatch, by improving the understanding of the relationship between defence resources and operational output, a positive second-order effect could be felt on workplace culture. It could lead to an improvement to the quality of life of CAF members who bear the brunt of the additional workload imposed on them by managers attempting to make up for organizational inefficiencies. The potential result being an optimally performing organization, which can competently communicate its resource requirements to the government, while respecting the limitations of its personnel.

## **5.2 A Glimmer of Hope – Operations Research, Data, Innovation, and Analytics**

Although the development of additional quantitative methods of management skills for CAF officers remains to be acknowledged, the DND is seemingly recognizing the growing importance of data sciences. This is being demonstrated by the establishment of a new dedicated Level 1 organization within DND. Initiatives launched under this newfound interest could be leveraged to supplement the existing officer development framework.

In July 2018, the DND created a new Assistant Deputy Minister position, charged with the implementation of Data, Innovation, and Analytics strategies.<sup>163</sup> As part of its mandate, ADM(DIA) provides strategic leadership, guidance, as well as governance, to ensure that the

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<sup>163</sup> Walsh, John, “Director General Data Analytics, Strategy and Innovation”, Presentation, Canadian Forces College, Toronto, ON, 18 November 2020.

Department successfully transitions itself into a data-driven organization, managing data as an organizational asset used to make evidenced-based management decisions. Notably, it is also responsible to drive the adoption of analytics across DND and the CAF, using a common data governance framework.<sup>164</sup> The *DND/CAF Data Strategy* it published in 2019 contained a roadmap that presented the activities necessary to enable the use of analytics within both organizations.<sup>165</sup> This included the development of the individual training requirements to support this implementation across the Department.

Notwithstanding the establishment of ADM(DIA), under the umbrella of Operational Research, DND has long had access to comprehensive data analytics services through its Center for Operational Research and Analytics (CORA). As one of Defence Research and Development Canada's research centers, CORA's defence scientists continue to provide DND leadership with robust advice through scientific analysis. Nonetheless, the small size of the organization and the lack of institutional awareness by potential project sponsors have constrained it to a niche capability.<sup>166</sup> While its mandate differs from that of ADM(DIA), CORA recognizes that the establishment of other DND agencies dedicated to data analytics has the potential to compete with its own expert services.<sup>167</sup> However, CORA's role is expected to be complementary to that of ADM(DIA) in the provision of high-end specialist services, as opposed to providing strategic level governance. Indeed, the increased awareness of data analytics amongst CAF leadership has

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<sup>164</sup> DND, "Assistant Deputy Minister (Data, Innovation, Analytics)", accessed 21 January 2021, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/transition-materials/defence-101/2020/03/defence-101/adm-dia.html>.

<sup>165</sup> DND, "DND/CAF Data Strategy", accessed 21 January 2021, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/data-strategy.html>.

<sup>166</sup> Evans, Dickinson, and Rey, "Military Impact of Canadian Operational Research and Analysis.", (Hampshire, UK: 23<sup>rd</sup> International Symposium on Military Operational Research, 2006), 4.

<sup>167</sup> Thierry Gongora and Ben Taylor, "Defence Research and Development Canada (DRDC) – Centre for Operational Research and Analysis (CORA) Science and Technology (S&T) Capability Assessment", (Ottawa, ON: DRDC – Center for Operational Research and Analysis, 2019), 32.



the potential to increase the demand for CORA's services as more individuals recognize the value of data as part of their decision-making, and seek out advice or request the development of tailored models.

ADM(DIA) has so far reached out to various Level 1 organizations within the DND/CAF (e.g.: RCAF, RCN, ADM(Mat), etc.) to assist in the development of policies, as well as to identify critical data sets of strategic and operational value. While this initial engagement has resulted in a number of initiatives being submitted for analysis, the internal capacity of ADM(DIA) to act on these problems remain limited to organizational size and budget constraints. Therefore, the long-term approach will instead be for other DND/CAF organizations to develop and employ their own proficiency to solve data driven problems, with ADM(DIA) remaining the Center of Excellence providing advice and expertise to these other agencies. There is consequently an intention to develop training into quantitative data analytics methods, internal to the Department, which in part would be aimed at resolving tactical and operational level problem of the CAF. Therein lays a potential opportunity to adapt this training to develop the expertise of officers in quantitative methods of management, such as organisational performance measurement.

The Department's novel focus on data-driven decisions and governance presents important opportunities for tactical organizations such as the aforementioned RCAF squadron. As noted in chapter 4, the focus of business school education appears to be shifted towards quantitative methods and digitalization. Indeed, numerous private sector organizations have already invested themselves to integrate data sciences in their business decision-making process. Recognizing this, the International Air Transportation Association (IATA) published a White

Paper on the use of analytics in aviation in 2019.<sup>168</sup> It surveys technological trends in data sciences and analyses the cases of three businesses (Delta, United, and Air France-KLM) with deeply integrated data analytics practices. The IATA report concludes that significant value can be derived from the employment of these methods in aviation businesses, with the greatest benefits found in operations management, disruption management, aircraft maintenance, and enterprise level forecasting. It presents the success of Air France-KLM in predicting aircraft delays and route disruption prevention as a powerful example of this potential.<sup>169</sup> It also notes the significant challenges of large organizations attempting to adopt widespread use of data sciences practices. Notably, it highlights the necessity of creating an open culture towards data, and the need to generate internal capabilities to embed analytics in everyday business.

While it appears that the aviation industry is well poised to benefit from increased use of analytics, the RCAF, as well as the wider CAF, share many of these same opportunities and challenges. Recalling the sample of Departmental Result Framework targets which were not met by DND in the 2019-2020 fiscal year (i.e.: force readiness, SAR operations that met standards, and aerospace equipment serviceability), links can be drawn to the high potential areas identified by the IATA for aviation organizations: operations management and aircraft maintenance. For instance, search and rescue mission data could be analysed to determine the root cause of delays and predict factors that might affect response postures automatically, letting commanders anticipate disruptions. In the case of maintenance, a common electronics record keeping systems that integrates technical work and operations with supply chain management, such as the Defence Resources Management and Information System, could be leveraged to maximize

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<sup>168</sup> International Air Transport Association, “Data Science Hype or Ripe for Aviation?”, *Aviation Data White Paper Series* (Montreal: QC, IATA, June 2019).

<sup>169</sup> *Ibid.*, 19.

aircraft availability through failure prediction, supply stock optimization, and on-site interpretation of aircraft health monitoring.<sup>170</sup> Although the CAF is not a profit driven enterprise, many of the industry-focused high value areas underlined by the IATA remain just as much of an opportunity to a public organization seeking to optimize its ability to accomplish the mission assigned by its government. The application of analytics to aviation is one of the fields where proven value exists for an organization such as the CAF, but other areas could certainly benefit from the development of data-driven predictive models to enable command decision making, such as recruitment, force readiness, personnel management, and operations management.

The obstacles that exist to the wider adoption of data analytics in a large organization like the CAF, culture and internal capacity, will persist unless significant efforts are expended to address them. The *DND/CAF Data Strategy* does address this through the “data culture” and “data literacy and skills” pillars of its vision.<sup>171</sup> The aforementioned bias away from management practices found in CAF professional development doctrine and officer training appears to point towards a culture not aligned with accepting digitization and analytics in its everyday business. With low data literacy amongst CAF members attributable to the previous lack of an institutional strategy, the road to evolve towards a data driven organization appears challenging. Nonetheless, the establishment of ADM(DIA) signals a will to alter the strategic orientation in a way which could remedy this. Indeed, this institutional enthusiasm for “digitizing the force and adopting digital practices” was further echoed in March 2021 by the acting Chief of the Defence Staff in an inaugural letter outlining his focus areas.<sup>172</sup> With the overarching strategy resting on

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<sup>170</sup> Ibid., 12, 14-16, 19.

<sup>171</sup> DND, “DND/CAF Data Strategy”, accessed 11 April 2021, <https://www.canada.ca/en/department-national-defence/corporate/reports-publications/data-strategy.html>.

<sup>172</sup> LGen W.D. Eyre, *Acting Chief of the Defence Staff Focus Areas*, (Ottawa, ON: National Defence, 2021), 5.

individual organizations managing their own data, a need exists to train data practitioners at all levels of CAF. As long as they stay aligned with overall CAF objectives, ADM(DIA) efforts in data literacy development through training and communication will have positive effects, in the long term, on the culture of the organization.

Cementing this culture throughout the managerial cadre during the various steps of military socialization and professional development is critical to the success of this strategy. A successful transition towards a digital culture will rest on the acceptance by all levels of leadership, indicating a need to continually reinforce the importance of data throughout each member's career. The common core CAF courses identified in Chapter 3 present important opportunities to emphasise this theme throughout officer development, with an increasing degree of complexity and a shift from tactical applications to institutional effectiveness as individual members progress. As the development of a culture cannot exclusively rest with officers, this common thread of data literacy will also need to be woven through non-commissioned member development, albeit to a lesser extent. Finally, those more senior members who have already completed the majority of their core professional development could always be reached via a strategic marketing campaign in the hope that they at least become familiar with the concepts, preventing them from becoming detractors of this cultural shift.

### **5.3 Summary - Better Managers, Higher Performance**

If the CAF wish to attain the aspirational performance targets set for it in the Canadian Government's DRF, it must help its officers tackle the "tame" problems they encounter routinely at the tactical and operational levels. The resolution of these issues, and the optimization required to correct underperformance, often rest on the ideal distribution of ever-limited defence

resources. This sub-optimal management robs the CAF from the ability to uncover its hidden potential, preventing it from reaching the desired performance level.

While a hypothetical RCAF squadron scenario was used above, this capacity to reach for performance beyond the status quo is not pure speculation. As in Chapter 4, the CAF can once again be benchmarked against the USAF and British Armed Forces. While parallels in all three of the aforementioned DRF targets are not possible due to the limited availability of public data,<sup>173</sup> sufficient information is available draw comparisons in aerospace equipment readiness. There, both British and American air forces surpass the Canadian performance. Considering the smaller fleet size and our national desire to “punch above our weight”,<sup>174</sup> Canada understandably strives to outdo both with an 85% target, but falls short. Against the RCAF’s 60.8% baseline, the Royal Air Force, which recently undertook its reorientation towards improving officer managerial competency, outperforms its Canadian counterpart by 11%.<sup>175</sup> Meanwhile, the USAF outpaced the RCAF by 16% in 2020.<sup>176</sup> Notably, in the case of the USAF, it is considered a low point in their historical performance, which garnered much scrutiny from senior government officials and media alike.<sup>177</sup> Finally, although a comparison with the private sector is not completely fitting due to the different mandate and role of military aircraft fleets, a survey of

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<sup>173</sup> The United States Armed Forces report on unit availability through a classified report to the US congress and the British Government does not publish readiness figures. Neither the USAF nor the RAF engage in domestic search and rescue operations.

<sup>174</sup> Maj A.J. Delhommeau, “Does Canada Punch Above Its Weight.”, (Master’s Thesis, Canadian Forces College, 2013), 1.

<sup>175</sup> Michael Peck, “RIP RAF?: One-Third of Britain’s Air Force Can’t Fly”, *The National Interest*, 14 January 2019, accessed at <https://nationalinterest.org/blog/buzz/rip-raf-one-third-britain%E2%80%99s-air-force-can%E2%80%99t-fly-41527/>. According to news reports resulting from an access to information request, 142 of 434 the RAF’s aircraft was unavailbe in 2018, for a 68% serviceability rate.

<sup>176</sup> Brian Everstine, “Breaking Down USAF’s 70-Percent Overall Mission Capable Rate”, *Air Force Magazine*, 19 May 2020, accessed at <https://www.airforcemag.com/breaking-down-usafs-70-percent-overall-mission-capable-rate/#:~:text=In%20fiscal%202019%2C%20the%20F,a%20rate%20of%2071.20%20percent/>.

<sup>177</sup> Stephen Losey, “Here’s how bad the military’s aircraft readiness has gotten”, *Air Force Magazine*, 19 November 2020, accessed at <https://www.airforcetimes.com/news/your-air-force/2020/11/19/heres-how-bad-the-militarys-aircraft-readiness-has-gotten/>.

2,000 American commercial business jet operators revealed an impressive aircraft availability rate above 93%.<sup>178</sup> The 85% target set for aircraft readiness in the DRF therefore seem to be less of an unrealizable ambition in comparison.

Beyond the responsibilities of public stewardship, providing officers with the tools necessary to resolve quantitative problems not only has a chance remove some of the impediments holding back the organization, but also to improve the well-being of their subordinates, who are often asked to make up for the resource-mission mismatch in human capital. Although the current focus of doctrine and training does not appear to enable these quantitative methods of management, a certain willingness to correct course seems to be manifesting at the institutional level. The establishment of ADM(DIA), and its mission to broaden the adoption of data analytics within DND and the CAF, seems to present an opportunity for the officer corps to align its professional development goals with the *DND/CAF Data Strategy*. Given proper reinforcement at multiple levels of training, the emphasis on quantitative methods of management to resolve the tame/complicated problems of CAF units and formations has the potential to cause a generational change in the performance of the institution, working towards a restoration of the balance between Command, Leadership, and Management.

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<sup>178</sup> Bill DeDecker, "Measuring Reliability and Availability", *Aviation Pro Magazine*, April 2001, accessed at <https://www.aviationpros.com/home/article/10388070/measuring-reliability-and-availability/>.

## CHAPTER 6 – CONCLUSION

### 6.1 Research Summary

In an April 2019 publication by the Canadian Global Affairs Institute, Dr. Ross Fetterly eloquently framed the importance of defence management in military terms: “Management processes are becoming the center of gravity for defence organizations. How they plan and execute their resource strategy will be central to institutional success.”<sup>179</sup> Management, as a component of officership, has seemingly been sidelined by the CAF in favor of outsized leadership development efforts. A general service officer in the CAF requires a balance between their ability to lead, manage, and command in order to be effective at resolving the challenges presented to them. With all three functions being required to address different types of problems, management is the preferred tool for the resolution of the so-called “tame”, but complicated, problems.

Comparable organisations around the world appear to value and nurture the management skills of its leadership cadre. The United States Air Force demonstrates that a strong management culture, based on professional education, can enhance the delivery of operational effects. Meanwhile, the British Armed Forces appear to have a renewed interest in the development of management competencies amongst its officers to improve its defence enterprise. By creating management focused career streams, developing internal training programs, and seconding officers in industry placements, it hopes to adopt best practices in management to maximize the operational effect of its resources. However, formal training and experiential learning are not the only avenue to improving management competency. The successful example of direct hiring of senior managers in British police services shows yet

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<sup>179</sup> Ross Fetterly. “Funding Defence for the Age of Accelerations.”, (Calgary, AB: Canadian Global Affairs Institute, 2019), 13.

another path available to public organizations willing to look outside of the traditional internal promotion stream.

While certain targeted programs to develop managerial skills have been developed internally, such as the Project Management Competency Development Program or the RCAF Fellowship Programme, their scope is too limited to have a meaningful impact on improving the performance of the department. The content analysis of core professional development doctrine and common officer training indicates that the volume of management education delivered to officers should be at least doubled to meet the requirements of the Officer General Specification. Furthermore, the depth of the concepts to be covered should be increased and the topics updated to reflect the evolution of managerial sciences, including the use of digital tools to support quantitative methods of management.

The difficulty experienced by National Defence in meeting the performance objectives set by the DRF puts in perspective the challenges of front line units in executing their own mandates. A sub-optimal allocation of scarce defence resources, due to both internal inefficiencies and difficulties in communicating resource requirements, creates a challenging situation for officers who have not been adequately prepared to face these problems. Industry can serve as an inspiration to demonstrate how quantitative methods of management might help resolve problems in areas that are currently underperforming. Combined with the digitization of the Defence enterprise, led by ADM(DIA), improvement of managerial practices amongst the officer corps could help unlock the true potential of the Department, and ultimately deliver more value to Canadians.



## 6.2 Recommendations and Further Research

With the vast majority of CAF officers frequently facing the same problems of management, it is necessary to review how and when the development of management expertise should be emphasized. Indeed, as 84% of qualified CAF officers are being employed in the ranks of Lieutenant, Captain, and Major,<sup>180</sup> waiting until the JCSP to introduce management concepts formally is excessively late. Instead, the following recommendations should be implemented to re-invest in CAF officer managerial capabilities:

- Reverse the cultural depreciation of management by reviewing core CAF Professional Development doctrine to ensure that its contents sufficiently balance CLM concepts. The doctrine must present Management in a more neutral light and dedicate to it at least 22% of the material covering CLM topics, the same ratio present in the OGS.
- Modernize the requirements of the OGS in relation to management sub-duty areas using recent Canadian university management curricula, public sector best practices, and the DND/CAF Data Strategy.
- Create a formal Officer Management Competency Development program, ensuring that management training is incentivized and delivered throughout the career of all general service officers with a breadth and complexity that scales with management authorities and responsibilities.
- Review the Qualification Standard for the CAFJOD program, to include an additional emphasis on the development of core management competencies, such

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<sup>180</sup> Major Travis Kelley, “Correlation of Military Trade with Selection of Generals and Flag Officers”, (Master’s Thesis, Canadian Forces College, 2020), Annex B. Data is for the Trained Effective Strength of Regular Force officers in all ranks and occupations as of 2019.

as quantitative methods of management. This will ensure that a minimum threshold of management expertise will be reached before promotion to Major.

- Consider the creation of an Intermediate Management Competency course to be completed by new Majors, and existing as a pre-requisite to the JCSP. This course should further management concepts covered in the CAFJOD program, and cover more advanced topics such as performance management, managerial accounting, and process design.
- Review the JCSP curriculum in line with the previous recommendations, ensuring that advanced management theory is integrated to support institutional processes and objectives, specifically by tying organizational performance to the DRF targets.
- Review promotion standards to incentivize the achievement of advanced degrees in business and management. (e.g.: MBA, MPA, Engineering Management, MSc in Management & Analytics, etc.)
- Create and incentivize participation in a broadly accessible industrial placement program for officers and warrant officers, inspired by the British Armed Forces and the RCAF Fellowship Programme.

A vast number of fields exist within managerial sciences that could further be considered for a more meaningful inclusion in the CAF's officer professional development framework.

Project management, systems analysis, process management, managerial economics, digital management, innovation, and entrepreneurship are but a few worth mentioning that have already been embraced by the private sector and in business schools around the nation. Naturally, just as with quantitative methods of management, each may provide significant benefits, but their

inclusion will necessarily diminish the importance of other parts of the developmental curriculum. This balancing act, within the development of management competencies and across the wider spectrum of officer development, should be the subject of a future study in light of contemporary departmental challenges and academic trends.

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