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TERMS OF REFERENCE: CANADIAN ARMED FORCES AND COMMERCIAL LOGISTICS CONTRACTING RESPONSIVENESS MODEL

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Abstract

Effective and efficient contracting of commercially available goods and logistics services is a key capability during both theatre activation (initial deployment of forces) and force sustainment (stabilized resupply of deployed forces). This dissertation explores logistics contracting capability and responsiveness gaps within the Canadian Armed Forces (CAF). Although the CAF endeavours to remain technologically commensurate with allied militaries and military alliances (e.g. NATO), its ability to integrate and evolve multi-enterprise contracting solutions commensurate to that of industry remains largely unexplored.

CAF operations range from disaster response and peacekeeping to war operations. Given the CAF's mandate within current socio-economic and environmental conditions, logistics contracting responsiveness and integration is increasingly critical. Employing primary and secondary sources, the purpose of this study is to derive Terms of Reference (TOR) required to develop the Department of National Defence (DND) Project Initiation Phase of a CAF Commercial Contracting Responsiveness Model (CRM) project.
The literature review is resource-based view (RBV) oriented where the military logistics context is gauged against factors that can yield sustained competitive advantages. The theoretical framework follows from Choo and Johnson's (2004) Organizational Knowing Cycle. Vaismoradi et al.'s (2013) approach to theme development in qualitative content analysis is adapted to illicit, organize and understand primary source data.

The TOR Module definition set is the result of identifying operational contracting responsiveness gaps, focus group analysis of theme-derived Courses of Action (COAs),

and the identification of constraints associated with the CRM's impact on organizational change.

Keywords: Canadian Armed Forces; contracting; logistics; model; multi-enterprise; organizational realignment; theme analysis; organizational knowing cycle; civil/military cooperation

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A	
Assistant Deputy Minister	(ADM)
Area of Operation	(AO)
Air Port of Disembarkation	(APOD)
Air Port of Embarkation	(APOE)
B	
Business Process Immanent	(BPM)
C	
Canadian Armed Forces	(CAF)
Canadian Expeditionary Force Command	(CEFCOM)
Canadian Border Security Agency	(CBSA)
Canadian Operational Support Command	(CANOSCOM)
Canadian Armed Forces and Commercial	
Canadian Armed Forces Logistics Responsiveness Model	(CRM)
Canadian Forces Contractor Augmentation Program	(CANCAP)
Canadian Forces Joint Operations Support Group	(CFJSOG)
Canadian Forces Logistics Training Centre (	(CFLTC)
Canadian Forces Supply System	(CFSS)
Canadian Materiel Group	(CMSG)
Canadian Joint Operations Command	(CJOC)
Chief Military Personnel	(CMP)
Chief of Defence Staff	(CDS)
Chief of Defence Staff Implementation Directive	(CDSID)
Chief of Staff Expeditionary	(COS Exped)
Chief of Staff Operations	(COS Ops)

Chief of Staff Readiness	(COS Rdns)
Chief of Staff Support	(COS Sp)
Commander	(Comd)
Commanding Officer	(CO)
Commercial Off the Shelf	(COTS)
Contract Management System	(CMS)
Contracting Responsiveness Model	(CRM)
Contractor Support Program	(CSP)
D	
Defence Administrative Orders and Directives	(DOAD)
Defence Capability Initiative	(DCI)
Defence Procurement Strategy	(DPS)
Defence Resource Management Information System	(DRMIS)
Director General Aerospace Engineering Program Management	(DGAEPM)
Director General Military Personnel Research Analysis	(DGMPRA)
Department of Foreign Affairs, Trade and Development	(DFATD)
Department of Major Procurement	(D Maj Proc)
Department of National Defence	(DND)
Director Land Service Support	(DLSS)
Disaster Assistance Relief Team	(DART)
E	
European Air Transport Command	(ATARES)
European Defence Agency	(EDA)
Enterprise Resource Planning Systems	(ERP)
F	
Federal Emergency Management Agency	(FEEMA)
Force Development	(FD)

Forward Operating Base	(FOB)
Force Protection	(FP)
Framework for Cooperative Interaction	(FFCI)
G	
General Solutions Category	(GenSol)
Global Affairs Canada	(GAC)
Grounded Theory	(GT)
H	
Humanitarian Assistance Relief Team	(HART)
Host Nation	(HN)
Head of Mission	(HOM)
I	
Industry Comparison Category	(IndCom)
Industrial Regional Benefits	(IRB)
Information Technology	(IT)
Intergovernmental Organization	(IGO)
International Security Assistance Force	(ISAF)
J	
Joint Logistics Enterprise	(JLEnt)
Joint Logistics Staff	(J4)
Joint Operations Staff	(J3)
Joint Planning Staff	(J5)
Joint Signals Staff	(J6)
Joint Training Staff	(J7)
Joint Finance Staff	(J8)
K	
Key Industrial Capabilities	(KIC)

L

Legislative Category	(Lgl)
Line of Communication	(LOC)
Lieutenant General	(LGen)
Logistics Management Directorate	(LMD)
Logistics Response Model	(CRM)

M

Materiel	(Mat)
Military	(Mil)
Military Comparison Category	(MilCom)
Minister of Foreign Affairs	(MFA)
Mission Support Component	(MSC)
Multi National	(MN)

N

North Atlantic Treaty Organization	(NATO)
Non-Government Organizations	(NGO)
NATO Industrial Advisory Group	(NIAG)
National Support Element	(NSE)

O

Operational Funding Account	(OFA)
Organization for Economic Co-operation and Developments	(OECD)
Other Government Department	(OGD)
Organizational Knowing Cycle	(OKC)
Office of the Inspector General	(OIG)
Operational Support Hub	(OSH)
Operational Support Hub Europe	(OSH(E))
Operational Support Hub Kuwait	(OSH(K))

Operational Support Hub South West Asia	(OSH(SWA))
P	
Policy Advisor	(POLAD)
Procedural Category	(Pdl)
Public Opinion Research	(POR)
Public Works and Government Services Canada	(PWGSC)
Public Services and Procurement Canada	(PSPC)
Q	
R	
Resource Based View	(RBV)
Royal Canadian Air Force	(RCAF)
Royal Canadian Mounted Police	(RCMP)
Radio Frequency Identification	(RFID)
S	
Security Requirements Check List	(SRCL)
Senior NATO Logisticians' Conference	(SNLC)
Single Point of Accountability	(SPA)
Social Science Research Review Board	(SSRRB)
Standard Offer Agreement	(SOA)
Standard Operating Procedure	(SOP)
Strategic Airlift Interim Solution	(SALIS)
Strategic Joint Staff	(SJS)
Strong, Secure, Engaged	(SSE)
Supply Chain Management	(SCM)
South West Asia	(SWA)
Strategic Joint Staff	(SJS)

T

Thematic Analytics	(TA)
Technical Arrangement	(TA)
Terms of Reference	(TOR)
Three Echelon Supply Chain Network	(TESCN)

U

United States Government	(USG)

V

W

Warehouse Management System	(WMS)

Section 1 - Introduction

Within the November 1977 edition of the Harvard Business Review, James L. Heskett empirically documented that logistics should be, and will ever increasingly become a critical aspect of organizational strategic planning (Heskett, 1977). This prediction has certainly been realized through corporate strategies such as just in time manufacturing and more recently emphasized by the online retail segment where logistical advantages relate to principle customer service advantages and profit margins.

This study builds on the importance of transitioning the organizational paradigm of the military logistics function from tactical / operational to strategic through the empirical inception for a contracting responsiveness model.

The CAF and allied militaries have implemented logistics establishment rationalization to reduce institutional costs in favour of surge requirement contracting solutions. Logistics input in strategic planning therefore has become increasingly critical because of contracting requirement delivery variability and bureaucratic challenges contracting activities represents. The conception of strategic and operational plans must therefore include the highly integrated and time / cost contingent planning factors of logistics contracting.

Plans are only as viable as their greatest contingencies allow. Therefore, within the frame of the considerable body of empirical proof related to the criticality of the strategic placement of logistics within industry, this study investigates the organizational paradigms and technical foundations required of the CAF logistics contracting mechanism to enable strategic and operational planning responsively.

The aim is to establish the foundations of a larger organizational project that ultimately realises contracting responsiveness to allow the logistics contracting function force multiplying planning integration and agility across the entire CAF spectrum of operation; from disaster and humanitarian relief, to peacekeeping and peace enforcement, and ultimately war fighting.

Problem Statement

Canadian retired Lieutenant General Michael Day, Commander Special Operations Command and chief strategic planner for the future of the Canadian Armed Forces stated in an interview with Embassy News 20 January 2016, *on a new procurement agency:*

> Full disclosure: I was part of the Defence Analytics Institute effort. I was on the board. The idea was that we would combine industry, academia and government to create a set of understood, completely transparent, no-redaction metrics of a situation so that any subsequent policy or procurement decision would be based on some tombstone data.
>
> "For example, let's accept that Canada's a certain size, that current platforms can only be made at certain speeds, that there's loiter times, etcetera. There are some operational, analytical bits that if we had an independent agency putting those out that everybody accepted, it would take some of the horrible and lengthy conversation about what we need away.
>
> Get somebody who doesn't have a dog in that fight to say, 'here are the technical requirements to do what you've asked us to do'" (Smith, 2016).

The preceding statement documents chief strategic planner for the future of CAF executive recommendation that independent procurement strategies lend efficiency and effectiveness to operational support. This dissertation's intent is to develop the terms of reference for a contracting model that enables military and commercially integrated, independent, and capability driven contracting strategies.

The differences between military and commercial logistics are best defined by Kumar and Chia (2012) who purport that "…the military supply chain is much more complex than a commercial goods supply chain for the following reasons: 1. Diversity in supply, from toilet paper to tanks; 2. The need to be ready for war at all times; and 3. An unstable demand, moving intermediate and end-supply points, and handling of supply orders according to priority.

Kumar and Chia compared the commonalities and differences between military and commercial logistics and conclude that although:

> [t]he history of commercial logistics may be traced back to military logistics, … research studies have shown that many areas of commercial logistics, such as inventory reduction, strategic outsourcing and just-in-time concepts, are relevant to military logistics. Only certain functions differ between commercial and military logistics, such as manufacturing, wholesaling or retailing, but military logistics carries out functions such as assembling of semi-finished goods, which is not comparable to manufacturing. Though both commercial and military logistics are similar in their supply chain functions, the latter differs totally in aspects of implication and operations, which ranges from supplier selection to serving customers, which is ultimately the soldier. In commercial logistics, the demand

> can be considered almost stable in contrast to the highly unstable, highly unpredictable demand and the rapidly changing environment of military logistics during wartime. Certain commercial logistics face similar challenges in terms of responsiveness. The rapid growth of commercial logistics enables the military to look at the best practices in commercial sectors and utilize them for efficient operations in the market (Kumar & Chia, 2012).

The implication is that the research of commercial best practices is viable in determining strategic military and commercial supply chain integration strategies. Although the CAF's logistics and commercial logistics share commonalities, when integration and interoperability lags, particularly during periods of CAF operational inactivity, their respective development becomes asynchronous. Commercial logistics' range of offerings and innovations far outpace what the CAF catalogues within its Canadian Forces Supply System (CFSS) and Standard Offer Agreements (SOA)[1]. To ensure continuity and interoperability between the systems during periods where interaction stagnates, collaboration on supply chain development and cross functionality (interoperability) is essential.

This military and commercial logistics integration gap also exists within allied Militaries. For example, the NATO Defence Capability Initiative (DCI) resulted in 58 decisions aimed at improving NATO's alliance capabilities (NATO, 2010). The initiatives pertaining to logistics were addressed by the Senior NATO Logisticians' Conference (SNLC), held 2010, and are summarized as:

- Improving military access to commercial lift assets;
- Exploring options for multi-nationally owned or leased lift assets;

[1] SOAs are negotiated long term commercial contracts.

- Developing arrangements for co-operative or shared use of lift;
- Putting in place measures to enhance co-operation in multinational logistics;
- Improving co-operative logistics planning and management structures and procedures;
- Examining the co-operative acquisition and management of logistic stocks (materiel), including shared industrial contracts for sustainment; and
- Developing logistics information systems architecture and enablers (NATO, 2010).

As of February 2020 integration gaps pertaining to airlift sharing, enhanced cooperation of multinational logistics, and the improvement of logistics planning have evolved a higher degree of cross-functionality across member nations, however, true integration remains elusive. The improved cross-functionality is largely resultant of NATO enhanced forward presence measures in Eastern Europe versus concerted integration initiatives as prescribed by the DCI (NATO Support and Procurement Agency, 2020).

Although past initiatives such as the "Contractor Support Program (CSP) in 2000 and the follow up 2002 Canadian Forces Contractor Augmentation Program (CANCAP)" (Spearin, 2014) had improved CAF contracting effectiveness, they did not resolve issues related to flexibility and services diversity required of expeditionary readiness. The programs assigned a variety of contracting requirements to a single master contract, but limited flexibility in contracting a single service provider under a defined set of requirements.

CAF expeditionary contracting during the conflict in Afghanistan had proven military contracting to be an effective force multiplier by assuming service delivery pressure from uniformed logisticians. This allowed the CAF to focus its logistics capability where most effective. Recent expeditionary contracting reliance has also produced a political dimension; an accepted method of limiting the number of deployed personnel (Spearin, 2014).

Initiatives that are related to CAF military and commercial logistics integration or commercial best practice analysis are currently also not under development. Senior staff representing directorates within which a commercially collaborative and integrative initiative could reside, conceded that the initiative has merit, but affirmed that no plans were in place to develop a project based on an initiative of this nature.

The military and commercial logistics integration and capability gap is significant because historically, operational surge conditions, such as the CAFs deployments into: Afghanistan (Op ATHENA); Libya (Op MOBILE); the Ukraine (Op UNIFIER); the Baltics (Op REASSURANCE); or disaster relief operations (e.g. Op RENAISSANCE NEPAL 2015) uncovered military and commercial integration gaps. Every surge is characterized by unique supply chain challenges where the CAF's supply chain must be established quickly to meet those requirements. Contracted services are heavily relied upon during theatre activation until a stable supply chain is engineered that reliably projects the requisite services and classes of materiel into theatres of operation (termed operational sustainment). A gap exists in the CAF's ability to expeditiously align international contracted services to assigned missions. This leads to theatre activation

inefficiencies, initial capability deficiencies, sustainment disruptions, and ultimately affects force moral and welfare.

The CAF is an expeditionary force where Canada projects its resources and power outside of its territory. Expeditionary (i.e. international) contracting is a key force capability multiplying activity, it is therefore critical to mitigate the CAF and international industry commercial contracting integration lag. Furthermore, during periods of CAF operational engagement, the integration between the CAF and industry is continuous and evolves mutually. However, when the CAF is operating at a reduced level of international engagement, this integration stagnates, which results in the CAF's diminished awareness of commercial service evolution and availabilities. Therefore, the identified gap lies in two correlated domains. The Canadian Armed Forces':

1. Agility in establishing expeditionary logistics contracts expeditiously; and

2. its capacity to maintain international responsiveness and integration with expeditionary contracting innovation, service capabilities, and providers.

To address the contracting responsiveness and integration gap, the focus of the research within this dissertation lies in defining CAF expeditionary logistics contracting responsiveness gaps precisely (gap analysis), and in developing subject matter expert conceived courses of action (COA) and mitigation strategies to address the gaps.

Succinctly stated, this dissertation's aim is to develop a Terms of Reference (TOR) that provides the qualitative analysis and academic foundation required to establish the project identification stage of a Canadian Armed Forces Commercial Logistics Contracting Responsiveness Model (CRM).

It is hoped that the development of the CRM TOR triggers a larger program within the Department of Defence (DND) project framework that ultimately develops organizational structure and policy enablement required to effect continuous collaboration between military and commercial logistics contracting entities. The utility of this dissertation is to facilitate expeditionary contracted logistics responsiveness in support of the full spectrum of Canada's military operations (from disaster relief operations, peace keeping, to war) within an increasingly unpredictable global socio-political and economic environment.

The problem statement that encapsulates the aim is: *What are the current contracting capability deficiencies and realisable course of action that are integral to enabling a Canadian Armed Forces Commercial Logistics Contracting Responsiveness Model (CRM)?*

Purpose of the Study

The CAF logistics apparatus is complex and vast. Ubiquitous to all aspects of CAF logistics that include supply, equipment maintenance, transportation, and administration are contracting activities. Because of their ubiquity and critical function during theatre activation and demand surges, contracting activities are the most variable of logistics functions and tend to represent the root cause of many bottle necks and support disruptions.

Due to the variation, ubiquity and criticality of contracting activities, and the capability gaps that presently exist within the function, the scope of this dissertation is to investigate the capability deficiencies and realisable course of action that are related to designing a responsiveness model that effects logistics contract planning, market

awareness, integration, efficiency, and flexibility. The purpose of the research is to identify logistic contracting gaps at the strategic and operational levels, and to present an empirically derived TORs that could be employed to define the project identification phase (policy framework, organizational position and capability assessment of the CRM) within the DND project framework[2].

To arrive at the CRM TOR, research objectives and research questions were developed that capture the purpose of the dissertation. The following section is intended to clarify the rational and methodology applied in developing the research questions.

Research Objectives

The research objectives are a product of secondary data empirical field gap analysis and theory review that align with the aim and is presented within sections 2 to 4 of this study. Research objectives are categorised as R1 (Strategic), R2 (Operational), and R3 (Functional) and derive definition through the following sections:

- R1 – Gap Identification: objective context is defined in section 2, the Military Logistics Context. It derives the set of strategic questions from reviewing contracting responsiveness capability gaps within the field, and thereby produces the required strategic sensemaking that is fundamental to ultimately defining the qualitative set of practitioner gaps.
- R2 – Knowledge Creation: objectives are derived from section 3, the Literature Review, where knowledge creation is developed through a Resource Based View (RBV) theoretical and practitioner literature review approach to conceiving operational level scenarios that are directly employed to derive viable CRM

[2] Defined in section 10.

implementation Courses of Action (COAs) that in turn presented to a focus group in view of defining the CRM TOR; and

- R3 – Decision Making: objective encompasses R1 and R2 in establishing the research paradigm (section 4). It represents the generalizable theoretical aspect of the study and is centered on a review of functional and organizational sensemaking to derive decision making paradigms (i.e. CRM TORs) that ultimately forms the project identification phase of a larger CRM project.

Outline of the Study

The military context review indicated that a continual global contracting responsiveness capability serving the entire CAF spectrum of operation is best situated within the Canadian Joint Operations Command (CJOC). Therefore, the primary data population was selected from CJOC staff branches, subordinate formations and direct stakeholders. Fully developed within the research paradigm section, the segmentation of target audiences (primary data sources) follows Choo's Organizational Knowing Cycle (OKC) Model Sensemaking (R1 - gap identification), knowledge creation (R2 – COA development), and decisions making (R3 - TOR). To satisfy the research objectives, and remain consistent with the CAF's Strategic, Operational, and Tactical levels of doctrine, the segmented target populations were assigned questions according to the levels of doctrinal authority to distil primary qualitative data from strategic guiding principles and operational objectives and force capabilities assessments to ultimately arrive at tactical TORs.

Strategic Level Qualitative Data (R1)

Strategic level qualitative data was solicited by questionnaire. The questions (Q) were derived from the military context review and intended to solicit strategic staff and stakeholder input pertaining to logistics contracting capability gaps. The responses were requested to be provided in the form of written statements outlining capability deficiencies and ancillary input that was related to research objectives R1 and R2; Q1 through Q9 are referenced at appendix G.

Operational Level Qualitative Data (R2)

Operational level qualitative data was solicited by questionnaire. Contracting responsiveness capability and integration gaps that had been identified by the strategic research audience (R1) responses were framed within scenarios (1 through 5) where academic rigor was applied through literature review to provide context. These were presented to the operational level audience (R2) with the instruction to develop viable applied Courses of Action (COAs) available to the CRM.

Tactical (Functional) Level Qualitative Data (R3)

Organizational typology and research methodology reviews are framed within the research paradigm discussion. The ultimate result of which is the tactical level qualitative data that was solicited by conducting focus groups. The decisions parameters that are associated with developing the CRM TOR are high goal ambiguity and low procedural uncertainty, which indicates a political mode of decision making[3]. R2 COAs were presented to the functional focus group with instructions on how to develop the terms of reference of the CRM capability. COAs were presented sequentially and according to scenario criteria (Sc 1 through Sc 5) where TORs associated with each

[3] See Research Paradigm (Pg. 98) for detailed theoretical development of the decision model.

category were aggregated into a common set of recommendations. This aggregation represents the set of TORs of the CRM project identification phase.

Significance of the Study

The impacts of contracting integration and responsiveness capability gaps are best exampled through an empirical post Operation ATHENA[4] logistics sustainment report with a focus on the supply chain operations of that report. In performing a comprehensive post Operation ATHENA (Afghanistan) operational logistics support analysis, Mitrovic-Minic and Conrad (2011) identified critical logistics forecasting and distribution gaps, specifically:

Forecasting gaps:

- Collection of historical data and performance measurements: measures include time to deliver, cost versus request priority/urgency, and materiel quality reaching customers;
- Tools for supporting forecasting demand of consumable materiel; and
- Tools for supporting forecasting demand for non - consumable materiel.

Distribution management gaps:

- Distribution planning, including all nodes in the combined operational and tactical supply chain;
- Computer support for routing and scheduling in order to fulfill transportation requests; or in order to optimize balancing time, distance and risks; heterogeneous fleet, heterogeneous loads; pre-configured loads;
- Real-time distribution planning;

[4] Op ATHENA background: http://www.forces.gc.ca/en/operations-abroad-past/op-athena.page

- Dynamic routing with re-routing capabilities in order to react to unexpected demands (Although note that this is a highly reactive approach);
- Replenishment cycle changes;
- Automatic support for the re-design of the distribution network configuration;
- Inventory management gaps (stock-outs);
- Better tracking of the materiel and their place/location;
- Categorization of spare parts based on the importance of the equipment at question;
- Re-arranging the containers;
- Optimizing resource share with allied nations;
- Re-supply; and
- Crucial warehouse equipment failing and spare parts not in Area of Operation (AO) (Mitrovic-Minic & Conrad, 2011).

The gaps represent persistent logistics deficiencies experienced throughout the CAF's 10-year engagement in Afghanistan. Conrad and Mitrovic-Minic (2011) amplify the significance of Op ATHENA distribution management gaps, specifically: "

- Operational and tactical supply chain node distribution planning;
- Re-routing capabilities to meet unexpected demands;
- Materiel tracking; and
- Allied Nation resource sharing".

Most of the CAF's surge engagements occur on distant continents, separated by oceans. As further discussed in section 2, this requires a Three Echelon Supply Chain Network where a strategic node (Canada) supplies operational nodes (ports of disembarkation) which coordinate and distribute materiel to tertiary tactical distribution nodes (theatre).

TESCN constraints vary in significance and availability depending on the logistics scenario and directly affect key identified CAF distribution gaps. Operational logistics sustainment is dependent on the establishment and effective operation of TESCNs. TESCN dependencies entail significant variability over time and space. In investigating and defining mitigation strategies (CRM TOR), it is anticipated that the application of an efficient CRM can predict and contractually facilitate the conditions for success associated with global TESCN constraints and known CAF distribution gaps.

The expected contribution of the Logistics Contracting Response Model (CRM) is the enabling of real time, secure integration between CAF and commercial logistics with the aim of creating predictive, efficient, and effective mission tailored contracting methods that would be employed to expeditiously support and enhance the CAF supply chain operations in both surge and sustainment modes.

Detailed within the literature review, multi-enterprise studies that are related to industry and military integration have been undertaken by the European Defence Agency (EDA), the United States Armed Forces and the North Atlantic Treaty Organization (NATO). However, this study was focused on multi-enterprise industry and a military contracting integration and responsiveness strategy which is unique; similar endeavours do not exist within the Department of National Defence (DND) or the CAF.

Limitations of the Study

The limitations of this study are related to organizational scope and military *security.*

Organizational Scope

The organizational scope of the study is limited to Canadian Joint Operations Command (CJOC) logistics and contracting operations. Whereas the Canadian Army, Navy, and Airforce train CAF members, in military terms known as force generation, CJOC (depicted within the red circle of Figure 1) assembles and deploys trained members for task force operations (force employment). Force generation activities are deliberate and predictable where the necessity for contracting agility and commercial integration is not a significant factor. Force employment however demands contracting agility and relevancy.

The scope of the study is intended to address the immediate concerns that are related to deployed operations and not the DND as a whole. Furthermore, investigating contracting capability requirements across the commands (Army, Navy, Airforce, and CJOC), or the DND as a whole is beyond the scope of this study.

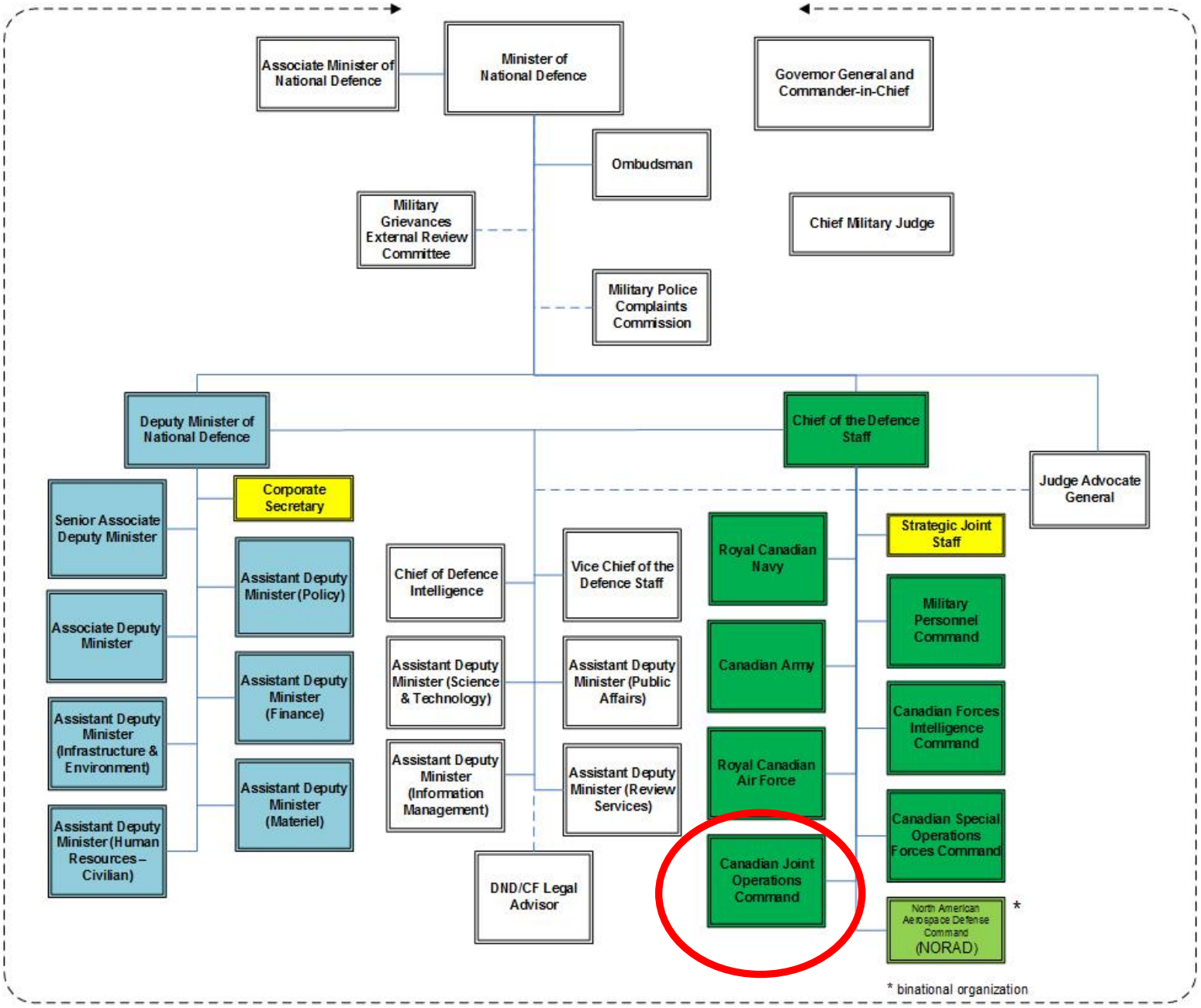
Military Security

This study was constrained to unclassified or declassified information. Adversaries of NATO and Canada are able to distill operational strategies through logistics activities, therefore, sensitive logistics support information and methods concerning current and planned operations are not included. “The Access to Information Act forbids publication of certain facts (e.g., equipment specifications, radio frequencies)

and information from certain types of documents (e.g., Treasury Board submissions, minutes of some meetings)" (National Defence, 2017).

Figure 1

Canadian Department of National Defence Organizational Structure



Note: Content derived from: Canada, National Defence and the Canadian Armed Forces, 2017.

Section 2 - Military Logistics Context - R1: Contracting Responsiveness Gap Analysis

The Military Logistics Context section's primary objective is to explore gaps associated with commercial and military contract integration of current similar initiatives and programs. This section includes: A historical perspective, strategic and operational backgrounds, implications of the Canada First Defense Strategy, developing military and commercial integration models, interoperability and standardization (NATO), considerations for future initiatives, review of the CAF operational support hub initiative, and implications of the context.

Historical Perspective

War operations and logistics have traditionally shared a close correlation and purpose. Carl von Clausewitz delineated logistical structural paradigms in his 1831 principal work *Vom Kriege* (*On War),* and thereby first conceptualized logistics as a cohesive framework for the support of fighting forces. Clausewitz' analysis of war operations identified the conditions for logistics requirements and functions, thereby segmenting categories of logistics according to proximity to the level of engagement: "(1) it can be part of the engagement, and thus in some respects identical to fighting; or (2) it can affect the engagement but cannot be part of it" (Provenca & Duarte, 2005). Subsequent theorists such as Antoine Henri Jomeni in his 1838 work *The Art of War* purported that "Logistics is the art of moving armies. It comprises the order and details of marches and camps, and of quartering and supplying troops; in a word, it is the execution of strategical and tactical enterprises" (Jomeni, 1854).

Jomeni's delineation of logistics operations affected the evolution of Clausewitz' causal relationship between support activities, specifically the modern delineation of tactical, operational and strategic levels of logistics operations which:

1. clarifies the nature of the various activities in war that comprise logistics;

2. establishes the relationship between logistics, tactics and strategy;

3. classifies logistical activities within the framework of Clausewitz's theory of war;

4. clarifies the difference between the logic of the conduct of war and the logic of logistics; and

5. identifies the creation of the fighting force as logistical, arguing that this is implicit in Clausewitz's writing (Provenca & Duarte, 2005).

Provencia and Duarte (2005) bring context to the precept that logistics has historically been an intrinsic consideration in gauging the conditions of operational success. Logistics operations are interconnected with kinetic operations but there are also causal relationship between logistics, politics, tactics, and strategy in war" (Provenca & Duarte, 2005). Although Provenca and Duarte affirmed that logistical considerations are strategic elements and define tactical and strategic possibilities, due to its role to intrinsically support tactics and strategy, logistics is largely only considered to be a factor in operational planning.

Contrary to the historical perspective where logistics is relegated to the status of a tactic, the following literature review and theoretical framework will show that logistics and specifically mission based contracting are keystone activities that require institutional status and recognition of their fiduciary role within the CAFs spectrum of operation.

Strategic and Operational Background

Mitrovic-Minic and Conrad (2011) comprehensively defined logistics requirements and technical necessities within the contemporary spectrum of operations. The report is the most recent and comprehensive analysis of the logistics component pertaining to CAF war operations; it is intended to provide a base of understanding from which strategic gaps can be identified and theoretical concepts can be articulated.

During Canada's 10-year commitment to the International Security Assistance Force (ISAF) December 1, 2001 to December 28, 2011, the NATO security mission in Afghanistan, the CAF materiel distribution system originated in Canada where materiel was either drawn from unit holdings and warehouses or was procured nationally/internationally through Public Services and Procurement Canada (PSPC – formerly known as Public Works and Government Services Canada (PWGSC)).

Throughout the ISAF engagement, the Canadian Expeditionary Force Command (CEFCOM) was the senior command headquarters that coordinated internationally deployed operations requirements and delegated the CAF Logistics Command Headquarters, the Canadian Operational Support Command (CANOSCOM) to execute the procurement and distribution of materiel destined for theatres of operations.

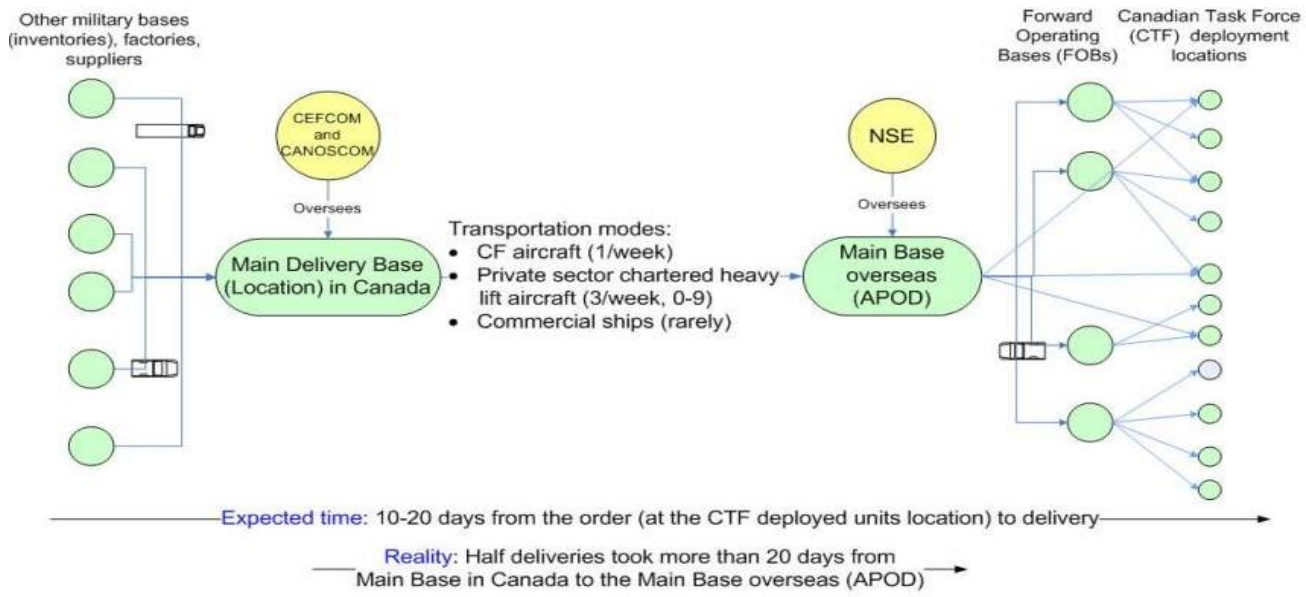
Materiel is either *pushed* to or *pulled* from deployed/domestic operations. Materiel is pushed to support operational directives (e.g. new and improved equipment or capabilities), or as part of a sustainment program where high usage items are pushed at regular intervals (e.g. spare parts, field rations, ammunition). Materiel is *pulled* primarily in cases where the item consumption rates are not easily predicted (e.g. clothing) or when

push rates do not meet the demands of the level of engagement (e.g. ammunition, fuel during an offensive).

Figure 2 depicts the CAF's ISAF sustainment distribution systems where materiel was sourced from Canada or internationally and delivered to the National Support Element (NSE) through CANOSCOM and CEFCOM interaction. Mitrovic-Minic and Conrad (2011) reported that although the cycle time of ordering to delivery to the Air Port Of Disembarkation (APOD) should be 20 days, the duration is often much longer.

Figure 2

CAF Materiel Distribution System



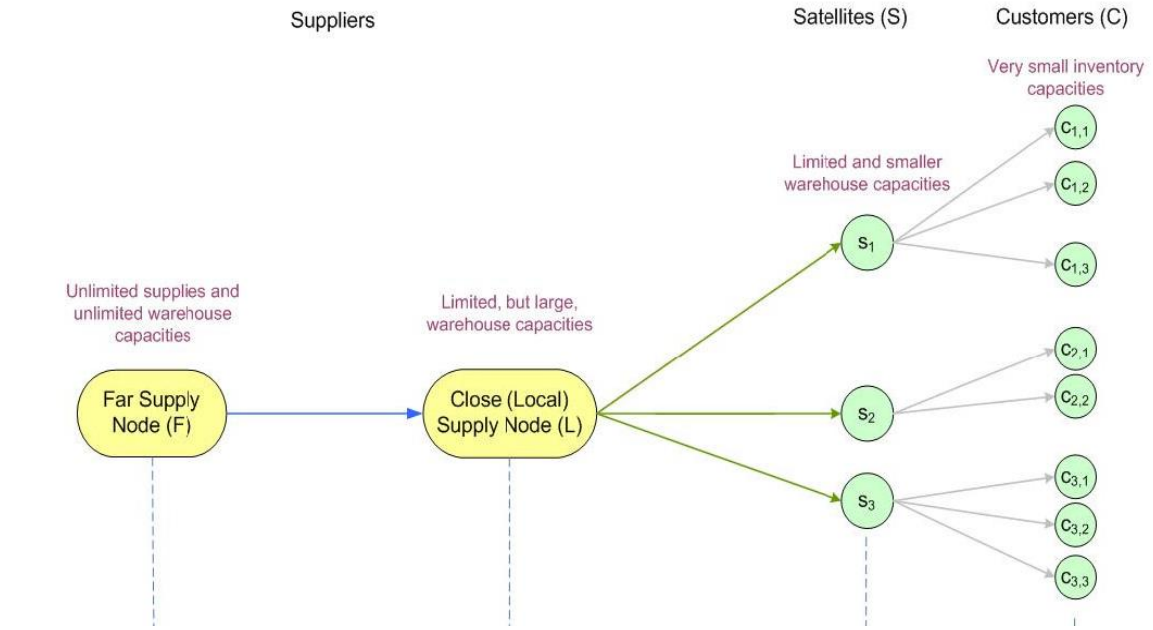
Note: Content sourced from: Mitrovic-Minic & Conrad, 2011.

From a technical perspective, the CAF employs the Three Echelon Supply Chan Network (TESCN) as depicted in figure 3. Pushed and pulled materiel is sourced in Canada (Strategic – Node F) or through an Operational Support Hub (Operational – Node L) into

a theatre of operation where satellites entities (main operating bases) deliver materiel to the customer, forward operating bases.

Figure 3

Three Echelon Supply Chain Network



Note: content sourced from: CIRRELT, 2014.

Although TESCNs concern a multitude of commercial and public enterprises, the conditions which the network must satisfy vary greatly. Table 1 categorises several TESCN scenarios where tight constraints are non-binding linear inequality constraints that hold with equality constraints (i.e. changes in the tight constraints do not affect the high variability of demand).

Table 1

Logistics Examples and Their Similarities and Differences

Logistics Scenarios Examples	Tight constraints	Objectives	Vehicle Fleet	Network	Stochastic	Fluctuating Demand
Commercial/ Retail	Vehicle fleet Warehouse capacities	Min cost	Fixed size Homogenous	Stable and predictable travel times	Demand Travel times	Yes, but not very high variability
Mega-Earthquake	Supplies (medical, water, food) Transportation network Warehouse capacities; gradually decreasing from left to right in the SCN	Min risk Min losses of supplies	Not tight constraint Heterogeneous	Variable travel times Risks Not entire network available	Demand Travel times Lost supplies Risks	High variability
Man-made disaster: virus spread/ disease outbreak	Supplies (medical) Warehouse capacities	Min risk Min losses of supplies	Not tight constraint Heterogeneous	Variable travel times Risks	Demand Travel times Lost supplies Risks	High variability
Peace-keeping	Supplies (fuel, equipment, medical) Transportation network Warehouse capacities	Min risk Min losses of supplies	Not tight constraint Heterogeneous	Variable travel times Risks Not entire network available	Demand Travel times Lost supplies Risks	High variability

Note: content sourced from: CIRRELT, 2014.

TESCN dependencies entail significant variability over time and space, Operation ATHENA dysfunctions within an inter-corollary of operational level activities include:

- Production and distribution planning, including all nodes in the supply chain.

- Production scheduling for each manufacturing facility in the supply chain.
- Demand planning and forecasting, coordinating the demand [push] forecast of all customers and sharing the forecast with all suppliers.
- Sourcing planning, including current inventory and forecast demand, in collaboration with all suppliers.
- Inbound operations, including transportation from suppliers and receiving inventory.
- Production operations, including the consumption of materials and flow of finished goods.
- Outbound operations, including all fulfillment activities, warehousing and transportation to customers.
- Order promising, accounting for all constraints in the supply chain, including all suppliers, manufacturing facilities, distribution centers, and other customers. (Mitrovic-Minic & Conrad, 2011).

Many of these documented deficiencies indicate a common gap; the CAF's inability to offset supply chain disruptions with an active backup system. Variability in distribution planning, production scheduling, demand planning, inventory forecasting transportation and warehousing could be consolidated into an active common contracting network solution. A contracting network could be activated to locally alleviate temporary strategic sustainment and/or theatre activation supply chain disruptions.

Mitrovic-Minic and Conrad (2011) report is an empirical review of the CAF's logistics support operations, the nature and structure of those operations developed from the realities and constraints of the operational and tactical environments. To determine if

operational and tactical developments are congruent with strategic policy, the Canada First Defense Strategy is reviewed next.

Canada First Defense Strategy

The Canada First Strategy (2006) is a Government initiative designed to meet Canada's security requirements of the 21st century. It is "…based on the Government's vision for defence as well as an extensive and rigorous analysis of the risks and threats facing Canada and Canadians in the years to come. Starting from the Government's clearly defined roles and level of ambition for the Canadian Forces, the Strategy identifies the military capabilities required to meet these objectives, which in turn determine where investments are most needed" (Department of National Defence, 2008). Unless the Liberal Government of 2016 iterates an alternative strategy, the Government of Canada is mandated to achieve its long term strategic objectives over the next 20 years by "…expanding National Defence's annual budget from approximately $18 billion in 2008-09, to over $30 billion in 2027–28. In total, the Government plans to invest close to $490 billion in defence over this period. Most importantly, the infusion of reliable funding will provide the certainty required to conduct long-term planning and meet future requirements" (Department of National Defence, 2008).

The strategy will encompass not only investments in equipment, infrastructure and personnel, but also aims to create a new collaborative relationship with industry. The stable long range planning and funding is hoped to result in the "… development of high-tech, high-value sustainable jobs in all regions – directly through the development of military capabilities and indirectly through technological spinoffs and commercial applications. This will put Canadians to work protecting Canadians. Universities and

colleges will also benefit through increased opportunities to undertake cutting-edge research" (Department of National Defence, 2008).

A deliberate military and commercial procurement integration strategy therefore exists to realize the long term objectives of the Government of Canada. However, the Canada First Defence strategy does not specifically address the development of a continuous responsive military/commercial logistics contracting integration strategy that aims to satisfy task tailored and timely contractual support of various un-forecasted missions (e.g. Operation RENAISSANCE – disaster relief for Nepal). The strategy seeks to "…integrate funding demands from across National Defence into a single, coherent plan, and ensure that the timing of major investments corresponds to the availability of funds. This will not only minimize the risk of capability gaps, but will also ensure affordability over the next 20 years" (Department of National Defence, 2008).

Figure 4 depicts the Canada First Defence Strategy's aim of minimizing the risks associated with capability gaps. The development of the CRM is implicitly congruent with that aim, in seeking to minimize timely and mission specific commercial support response delays and dysfunctions by bridging capability gaps through mitigating contracting strategies.

Figure 4

Canada Defence Strategy Risk Mitigation

Note: Content sourced from: Canada, Department of National Defence, 2008.

From a strategic perspective, the CAF is mandated to mitigate capability gaps by developing the required capabilities. In reviewing Mitrovic-Minic and Conrad (2011), logistics support dysfunctions, along with operational and tactical logistics operations remain much less agile and integrated then necessary.

Expeditionary Logistics Contracting Risk Management

Discussed within the problem statement section of this study, contracted service gaps were somewhat mitigated through programs such as the Contractor Support Program (CSP) and its successor, the Canadian Forces Contractor Augmentation Program (CANCAP). CANCAP was an adaptation of the 1989 US Logistics Civil Augmentation Program (LOGCAP), "… and was designed to provide base camp operations and maintenance, fuel distribution, water production, transportation, laundry and power supply on deployed operations" (Miedema, 2016).

Versions of LOGCAP have also been adopted by the United Kingdom and Australia. The Canadian adoption was resultant of cost rationalization measures where

all activities not directly associated with the CAF's spectrums of operation were deemed an option for privatization (Perry, 2009). Driven by the Canadian engagement in Afghanistan, CANCAP's 2013 successor, CANCAP II, was once again awarded to a single source contractor with a contract value of $425 million Canadian Dollars (Spearin, 2014).

Contractor support programs have proven effective at mitigating capability gaps while providing task focused fiscal modularization of the CAF establishment. However, capability gaps are not fully satisfied with this approach and reliance on contractor support programs has created unintended capability risks and deficiencies.

"The US Armed Forces have begun to eliminate entire military career paths by downloading their responsibilities to the private sector" (Miedema, 2016). Furthermore, US commanders have become unrealistically confident that contractor replacement is routine when provided services lacking or inappropriate to the mission (Miedema, 2016). Both of these developments are risks to reliable and stable logistics support projection.

CANCAP II has shown that the Canadian sustainment doctrine operates under the assumption of a conventional linear operating environment (single source contractor) where non-contiguous battlespace considerations are largely absent. Senior support staffs within the CAF are calling for greater integration with industry and for contracting considerations to be represented within with the operational planning process (Miedema, 2016).

Developing Civil / Military Integration Models

The European Defence Agency (EDA) has studied military and commercial integration. Military and commercial integration can be studied from the European

Defence Agency (EDA). The EDA is looking to harmonize military requirements in an effort to prevent fragmentation, and integrate industry in a view to enable enhanced capability. Specifically, in that "industrial-technological capacities will impact capability needs, which is very welcome…[s]trengthening a capability-driven, competent and competitive European Defence Technological and Industrial Base" (European Defence Agency, 2012). Capabilities, Research and Technology, Armaments, Industry and Markets are intended to closely work together within an integrated framework. Military capability planners, research and technology experts, armament cooperation programmers and industry sectors can no longer operate within their own 'stove-pipes'. Because Industry is integrated as an active stakeholder, demand and supply forecasts are identified during the initial phase of requirement setting to the production phase.

Figure 5 depicts the Capability Development Process from left to right; requirements to project and programme delivery. Simultaneously, vertical activities continue to produce integral initiatives, policies, and strategies specific to the individual segments, within a capability-driven approach (European Defence Agency, 2012).

Figure 5

European Defence Agency Military/Industry Integration Capability Development Process

Note: Content sourced from: European Defence Agency, 2012.

Harnessing economies of scale and avoiding working at cross purposes is shaping European policy toward integrating the military logistics of a diverse set of nationalities, capabilities, national priorities and cultures. Unlike the political nature of military operations, the supporting logistics apparatus is less politically restricted; opportunities for integration are more playable and stable. A similar multi system integration strategy has been developed within the United States military, where diversity is not defined by nationality, but by service affiliation (military branches).

The United States Armed Forces Joint Staff Director has also identified the logistics integration gap for Logistics, Lieutenant General (LGen) Kathleen M. Gainey. LGen Gainey lead J-4 conference guidance (2012) included that joint operations and operations that include coalition partners have "difficulty integrating, synchronizing, or otherwise optimizing logistics identification, sourcing, and delivery across the entirety of the global logistics community" (Joint Staff J4, 2012). In response, the Joint Logistics Enterprise (JLEnt) was established to solve cross-organizational logistical problems:

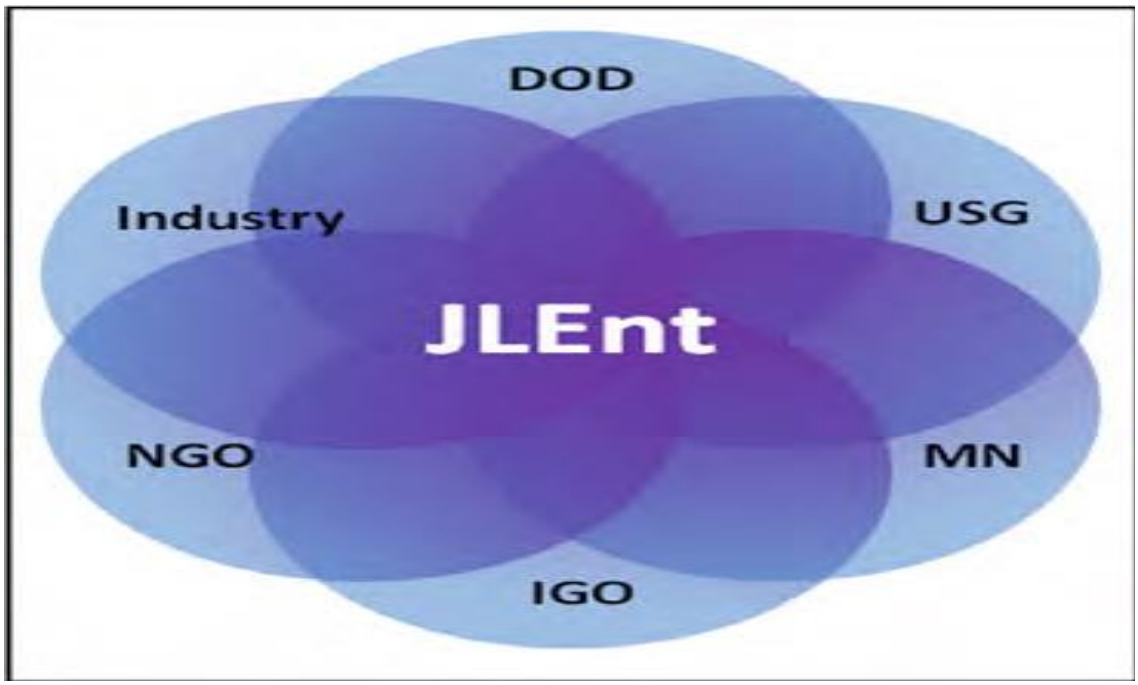
> The role of the JLEnt is to provide a mechanism with which Joint Force Commanders (JFC) can work to optimize logistics processes and capabilities and allocate military logistics resources according to national security needs in an environment featuring an array of partners. Concept experimentation efforts have led to a new understanding about how this JLEnt can be effectively put into practice. Logisticians across the enterprise can achieve greater capacity and more effective and efficient logistics support through a clear understanding of the critical role relationships play within the enterprise, and a greater understanding of the benefits of better networking. This consideration – important in the best of

times – is vital in an era of declining resources available to both the government and humanitarian communities (Joint Staff J4, 2012).

The JLEnt is a multi-integrated matrix of key global logistics providers "acting cooperatively to achieve a common purpose without jeopardizing their own mission and goals (Joint Staff J4, 2012). Significant to the CRM, as Figure 6 indicates, private industry which Joint J4 (Logistics Staff) defines as "corporate, business, and professional entities usually contracted to provide supplies or transportation assets, but sometimes acting in partnership" (Joint Staff J4, 2012), is integrated with all other joint elements within the JLEnt.

Figure 6

The Community of JLEnt



Note: Contents sourced from: Joint Chiefs of Staff J4, 2010. Abbreviations: Multinational (MN), Department of Defense (DOD), Non-Governmental Organization (NGO), Intergovernmental Organization (IGO), and United States Government (USG).

Although not specifically organized to be forward looking, the JLEnt construct has achieved documented and recognized positive results. However, in her J4 Joint Logistics Strategic plan 2010-2014, LGen Gainey, then Director Joint Chiefs of Staff for Logistics, stated that the strategic plan was "developed using a collaborative planning process with input from internal and external stakeholders. The J-4 Deputy Directors for Strategic and Operational Logistics, along with the Chief of Staff, are responsible for monitoring and communicating the performance towards achieving our goals and objectives" (United States, Joint Chiefs of Staff, 2010).

Sufficient information exists across the US Military logistics community, including the highest strategic executive levels, that indicates that the center of gravity is shifting toward increased multi sector and multi enterprise integration and collaboration (as the EDA has). A CRM that interfaces across CAF branches, contractors and allied militaries could provide for a stable conduit that binds, informs, collates, and ensures mission relevant contracting capabilities of joint logistics stakeholders across fields; this capability currently does not exist within the CAF.

Due to the complexities and breadth of military engagements, NATO, the overarching military alliance to Canada has initiated similar integration strategies with our closest military allies.

Military Interoperability and Standardization (NATO)

The North Atlantic Treaty Organization (NATO) is a 30 State intergovernmental alliance designed to provide mutual defense of its member States, which constitute 70 percent of the total global defense spending (NATO, November 2015). To the greatest extent possible, NATO seeks to standardize and increase the interoperability of its

member's armed forces logistics to realize the greatest economies of scale possible. However, NATO "…logistics is facing a number of challenges, which include:

- … limited local resources, lack of host nation support, and insufficient local infrastructure [i.e. Baltic members].
- Long supply chains, vulnerable and limited supply routes.
- Sustainability and logistics support of units for an indefinite period of time.
- The amount of national logistics forces and resources in a joint area of operations, command and control.
- Availability and cost of strategic transport, limited transport capacity.
- Complexity of weapon systems and their support.
- Greater reliance on contractors.
- Interoperability of logistics (between member NATO nations).
- Constant pressure to reduce logistics support (tooth to tail ratio[5]).

These challenges are resulting in a follow up of general logistics requirements:

- Development of flexible, efficient and adaptable logistics capabilities and systems.
- Interoperability with allied forces.
- Optimizations of inventories and supply systems.
- Effective use of information systems and reporting.
- Improvement of the efficiency of logistics services.

[5] The tooth to tail ratio is the ratio of combat arms to logistics / administrative support establishments.

- Strategic mobility – management of transport over long distances.
- Logistics sustainability [i.e. supply chain stability once engineered].
- Improvement of training of professional logisticians (Dufek and Pecina, 2014).

Due to the complexity involved in satisfying diverse multinational contract requirements, NATO, "at the non-contractual or pre-competitive level …communicates with industry through its agencies, and through conferences, symposia, roundtables, seminars, and industry days. NATO has also more structural relationships with industry in the form of the NATO Industrial Advisory Group (NIAG) and the Framework for Cooperative Interaction (FFCI)" (NATO Business Portal, 2015).

The most efficient means to ensure interoperability and standardization may be through multilateral contracting collaboration and consensus. Thus, the development of a CRM would not only comprehensively inform industry, provide the CAF with industry best practice knowledge and CAF awareness of industry trends and development, but could also serve the CAF in synchronizing its approach and efforts towards NATO interoperability and standardization.

Military and commercial integration and interoperability precedence and lessons identified exist within the external CAF environment. The Mitrovic-Minic and Conrad (2011) post Op ATHENA report helps correlate this organizational baseline with empirically identified gaps for improvement.

CAF Logistics Improvement

Mitrovic-Minic and Conrad (2011) recommendations for future work include:

- Combine the two supply chain networks (operational and tactical[6]). This would enable monitoring and control of the entire spectrum of activities – from the Canadian inventories and factories to the Battle Group in theatre. The interdependencies between the two logistics planning levels are high.
- Apply best Supply Chain Management (SCM) practices throughout the entire operational and tactical logistics activities.
- Implement modern sensor networks for data collection, total asset visibility, and materiel visibility, including in-transit visibility.
- Keep the size and staffing of National Support Elements at the adequate levels – if needed change them dynamically.
- Apply dynamic re-scheduling and re-assignment: If delays in materiel distribution occur, provide prompt and proper re-assignment of the delivery assets and staff in order to recover from the vicious circle of delays, late deliveries, and high percentage of high priority requests. If necessary, increase temporarily the staffing and number of transportation and support assets.
- Perform advanced forecasting (including consideration of future mission plans) and corresponding proactive planning of all the activities.
- Perform proactive distribution of goods (greater analysis and emphasis on push [regular programmed shipments] distribution).
- Improve inventory management by incorporating automated systems.

[6] The operational supply chain encompasses logistics activities from Canada into the National Support Element (NSE) in theatre whereas the tactical supply chain encompasses logistics activities from the NSE into Forward Operating Bases (FOB) and positions.

- Apply efficient real-time transportation management practices in order to improve planning, routing, and scheduling - for the existing multi-modal transportation system moving heterogeneous loads (Mitrovic-Minic & Conrad, 2011).

Although not directly correlated with large scale civilian commercial logistical structures and processes, and highly concentrated on current paradigms of operations, Mitrovic-Minic and Conrad's comprehensive review of the CAF's tactical and operational spectrums of logistics indicates a requirement for operational and tactical logistics integration, and the development of standalone strategic logistics organizational components. The development of a CRM could address these initiatives by enabling capabilities where interoperability with commercial operational and tactical supply chains would correlate to CAF lines of communication. It could also serve as a rich and continual source of SCM best practice data.

An avenue to develop and test multi-sector, multinational logistics contracting interoperability within a controlled environment that represent CJOC support concepts and operations within a microcosm are CJOC Operational Support Hubs (OSH). OSHs could serve as laboratory to test and refine a CRM once defined.

Operational Support Hubs (OSH)

Defence Research and Development Canada – Centre for Operational Research and Analysis' Ahmed Ghanmi, PhD. set out the functional conditions to establish Operational Support Hubs (OSH) in support of CAF operations. OSHs are multi modal logistics transhipment nodes that are strategically located throughout the globe and

facilitate timely and cost effective deployments of troops and materiel. Ghanmi (2011) sets out the fundamental principles that should be considered for establishment of OSHs.

These are the 4DR principles (i.e., *D*emand, *D*estination, *D*istance, *D*uration, and *R*isk):

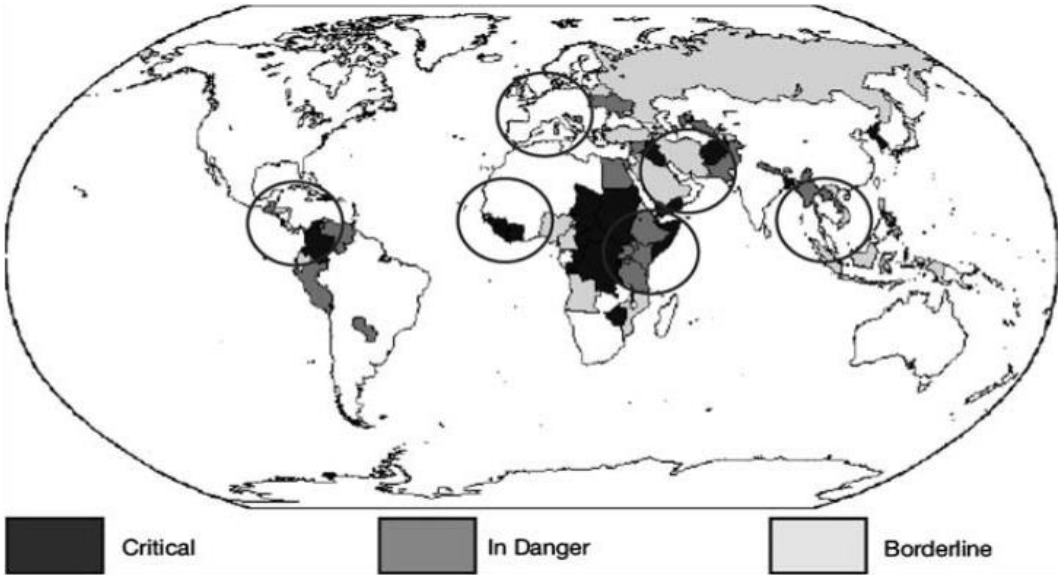
- ***Demand*:** The operational demand is the quantity and pattern of consumption or usage of materiel in a theatre of operation.
- ***Destination*:** The deployment destination sets the overall environment for sustainment operations. Determining where the support is to be provided will lead to the development of the lines of communication, distances to travel, routes, and control measures.
- ***Distance*:** The distance between the supported forces and the supporting forces is important in the development of sustainment plans. When distances become extended, support units begin to employ intermediate staging bases along the lines of communication.
- ***Duration***: The length of an operation will contribute to the overall support problem. For missions with extended durations, the continuous usage of lift assets for sustainment will reduce their availability due to maintenance operations.
- ***Risk*:** The risk of sustainment operations is mainly associated with the disruption of the lines of communication or the destruction of forward stocks. Additional stocks and protection will be necessary to mitigate the mission support risk (Ghanmi, 2011).

Figure 7 depicts OSH locations that are determined by global geo-political and natural disaster potentials to trigger Government of Canada and CAF involvement. OSH locations are planned according to geo – political assessments of probable failed and

failing states requiring CAF engagement. Current 2019 active OSHs include OSH Europe in Cologne Germany, supporting CAF operations within the European Area of Operation (AO), OSH Kuwait supporting the South West Asia (SWA) AO, and OSH West Africa which is primarily supporting the UN Mission in Mali. OSHs where contractual agreements are in place, but not staffed, include: OSH Latin America and Caribbean (Jamaica), and OSH Korea.

Figure 7

Potential Support Hubs with Respect to Failed and Failing States Distribution



Note: Content sourced from: Ghanmi, 2011.

Although OSHs enable strategic warehousing and intermodal transhipment operations, they do not represent a holistic strategic logistics structure that addresses strategic procurement or joint ventures with local economies/Governments; nor do they represent an initiative toward holistic strategic integration between the strategic, operational, and tactical levels of support (i.e. IT integration or a designated strategic organization). A CRM could be leveraged and tested to enable mission relevant

contractual support and Technical Arrangements (TA) with Host Nations (HN). Once fully developed and integrated, a global CRM could provide for OSH supported operations surge contracting requirements to be satisfied within local OSH economies without OSHs requiring robust contracting cells. Finally, the centralisation and contractual economies of scale a CRM would represent could also provide for efficiencies and liaison with Public Services and Procurement Canada (PSPC – Formerly PWGSC).

Implications of the Military Logistics Context

The collaboration gap within the commercial and Canadian military logistics sectors is inherently rich in constructs and strategies. Benefits have been documented across the field; literature on post-military operation reviews, allied military and commercial integration initiatives indicate a CRM potential that supports increased collaboration and integration and this is effective and measurable. Budget constraints, increased volume, automation and the recognition of logistics as a central mechanism to achieve a competitive advantage (both commercially and militarily) seem to make collaboration and integration effective in addressing operational support gaps.

The literature indicates that a key to capability-based operations is that CAF logistics should be continuously integrated with industry in order to anticipate supply and demand fragmentation of logistics enablers and the inherent sustainment lag the lack of continuous integration can cause. Common to integration strategies that mitigate support lag and thus enable flexibility and responsiveness is the requirement to monitor continuously evolving commercial capabilities and their relevance to CAF operational requirements and contingencies. Congruent with the Defence Policy Review 2017, the

development of a CRM could be instrumental in closing the gap between required CAF capabilities and industry's ability to fill them. The development of a CRM is anticipated to mitigate logistics capability gaps by providing for sustained contracting field expertise and capability, contracting capability inventories, and for the continuous development of forward looking operational planning aspects in its continuous integration between industry and operational planners.

R1 Strategic Level Questions

The Military Logistics Context review articulates into Research Objective 1 (Sensemaking: contracting responsiveness capability gap definition) in the form of the set of strategic level primary qualitative questions:

Q1: In your view, do any operational contracting responsiveness deficiencies exist for domestic and expeditionary operations? If so, please explain.

Q2: In your view, do any operational contracting capability deficiencies exist for domestic and expeditionary operations? If so, please explain.

Q3: What CAF contracting improvements would you recommend?

Q4: Do other militaries and military alliance organizations (e.g. NATO) possess contracting capabilities you wish would be incorporated into CAF contracting abilities? If so, please explain?

Q5: Are you aware of any industry contracting practices that should be integrated into CAF contracting practices? Please elaborate.

Q6: Please elaborate on any other CAF contracting responsiveness, or capability gaps you have identified.

Q7: What deficiencies exist with respect to CAF and industry contracting integration? Please explain.

Q8: In your view, how can CAF contracting be better integrated with the CAF and commercial stakeholders.

Q9: Do you have a vision for CAF contracting integration, if so, please elaborate.

Section 3 - Review of the Literature - R2: Resource Based View Conception of Operational Level Scenarios

The previous section's intent was to qualify R1 objectives, and to familiarize the reader with the CAF's organizational typology, purpose, policy framework, and current operational paradigms. The literature review builds on this foundational organizational positioning by applying it to a military spectrum of operation, catastrophe / humanitarian response, where supply chain engineering is most dynamic, and logistics contracting responsiveness gaps most critical.

Literature Review Scenario Categorisation

The literature is categorised according to applied (managerial) and theoretical aspects of the research design. The review commences with the applied aspect which forms the basis of technical understanding. It reviews applied work on logistics contracting integration. Theoretical content is within the organizational dynamics / organizational best practices sub section where the generalisability of a theoretical approach is anticipated to garner a holistic view of organizational requirements rather than specific organizational prescriptions based on precedent.

R1 gap analysis and responses to R1 questions were presented to the R2 population in the form of scenarios[7] and requested to develop Courses of Action applicable to resolve R1 gaps and associated strategic population concerns[8]. The following literature was specifically selected to augment the formulation of the scenarios and are categorised to scenarios as follows:

[7] Scenario development is a function of thematic analysis detailed in Section 4: The research paradigm.
[8] Found at Appendix G.

Scenario 1 (Sc1) – Given the identified contracting capability gaps, what IT integration and solutions are available to address the deficiency? Context is defined within the IT section of the literature review where the role of IT in logistics contracting responsiveness and aggregation is further developed;

Scenario 2 (Sc2): Given the identified contracting capability gaps what PSPC and Treasury Board coordination and streamlining strategies can be employed to address the deficiency? The R1 precipitant scenario is framed within the CAF Procurement Policy section of the literature review where Government of Canada procurement policy is applied;

Scenario 3 (Sc3): Given the identified contracting capability gaps what CAF and DND procedural strategies can be employed? The scenario is assigned procurement mechanism mitigation context within the CAF Procurement Strategy section of the literature review;

Scenario 4 (Sc4): Given the identified contracting capability gaps what civil / military organization contracting strategies can be employed and or integrated to address the deficiency? links catastrophe response and humanitarian relief logistics integration to civil / military integration and lends context to military capacities outside of the spectrum of conflict.

Scenario 5 (Sc5): What organizational best practices can be employed to address the identified contracting capability gaps? Applies various organizational theories to gauge best practices against current CAF organizational paradigms.

Resource Based View (RBV) Approach to the Literature Review

Jay Barney's 1991 article "Firm Resources and Sustained Competitive Advantage" is widely accredited with formulating the understanding that managerial diligence is key to qualifying causal relationships of resources with strategy, and nurturing core organizational competencies to achieve sustainable competitive advantage. The resource-based view (RBV) approach presumes that not all resources are of equal importance in conferring a competitive advantage. Core competencies related to contracting responsiveness will therefore be analysed in relation to their strategic value.

In considering the logistical demands of the CAF's intermittent contemporary global spectrum of operation (from humanitarian relief to war fighting), and the various obligations Canada commits to domestic and international agreements that require procurement protocols, an opportunity exists in analysing continuously anticipatory and independent logistics contracting strategies that could enhance CAF reactive operational planning. A logistics support gap exists where CAF Logistics should be anticipatory, rather than reactive to CAF strategic and operational imperatives in delivering global turnkey procurement and supply chain capabilities.

The literature review strategy and the inception of the research paradigm follows Cimon's 2017 analysis of the Jenkins Report (2013). In his capacity as the Special Adviser to the Minister of Public Works and Government Services, Tom Jenkin's delivered a report entitled *Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities*. The report shaped policy debates on defence procurement as it represented a departure from accepted procurement policies in recommending that Key Industrial Capabilities (KIC) be identified within Canada's defence industry. The KIC

focus was to combine support of CAF operations while stimulating Canadian industrial growth. To achieve this collaborative effect, Jenkins recommends that industry partner with academia to develop third part defence research and development (Jenkins, 2013).

Cimon (2017) structures Jenkins' recommendation as follows: "first, Canada's position in the global defence industry is examined; second, the notion of capability is explained and tied into the concept of KIC; third, the selection of KICs and their sustainment are discussed; and fourth, some policy gaps and their potential fixes are identified".

Cimon purports that Canada's defence industry is well placed within the global defence procurement sector. The country possesses a mix of pure and mixed defence industries. Canada's competitive advantages in "legacy systems like airframes, IT-related activities (e.g. CGI), training and simulations (CAE), and other specialty areas" (Cimon, 2017), combined with increasing financial constraints in defence procurement indicates that Canada's competitive KIC advantage within the global defense industry lies within the Commercial Off the Shelf (COTS) market. KIC derived sustained competitive advantages are therefore derived from identifying opportunities within the defense related COTS sector; leveraging Canada's mixed industrial capacities and stable supply chains.

Identification of KIC industrial sectors and level of support requires addressing policy gaps. Cimon suggests that a Single Point of Accountability (SPA) be employed as a tool to coordinate policy development requirements and programs. Levels of KIC development should be reviewed according to operational criticality (i.e. "…ammunition, IT services, telecommunications or in-service support [Cimon, 2017]). Also, to enable

competitive advantages, Industrial Regional Benefits (IRB) assessments should be revised; focusing on market based capability development rather than regional political considerations.

In structuring Jenkin's recommendation to develop KIC competitive advantage analysis within Canada defense procurement initiatives, Cimon identified and contrasted CAF procurement strategy to Canadian industry to arrive at policy review recommendations and suggested the concentration of analytical coordination (i.e. SPA). He accomplished this by employing an RBV approach to contrast Jenkin's KIC supposition against a varied set of reviews: First, organizational typology; Second, field capability assessment; third, functional gap analysis; and fourth, policy gap analysis and recommendations.

This literature review adapts Cimon's approach and the Resource Based View (RBV) to consider how research on logistics contracting integration enables sustained competitive advantages. The significance of the study is that it seeks to address the CAF logistics contracting integration gap with its commercial counterparts and enablers. Furthermore, the introduction of new capabilities requires organizational integration. The literature reviewed is therefore predominantly of an applied nature. It intends to develop an RBV understanding of military logistics by associating it within its integrated fields (as is the case with Cimon's KIC analysis). To achieve the RBV aim of the literature review, the study included the following diverse set of fields: catastrophe response logistics integration, Information Technology, and organizational theory.

Literature closely associated with contracting responsiveness and integration gaps such as public / private partnerships, logistics integration case studies, supply chain

responsiveness studies, or comparative studies of business integration are not presented within this review. The qualitative epistemology required to frame the problem and aid in deriving primary data (Thematic Analysis) should not specify or situate a potential solution to the problem; the "…investigator is expected not to have an a priori, well-delineated conceptualization of the phenomenon; rather, this conceptualization is to emerge from the interaction between participants and investigator" (Krauss, 2005). The literature review was therefore limited to aggregate field review, rather than specific applications or solutions to gaps.

The literature review sections are segmented into introductions where the reader is described the sub sections and the sections purpose, the reviews of the chosen literature, and conclusions where the implications of the literature and deductions concerning the CAF's typology, and theoretical framework are stated.

Scenario 1: Role of Information Technology in Logistics Contracting Responsiveness

Much of the literature regarding logistics integration and flexibility concerns IT integration and development. The IT literature review explores the IT field's viability in technologically enabling the integration and responsiveness capabilities required to address the CRM gaps. Emerging IT drivers in Logistics and Software Development - Logistics Integration were selected to gain an understanding of the maturity of IT integration and the organizational considerations associated with aggregating logistics capabilities to achieve contracting integration and responsiveness.

The Role of IT in Supply Chain Management

Spanning to the 1980s, original research on Supply Chain Information Technology (SCIT) (Johnston and Vitale 1988) centered on "the automation of manual processes, such as ordering and settling accounts, and as a substitution of repetitive processes" (Harnowo, 2015). SCIT has since evolved to enable supply chain coordination and collaboration which most notably produced competitive advantages in improved customer service and a reduction of operating costs (Harnowo, 2015).

However, benefits associated with the use of SCIT are varied. These variations are resultant of appropriation methods where outcomes are dependant on how systems are procured, off-the-shelf or custom built, and how features of the systems are employed (DeSanctis & Poole, 1994). Depending on the complexity of the requirement, the system appropriation approach can become more important than the SCIT itself (Harnowo, 2015).

IT Conditions for Knowledge Based Analytic Organizations

Operational integration of IT (informatisation) requires careful consideration as it can produce opposite effects of those anticipated. To expand on issue related to appropriation:

> in order for the informatisation [sic] to be carried out efficiently and effectively a manager has to overcome the following subjective as well as objective difficulties:
>
> - financial – assurance of sufficient financial resources to cover the informatisation related costs;

- technological – equipment – information system application requires the use of recent telecommunication methods (e.g. internet, satellite communication) and information technology devices, such as computers or peripherals, e.g. optical drives for input of great amount of data, scanners, printers;
- organisation – establishing in the first phase a partner cooperation between "users" and "implementers" as well as between all level management and information department;
- psychological – people employed in a company defend themselves from novelties, because they are aware that as a result only some of them will be promoted whereas some will lose their job. (Szymonik, 2016).

Since the CRM is envisioned to be a knowledge based management and decision making capability, consideration in the value of IT integration should include: confidence that information exchange with stakeholders is possible; that access to the system can be supported in remote locations; and that analytical information management is relevant and coherent (Szymonik, 2016).

Emerging Information Technology (IT) Drivers in Logistics

Given the conditions set forth by Szymonik and Harnowo for IT's viability in an emerging organizational capability, the fundamental condition of the field merits investigation.

"The innovative activities undertaken in logistics align with the Organization for Economic Co-operation and Development's (OECD) definition of the four types of innovation: organizational, process, marketing and service. Industrial sectors and the

logistics service industry are leaders in incorporating all four types of innovation into logistics practices" (Industry Canada, 2011). The innovation is achieved by logistics increasingly integrating information systems to sourcing, customer service, manufacturing, and supply chain management (i.e. suppliers, financing, government). Figure 8 shows interconnected IT systems governed by organizational logistics that correlate with Mitrovic-Minic and Conrad's assessment of total asset visibility, supply chain integration, and transport visibility. Current Logistics IT integration developments and global integration trends appear to reflect the strategic requirements of CAF logistics.

Figure 8

Logistics Innovation Footprint

Note: Data sourced from: Industry Canada, 2011.

The strategic integration of logistics requires significant investment in IT and "may require reorganization within [organizations] as well as training…" (Industry Canada, 2011). The pay off in adhering to the emerging driver of IT development and logistics integration is "the ability to collaborate electronically with networks of key suppliers … and key customers. These technologies give firms a competitive advantage, enhancing their efficiency and agility" (Industry Canada, 2011).

An applied example of this progression is Walmart. Walmart's SellerCloud allows it to solicit and evaluate potential contractors, post new products, synchronize inventory, and download and track orders all online (SellerCloud, 2016). SellerCloud is integrated with online retailers such as amazon, eBay, and Jet, and it is integrated within a virtual exchange marketplace that includes brick and mortar retailers: Sears, Staples, Target and "The Home Depot". To enable CRM contracting responsiveness and relevance, the model should be developed with IT integration as a central paradigm. Although centered within a different sector, empirical logistics IT integration precedence exists; SellerCloud being an adequately complex and comprehensive example.

IT integration technologies have matured to a point where the contracting integration and responsiveness gaps can be addressed holistically, to realise this inexpensively and expeditiously, the applied (not developed) CRM operational software must be at a similar state of maturity.

The Resource-Based View of IT Integration to Effect Contract Responsiveness

"The resource based view of the firm is based on two underlying assertions, as developed in strategic management theory (Barney, 1986a, 1991; Rumelt, 1984; Wernerfelt, 1984): (1) that the resources and capabilities possessed by competing firms

may differ (resource heterogeneity); and (2) that these differences may be long lasting (resource immobility)" (Mata, et al, 1995). Applying the RBV approach, the question emerges that from a CRM perspective, would the investment of integrating IT into the CRM produce sustained competitive advantages?

According to Mata et al, if many other peer organizations within the field also possess versions of IT integrated CRMs, then the application of IT to the model would not produce a competitive advantage. Conversely, as exampled earlier with WalMart's SellerCloud innovation, if the CAF is unique in it's application of an IT enabled CRM, resource heterogeneity is met and would produce a temporary advantage (Mata, et al, 1995).

Therefore, as along as competitors do not employ or innovate an IT integrated CRM, the cost benefit of developing this capability is neutral. However, once a competitor introduces a similar capability, a competitive disadvantage would ensue. The value of the scenario therefore lies in an RBV approach of detecting if CJOC operators deem an IT enabled CRM to produce a competitive advantage, or would competitive advantages be drawn from other solutions to the contracting responsiveness gaps.

Given the significant effect logistics integration can have on organizational strategy, IT integration is a strategic leadership and management responsibility. If an IT application is chosen, repositioning the logistics of an organization from a reactive to a responsive (anticipatory and empowered) concept would be required[9]. An integrative IT application would require the organization to integrate and exchange information freely and shift toward a continuous collaborative communication approach.

[9] Organizational dynamics are defined in Scenario 5.

Scenario 2: Treasury Board and Public Services and Procurement Canada Effect on CAF Contracting Agility

Scenario 2's context explores the latest Canadian defence policy which outlines revised procurement thresholds, but also contrasts this opportunity with structural procurement mechanics that stifle any policy attempt toward contracting agility.

Canada Defence Policy 2017: Strong, Secure, Engaged (SSE)

The Trudeau Government's Canada Defence Policy Review expands on the Canada First Defence policy by implementing streamlining strategy that is expected to reduce DND and CAF contract approval timelines by 50 percent (Minister of National Defence, 2017). The strategy entails devolving the CAF contracting authority threshold from $400,000 to $5 million for goods (Minister of National Defence, 2017). This expansion of departmental authority is expected to result in 80 percent of the CAF contracting to be administrated internally instead of requiring Public Services and Procurement (PSPC) to contract for goods worth over $400,000 (Minister of National Defence, 2017).

Furthermore, the Government is mandating:

- Use procurement to incentivize Canadian research and development in important and emerging technological areas.
- Increase the transparency and timeliness of communication with defence industry associations, including instituting meetings between the Department of National Defence and Canadian industry through a Defence Industry Advisory Group and other fora.

- Grow and professionalization of the defence procurement workforce to strengthen the capacity to manage the acquisition and support of today's complex military capabilities. This includes the addition of over 60 procurement specialists and enhanced training and professional accreditation for defence procurement personnel.
- Provide Canadians with regular updates on major project and programs to increase transparency, communicate challenges and measure performance.
- Ensure that Canadian environmental standards are adhered to in all procurement projects (Minister of National Defence, 2017).

The implication of the 2017 Defence Policy Review is that an increased emphasis of contracting flexibility, preparedness and agility is required; precisely the contracting capabilities the CRM is intended to produce.

Analysis of CAF contracting capability gaps within the parameters of these new conditions does not exist, therefore, to improve logistics agility and integration capabilities, allied military organizations such as the European Defence Agency (EDA) and the United States of America military are benchmarked. Military and industry integration capability studies and initiatives were reviewed in an effort to develop an understanding of how underlying integration principles and organizational structure can relate to the CRM gaps.

Challenges of an Antiquated Procurement System

> If the first challenge for Canada is to keep up with allied developments, the second is to establish new partnerships with firms that permit government to access (and regain a measure of influence over) advanced technologies while

> fostering domestic innovation. Equally, if not more challenging, Canada must be able to acquire capabilities at a speed that allows the CAF not to fall too far behind what is being developed and sold on the open market (Richardson et al, 2020).

Contemporary military procurement differs in may aspect to those of the past. Of most significance is digitization and the speed of innovation. Current procurement processes suited the innovation and development dynamics of the past, however, commercial IT products are now rapidly being weaponised or adapted for military purposes at low cost. It is imperative for the CAF to significantly improve its procurement cycle (Richardson et al, 2020).

Notwithstanding Canada's complex capability development methods, Canada's procurement policies exasperate the attainment of competitive advantages. As the RBV approach indicates, resource heterogeneity is critical and short lived, complicated and bureaucratic procurement processes can quickly eradicate the advantage any newly developed capabilities offer.

> [PSP and DND] … must settle on a bid evaluation criterion before a major capital project can be brought before the Treasury Board Secretariat to receive expenditure authority. Negotiations over requirements and the weighting of bid evaluation criteria can be protracted, as can the process to secure expenditure authority from the Treasury Board. Once a contract is ready to be signed, moreover, it can take many months, if not longer, to secure the Treasury Board's final approval –even if the contract has been carefully negotiated, subject to significant oversight, and ensured value for money (Richardson et al, 2020).

Furthermore, once a contract is ratified, changes are very difficult if not impossible to incorporate (Canadian Association of Defence and Security Industries, 2019).

Implications of Contracting Mechanism Effect on CAF Procurement

Canada's contracting mechanisms are antiquated given the contemporary speed of innovation and in the absence of fundamental restructuring, strategies such as the CRM must provide contracting agility within the legal framework. The significance of this scenario to the study is an understanding of the practitioner's mitigation and restructuring strategies.

Scenario 3: CAF Procurement Mechanism Mitigation Strategies

Lending context to mitigating CAF procurement mechanisms, an example of how the 2014 Public Services and Procurement (PSPC) Defence Procurement Strategy (DPS) can be aligned with the 2017 SSE to facilitate the Director General Aerospace Engineering Program Management's (DGAEPM) management of national procurement.

From a procurement and capability growth perspective, the CAF has witnessed a significant Government of Canada (GoC) shift toward pragmatism and efficiency. Two key policy evolutions have been introduced that greatly enhanced the Royal Canadian Air Forces' (RCAF) ability to manage and evolve its capabilities: the 2014 Defence Procurement Strategy (DPS); and the 2017 DND SSE.

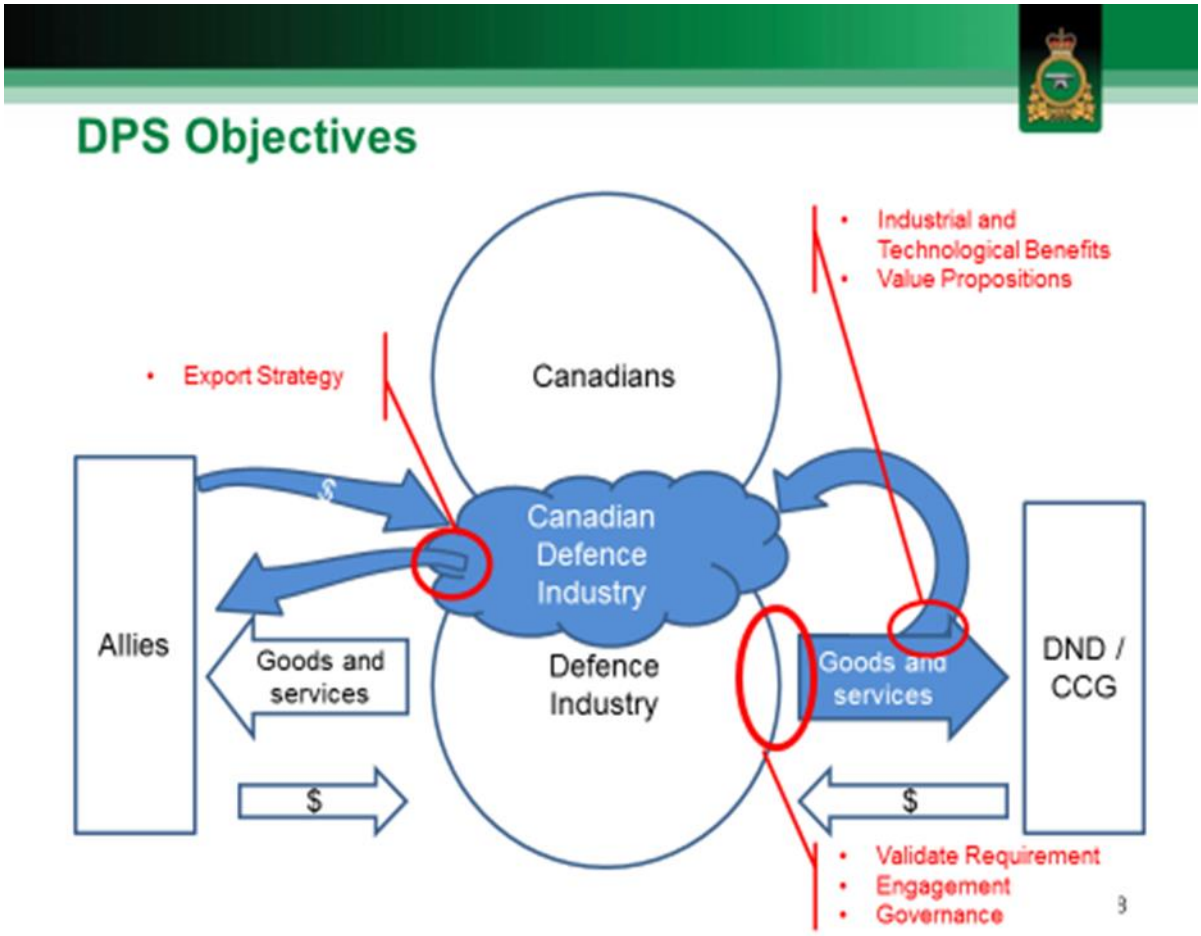
The DPS provides the Royal Canadian Airforce (RCAF) a streamlined procurement mechanism through which DGAEPM is enabled to effect capability growth, whereas SEE prescribes the RCAF the policy framework and entitlements that are integral in evolving its capabilities.

Public Services and Procurement (PSPC) Defence Procurement Strategy (DPS)

Resolved to streamline Defence procurement with the intent of delivering the Right Defence equipment in a timely manner while creating economic benefits for Canadians, the Government of Canada developed the DPS. It was introduced jointly by the Minister of National Defence (MND) and the Minister of Public Works and Government Services Canada (MPWGSC) in February 2014, and prescribes procurement threshold governance mandated to achieve DPS goals. The following discussion will outline DPS key objectives, the procurement process under DPS, and the DPS delineation of procurement thresholds with their associated committee authorities.

Figure 9

Defence Procurement Strategy Roadmap



Note: Data sourced from: Savill, 2015.

DPS objectives are articulated as follows:

1. Delivering the right equipment in a timely manner. This entails a mandate for early and continuous stakeholders and procurement authority engagement, the requirement for an investment plan that delineates procurement priorities, and the establishment of an independent review panel;
2. creating Canadian economic growth and employment through Defence

procurement. This entails employing value propositions to evaluate bids,[10] exploring export and global value chain opportunities, and incorporating the Industrial and Technological Benefits (ITB) policy where Defence procurement is to "…support the development of a globally-competitive Defense and security sector the Government of Canada has identified through sixteen Key Industrial Capabilities (KICs)." The process is further validated through a mandate to establish oversight by third party Defense analytics expertise; and

3. streamlining the Defense procurement process. Process efficiencies are realized through the establishment of a PSPC Defense procurement secretariat, and a review of the CAF Delegation of Authorities (DoA) with the aim of increasing the current $25,000 limit for procurement of goods. (Government of Canada, 2018)

As highlighted with Figure 9, under DPS, DGAEPM procurement initiatives require adherence to the following DPS phases of military equipment acquisition:

1. Identification. DGAEPM must identify current and future capabilities the RCAF must deliver, and correlate those to current deficiencies. According to the RCAF Director of Air Programs (DAP), LCol John Whalen, the following investments are necessary to meet Canada's security requirements:

    (a) Replace the CF-18 fleet with 88 advanced fighter aircraft.

    (b) Acquire space capabilities to improve situational awareness and targeting.

    (c) Acquire new command and control and communications systems.

[10] Value Proposal details can be found at Annex A under the value proposition guide.

(d) Replace the air-to-air tanker transport, utility transport and multi-mission aircraft fleets.

(e) Invest in medium altitude remotely piloted systems.

(f) Modernize fighter aircraft air-to-air missiles.

(g) Upgrade air navigation, management, and control systems.

(h) Acquire new aircrew training systems.

(i) Recapitalize existing capabilities until the arrival of next generation platforms.

(j) Sustain domestic search and rescue capability.

(k) Operationalize the new fixed-wing search and rescue aircraft fleet. (Whalen 2018).

The investment requirements represent $46.4 billion in RCAF planned and future projects. (Ibid)

2. Option Analysis. To meet the requirements of the DPS governance board and thus obtain project funding, DGAEPM project teams must prepare preliminary Statements of Operational Requirement (SOR) and complete business case analysis that adhere to DPS objectives.

3. Definition. Once project team finalised SORs meet “Programme Management Board approval, the team prepares a Corporate Submission to the Minister of National Defence or the Treasury Board of Canada to receive expenditure authority to proceed to the Implementation stage.” (National Defence and the Canadian Armed Forces, September 2018).

4. DPS Governance Thresholds: For each procurement project outlined by the Director of Air Programs, project team SORs are to be submitted to the appropriate funding governance committee:

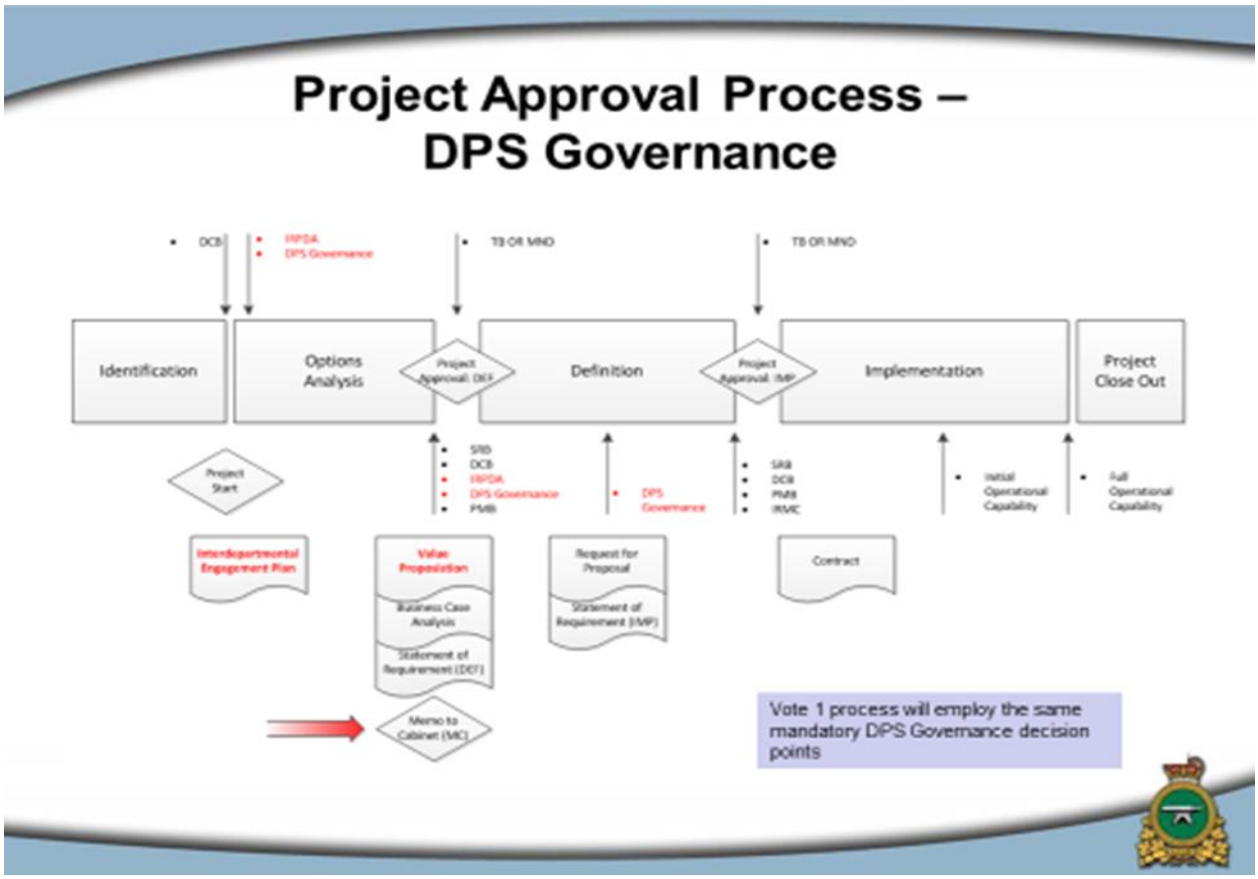
a. $2 million to $20 million requirements are submitted to the Director-level Governance Committee where SORs are exempted from Value Propositions (see paragraph 4.a) but the Canadian Content Policy must be considered.

b. Above $20 million to $100 million requirements are also submitted to the Director-level Governance Committee where SORs will require ITB and Value Propositions.

c. Above $100 million requirements are submitted to Director General (DG) Governance Committee where the committee ….will provide decisions on procurement strategy, including application of ITB and Value Proposition... instead of Senior Project Advisory Committee (SPAC) oversight. (National Defence and the Canadian Armed Forces, September 2018).

Figure 10

DPS Acquisition Process



Note: Data sourced from: Mack, 2015.

A CRM can be applied to gaps concerning centralization, coordination and oversight. Its particular value would be the application of expeditionary operational approach and acumen, arguably lending long term relevance to the SOR.

Implications of DPS Alignment with SSE

Following a rigorous, collaborative and transparent process to define and articulate a new Defence policy, the MND, along with the Minster of Foreign Affairs

(MFA) introduced SSE in 2017. SSE supersedes the 2008 Canada First Defence Policy [11] and "…offers clear direction on Canadian Defence priorities over a 20-year horizon. It increases the size of the Canadian Armed Forces, affirms Canada's unwavering commitment to its long-standing alliances and partnerships, and provides vital new investments …" (DND Canada, 2017). SSE represents a Defence spending augmentation of "…$18.9 billion in 2016-17 to $32.7 billion in 2026-27…" (Ibid) , and prescribes the RCAF policy framework and entitlements that are integral to capability growth. The following discussion will highlight SSE RCAF investments, SSE effect on the stabilization and stability of capital procurement for the RCAF (Defence Funding Strategy), SSE's impact on capital investment consolidation, and how CRM can be employed to streamline the process.

Due to the financial magnitude of RCAF procurement requirements, procurement timelines could prove problematic for DGAEPM. SSE provides a funding policy that ensures $497 billion of funding over the next twenty years (on an accrual basis), with $48.9 billion earmarked for new investment (yearly funding dispersions are in Table 2 below). Since DAP has identified $46.4 billion in new RCAF capability investment requirements, DGAEPM must promote its initiatives to DPS governance boards to secure the maximum funding from the $48.9 billion SSE new investment funding envelope (DND Canada, 2017).

[11] 2008 Canada First Defence Policy archived: http://www.forces.gc.ca/en/about/canada-first-Defence-strategy.page.

Table 2

SSE Defence Fund ($ millions)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total 10yrs	Total 20yrs
Accrual Basis	17,148	17,174	17,636	18,677	19,464	20,015	20,870	22,092	23,278	23,899	24,551	207,654	497,012
Cash Basis	18,908	20,683	21,428	21,714	24,276	25,315	26,048	29,879	31,741	31,931	32,673	265,688	553,003

Note: Table sourced from: Ottawa: DND Canada, 2017, 43.

A key strategy for DGAEPM to manage and promote its procurement objectives is to align its objectives to SSE budget management strategies. The CRM is ideally suited to align and oversee the following SSE objectives:

1. The reduction of project development and approval time within the DND by at least 50% for low-risk and low-complexity projects;
2. increased DND contracting authority for goods to $5 million by 2018 (this allows 80 percent of defence procurement contracts to be managed by the DND);
3. employment of DPS objectives and policies;
4. transparency – improved collaboration with industry through the Defence Industry Advisory Group;
5. growing and professionalizing the defence procurement establishment through recruitment and professional accreditation;
6. improving public relations by publishing National Defence's Investment Plan; and

7. insuring that Canadian environmental standards are adhered to in all procurement projects. (DND Canada, 2017, 75).

The scenario's COA outcome should provide an encompassed approach to correlating and aligning DPS and SSE with procurement initiatives and capital management. Although this example focuses on strategic procurement initiatives instead of CJOC operational support requirements, it aspires to demonstrate the CRM's potential versatility. It shows the possibility for the CRM to be grafted onto highly complex procurement project in view of lending operational relevance, coordination, and tactical acumen.

Scenario 4: Civil / Military Contracting Gap Mitigation Strategy

Aside from combat and peace keeping operations, a significant proportion of CAF missions are catastrophe response and humanitarian relief missions in the form of the deployment of Disaster/Humanitarian Assistance Relief Teams (DART/HART) (Robinson, 2011). Peacekeeping, conflict, and war operations entail various elements of catastrophe; therefore, a review of the effect of catastrophe on logistics contracting and integration is valuable. Logistics capability for catastrophe response is a critical resource for the CAF. Therefore, catastrophe response operations exemplify the challenges associated with military deployment and force sustainment over very short timelines. To demonstrate CAF contracting integration and capability requirements across the spectrum of catastrophe response operations, catastrophe models of logistics capacity, post hurricane Catrina logistics capability enhancements - logistics integration case study and humanitarian, military and commercial logistics synergistic partnerships were selected to lend context to scenario 4.

Humanitarian Relief: Post Hurricane Katrina Logistics Capability Improvement (Case Study)

The United States Department of Homeland Security, Office of the Inspector General (OIG)'s (2010) report titled, *FEMA's Logistics Management Process for Responding to Catastrophic Disasters*, "addresses the strengths and weaknesses of the Federal Emergency Management Agency's (FEMA) Logistics Management Directorate's process for responding to catastrophic disasters" (OIG, 2010). Many of FEMA's failures in hurricane Katrina's disaster relief operations were traced to assigning inadequate levels of importance and integration to logistics. In response, FEMA has, through the 2006 Post-Katrina Emergency Management Reform Act:

> "made great strides to improve its logistics capability by: (1) increasing staff levels; (2) training and developing personnel; (3) enhancing coordination among federal, state, and local governments, nongovernmental organizations, and the private sector; (4) developing plans and exercises to improve readiness; (5) utilizing interagency agreements and contracts for needed commodities; (6) conducting meetings and teleconferences with logistics partners; and (7) reviewing and evaluating performance" (OIG, 2010).

Logistics, which had been a small branch within FEMA prior to Katrina, was reorganized into the Logistics Management Division (LMD), and is now empowered to "plan, manage, and sustain the national logistics response and recovery operations response to domestic emergencies and special events" (OIG, 2010). FEMA's reorganization that enabled increased importance, integration and leadership to logistics is empirical substantiation that logistics coordination and empowerment is not a management theory discussion, but a necessity in enabling effective response structure.

The requirement of the logistics reorganization into the LMD was based on IOG audits of Washington, DC area FEMA officials, regional field office, and federal partner agencies where the following functional areas were reviewed: “Staffing; Training, and Credentialing; Planning; Coordinating; Sourcing; Tracking and Timing Deliveries; Communications; and Evaluating Performance” (OIG, 2010).

The results showed that FEMA logistics realignment coordination required: “…strong collaboration with other federal agencies, nongovernmental organizations, state and local governments, and the private sector to establish integrated disaster support supply chains” (OIG, 2010).

To achieve this level of collaboration:

> FEMA conducted the first National Logistics Coordination Forum in March 2008, consisting of representatives from all supply chain partners. A subset of this forum, the Distribution Management Strategy Working Group, was established to analyze and develop a comprehensive distribution and supply chain management strategy. In April 2009, FEMA issued guidance for integrating the operations and logistics functions at the incident, regional, and headquarters levels.… FEMA works with the U.S. Chamber of Commerce and with trade associations to build awareness of logistics processes and procedures. Biweekly “Vendor Day” meetings are held to invite private sector companies to share information on their products and services. FEMA also works closely with nongovernmental disaster relief organizations providing coordination and support. In 2009, a consortium of voluntary organizations active in disasters presented FEMA with its annual

"Partner of the Year" Award for the agency's assistance to the nongovernmental disaster relief community (OIG, 2010).

Thus, from a practical perspective, it becomes evident that due to its complex, integrated, and ubiquitous nature, logistics collaboration across the field of stakeholders is a critical factor for enabling a response network capable of reacting quickly to a myriad of situations and geographic locations.

The report's recommendations echo those of the Defence Research Development Canada, NATO, and the European Defence Agency where: "Recommendation #1: Evaluate whether the Total Asset Visibility system being developed is on track to support logistics operations. The evaluation should include such functions as information technology systems' requirements, staffing needs, and coordination with emergency management partners. Recommendation #2: Work with state partners to identify and overcome state and local logistical deficiencies" (OIG, 2010).

Empirically based recommendations derived from the analysis of a mega disaster confirm the requirement of multilateral integration and collaboration. The role of the CRM would be to foster those relationships from which contracting strategies are defined. The hurricane Katrina analysis moreover identified the significance of logistics in disaster response thereby inducing FEMA to define the logistics function as a separate organisation and recognised it as the Logistics Management Division (LMD).

Academic validity of this coordination requirement is derived from Yuste et al (2019), where the complex relationships between actors are explored, organizational characteristics contrasted and proposals provided on how to achieve inter-organizational synergies.

Humanitarian, Military and Commercial Logistics Synergistic Partnership

Yuste et al's 2019 commentary explores the creation of a model that "…integrates the resources and supply chain management systems of military, commercial, and humanitarian disaster response activities" (Yuste et al, 2019).

The authors purport that humanitarian, military and commercial entities possess unique and indispensable assets and mechanisms that are critical to effective disaster relief which are usually cooperative, but frequently not integrated. The review of the commentary will be limited to the effect of military operations and integration recommendations.

Beyond military logistics' support propensity to exhaust local supply chains, challenges associated with requesting military logistics support in disaster relief operations include cost, adequacy, competition for transportation pipelines, and a lack of work culture appreciation between humanitarian, military and commercial actors (Yuste et al, 2019):

Cost: governments and municipalities in requirement of military logistics assistance should analyse the cost benefit of calling upon the service. The military can respond very rapidly with significant capability, however, military logistic support is not cost effective;

Adequacy: Military transportation is highly specialized for military equipment and materiel. Caution should be exercised by humanitarian organizations in considering the military in favour of commercial transportation; for example, materiel may be required to be repackaged;

Completion for lines of communication: Because of the scale and size of the equipment and forces, military deployments tend to consume a significant proportion of any transportation lines of communications. Airport, seaport, roads and marshalling areas may be cordoned by the military and not accessible to other entities in the area.

Lack of work culture appreciation between actors: Humanitarian organizations, commercial entities, and military logistics cultures differ greatly. Collaboration requires significant efforts to achieve mutual understanding and respect (Yuste et al, 2019).

Yuste et al (2019) recommend that to achieve "… a synergistic logistics system is to preclude military, commercial, national disaster management and humanitarian systems from competing for the same resources". Their proposal entails the development of a "Synchronized Disaster Relief Model" that would affect the synchronization of humanitarian, commercial and military logistics. This proposal aligns with Cimon's recommendation of assigning SPAs to KIC development in that a Synchronized Disaster Relief Model would represent a Single Point of Accountability. To enable collaboration derived sustained advantages, this SPA would coordinate humanitarian relief organization's prioritization of effort with commercial logistics sourcing of materiel and the military's transportation and coordination capacities.

Implications of Catastrophe Response Logistics Contracting Gap Literature

Recent academic and organisational realignments concerning the importance and level of integration of logistics was borne out of a response to relief operation failures and the tragic losses associated with those failures. Catastrophe response case study is a good indicator of logistic channel viability and of the level of integration that is empirically indicated. The CAF's roles and responsibilities aggregately concern

catastrophe management, and although other government departments (OGD), such as Global Affairs Canada (GAC) and non-government organizations (NGO) such as UNICEF, are typically engaged to lead relief efforts, it is the CAF that is called to organize and perform the initial response (National Defence, 2014). The principles of logistics integration that have been applied to address organizational deficiencies in organizations such as FEMA should be applied to the CAF in the form of a CRM because the application of a CRM could anticipate logistics bottlenecks and breaking points, and coordinate contracting strategies with government and NGO stakeholders. Moreover, in order for a CRM to fulfill its role, it should be positioned at the operational or strategic level and lead innovatively with sense-making as a paradigm.

The significance of this scenario is derived from asking respondents to think outside of the military paradigm in to develop contracting agility strategies.

Transition from Applied to Theoretical Considerations

The previous sub-sections of the literature review identified principles, precedent, opportunities, and gaps associated with the sustained capability enablement a CRM (SPA) could produce. To transition to the theoretical framework and ultimately to the research design, applied organizational and leadership requirements will be further defined and associated with established research methods within the subsequent theoretical aspect of the literature review.

Scenario 5: Organizational Best Practices

To gauge industry best practice relevance to logistics contracting gap analysis, an assessment of the organizational placement of logistics within the CAF requires academic exploration and extrapolation.

> Its basic tenet is that a firm's strategy drives the development of organizational structure and process [Galunic & Eisenhardt, 1994; Miles & Snow, 1978] (sic). The fit between the strategy and structure of a firm leads to better performance because the structure provides the necessary systems and processes essential for successful strategy implementation [Grinyer, Yasai-Ardekani, & Al-Bazzaz, 1980; Habib & Victor, 1991] (sic) (Chen et al, 2009).

The CRM's operating principle should be to consolidate sensemaking in distilling critical enabling factors from within the logistics field. Therefore, the context of this scenario is identifying how the CRM is to be positioned within the CAF's organisation and how it would integrate within industry is critical. To achieve organizational clarity and the organizational positioning of the CRM, organisational considerations are applied through evaluating the following theory concerning: strategic elements and characteristics; environmental strategic characteristics; discourse analysis; and the application of Trial Organizations against the utility of CRM.

Strategic Elements and Characteristics

The literature review thus far indicates that to institutionalize responsive logistics within organizations, logistics entities must be empowered and repositioned within the policy authority of organizational structures. To bring theoretical context to organizational strategy employed to shape organizational realignment, a theoretical foundation of "strategic elements" is indicated.

The Strategy Diamond

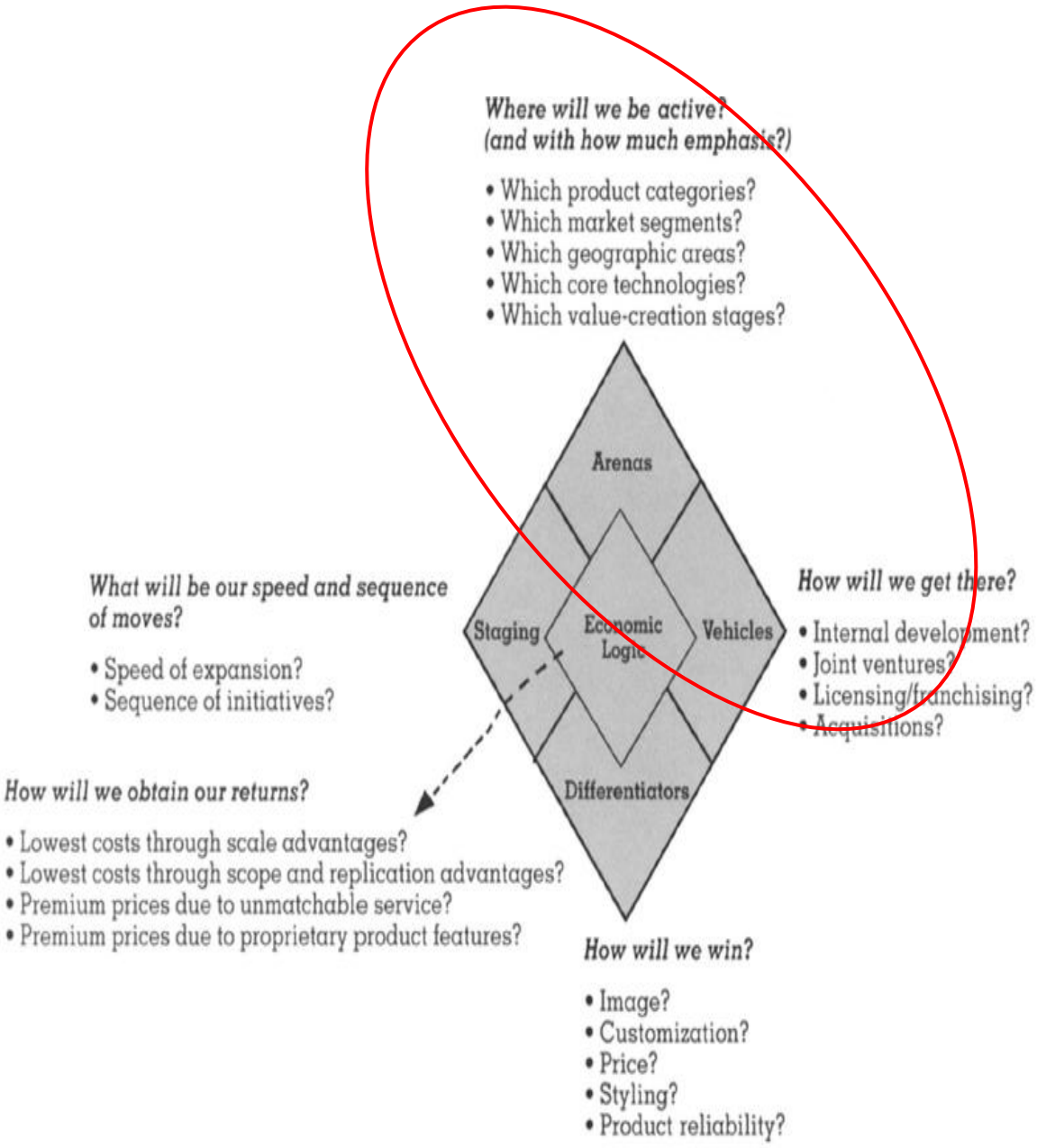
Hambrick and Fredrickson created the Strategy Diamond in 2001. It provides a concise way to show how the parts of an organization's strategy fit together. There are

many models available for executives to use to craft a strategy. But very few of these models specify what ingredients should be included" (Expert Program Management, 2017). Hambrick and Fredrickson's strategy Diamond was selected because it succinctly indicates the viability of an organization strategy by compartmentalizing strategy development into five elements that include:

- "Arenas: where the organization will be active;
- Vehicles: how will the organization achieve its goals;
- Differentiators: how will the organization win in the market place;
- Staging: what will the organization's speed and sequence of strategy be; and
- Economic logic: how will organizations obtain returns" (Hambrick & Frederickson, 2001).

Figure 11

Five Major Elements of Strategy



Note: Data sourced from: Hambrick & Frederickson, 2001.

Arena and Vehicle elements require a substantial level of internal and environmental engagement – all other elements are dependent on the direction and structure that Arena and Vehicle initiatives produce. Therefore, Arena and Vehicle

elements of strategy are significant in conceptualizing departmental logistics repositioning (change in strategy-structure arrangement) that achieves strategic influence within organizations.

Structure is required to realize the objectives of the five elements of strategy, however, “once an organization has developed a particular strategy-structure arrangement, it may have difficulty pursuing activities outside its normal scope of operations” (Miles & Snow, 2003). The application of the strategic choice approach provides for adaptive procedures that can be employed to mitigate the limitations of strategy-structure cycle organizations.

According to Miles and Snow’s application of the strategic choice approach, organizations can employ scanning activities where they utilize “surveillance of those environmental elements deemed most critical to the organization. Organizations have the choice of being reactive, waiting for events to take shape clearly before responding), or proactive (anticipating the shape of events and acting quickly) with respect to information it gathers” (Miles & Snow, 2003). Thus, as demonstrated by the disaster relief literature review, and conceptually through NATO and European Defence Agency industry responsiveness integration literature, logistics should be positioned within “Arena” and/or “Vehicle” strategic elements with adaptation capabilities to be mandated within the proactive spectrum of operation.

To motivate organizations to integrate strategically enabled logistics departments, organizations should understand mission dependant operational mandates.

Miles and Snow (2003) identified four organizational adaptive characteristics:

1. **Defenders** are organizations which have narrow product – market domains. … As a result of this narrow focus, these organizations seldom need to make major adjustments to their technology, structure or methods of operations.
2. **Prospectors** are organizations which almost continually search for market opportunities, and they regularly experiment with potential responses to emerging environmental trends. Thus, these organizations are often creators of change …
3. **Analysers** are organizations which operate in two types of product-market domains, one relatively stable, the other changing. In their stable areas, [they] operate routinely and efficiently through the use of formalized structures and process. In their turbulent areas, top managers watch their competition closely for new ideas.
4. **Reactors** are organizations in which top managers frequently perceive change and the uncertainty occurring in their organizational environments but are able to respond effectively. [Reactors] only make adjustments of any sort when forced to do so by environmental pressures. (Miles & Snow, 2003)

Arena and Vehicle strategic element structure combined with prospector/analyser organizational adaptive characteristics define the organizational characteristic and strategy paradigm required to enable the CRM. To gauge the CAF's and commercial responsiveness capabilities with that of the theoretical paradigm, the identification and correlation of internal and environmental actors and stakeholders is required.

To accord the CAF strategic logistics structure to the Prospector characteristics appears salient, however, given the complexities of geo-political and geo-economic

conditions, the Analyser characteristic may be a more appropriate designation. A shift in the strategic importance of logistics responsiveness without a clear mandate that is based on empirical evidence and academic rigour would jeopardize the support and subsequent integration of the strategic/operational planning community.

The organizational positioning and leadership interaction associated with the CRM positioning and structure can be effectively researched through discourse analysis. Discourse analysis provides applied and uncontrived insight on the effects of the introduction of a CRM on power relationships.

Discourse Analysis

Alvesson and Karaman (2000) delved into the importance of discourse and the significant contribution discourse analysis can have on organizational research. "According to Foucault (1980), language, put together as discourses, arranges and naturalizes the social world in a specific way and thus informs social practices" (Alvesson & Karreman, 2000); the two main methods in investigating discourse are through archaeology [study of history] and genealogy. The method indicated in researching strategic logistics organizational alignment would be the genealogical approach because it "concentrates on the forces and relationships of power connected to discursive practices; it does not insist on separation of rules for production of discourse and relations of power" (Alvesson & Karreman, 2000).

Discourse is a "structuring principle of society" (Alvesson & Karreman, 2000), as such, genealogical discourse analysis can model the required organizational structure and foreshadow the strategy-structure limitations required of proposed organizational strategy; the discourse of the strategy forms the structure of the strategy. The approach

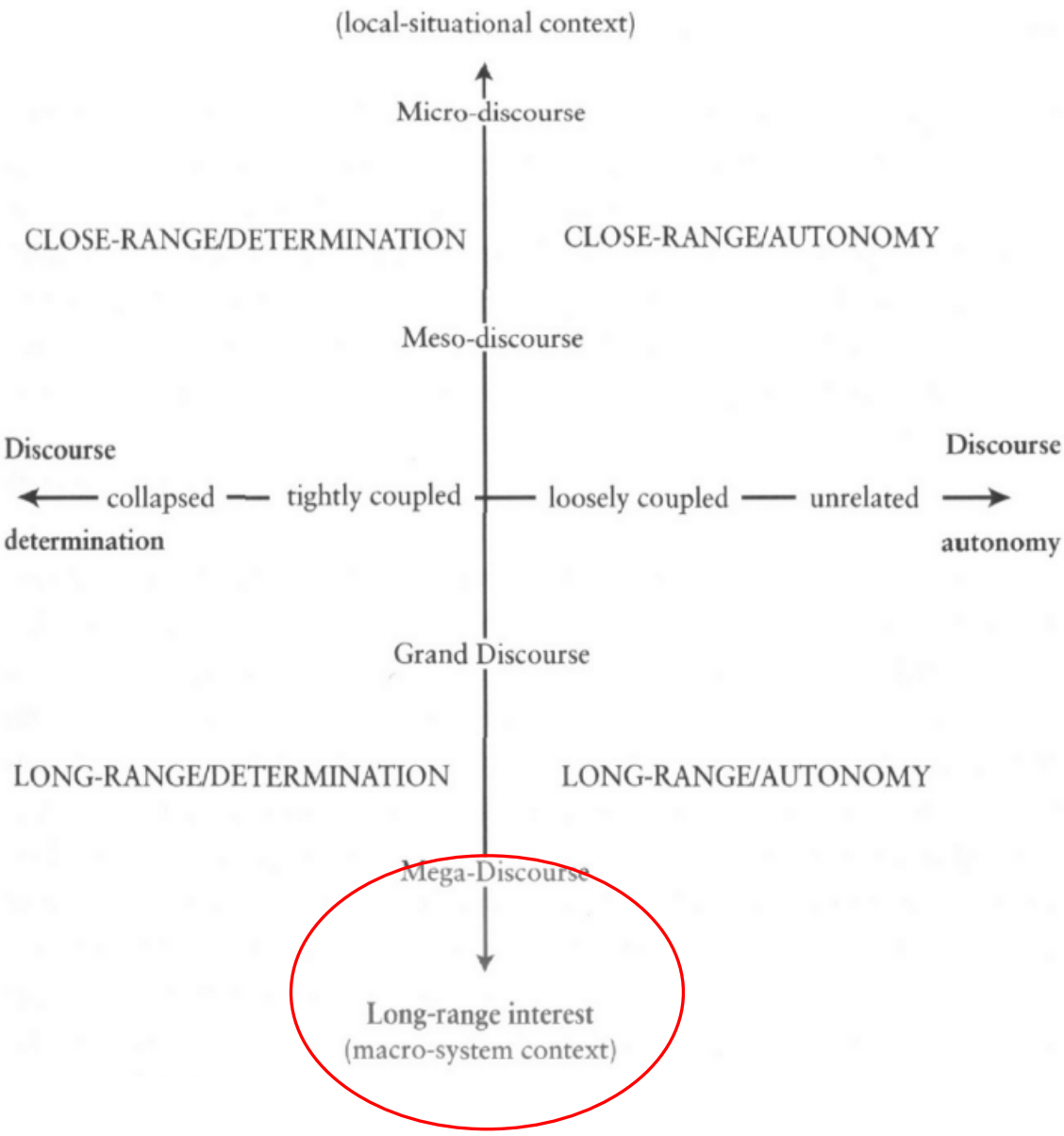
also requires the identification of the level a discourse platform should be constructed from.

According to Alvesson and Karreman (2000), the appropriate approach of discourse analysis (given the magnitude and alignment of the organization) can include the following:

(1) **Micro-discourse approach** – social text, calling for the detailed study of language use in specific micro context;
(2) **Meso-discourse approach** – being relatively sensitive to language use in context but interested in finding broader patterns and going beyond the details of the text …;
(3) **Grand discourse approach** – an assembly of discourses, ordered and presented as an integrated frame. A Grand Discourse may refer to/constitute organizational reality, for example dominating language use about corporate culture or ideology;
(4) **Mega-Discourse approach** – an idea of a more or less universal connection of discourse material. Mega discourse typically addresses more or less standardized ways of referring to/constituting a certain type of phenomenon, e.g. business reengineering, diversity or globalization. (Alvesson & Karreman, 2000)

Figure 12

Two Core Dimensions of Discourse Studies



Note: Data sourced from: Alvesson & Karreman, 2000.

Within the context of strategic organizational alignment that is intended to identify commonalities in inter - field communication, the Mega-Discourse approach is indicated as the research target. Macro level discourse embodies long range interests;

because of the ubiquity of the dialogue, the level of interest and required consensus on paradigms and terminology makes this level of approach ideal. Just as a common international language exists for engineering, medicine, information technology, or theology, discourse analysis could be employed to detect and possibly develop a common platform for strategic logistics organizational integration.

Discourse analysis' potential in detecting and aiding in constructing a common strategic language (platform), is not only derived from applicable data but more importantly context. "Discourse analytic approaches share an interest in the constructive effects of language and are reflexive – as well as an interpretive – styles of analysis …. [It] does not simply comprise of a set of techniques for conducting structured, qualitative investigations of texts; it also involves a set of assumptions concerning the constructive effects of language" (Phillips & Hardy, 2002).

In order to bring context to the analysis, philosophical, theoretical and practical considerations are important. According to Phillips and Hardy (2002), discourse analysis as a research method is challenging, but also provides for comprehensiveness. Employing discourse analysis, the researcher should foremost develop a research question, then select research sites, collect data, analyse the data, and finally write the study.

The research question should comprise the researcher's philosophy, the object, theoretical influences and the researches' contribution to the field. The research question should "grow out of the set of basic assumptions about the study, [where] defining the object of the study in terms of existing literature and then framing a research question around it is a critical step in the design of the study" (Phillips & Hardy, 2002).

The sites should be selected based on two criteria "theoretical concerns and [criteria] related to the research question and more practical concerns about access and timing. The sites should represent environments where discursive dynamics are evident and where individual actors [seek] to protect their interests" (Phillips & Hardy, 2002). From a practical perspective, the sites should be chosen based on language, accessibility, research budget, and legal ramifications.

In collecting data, the selection criteria should include the following:

- What texts are most important in constructing the object of analysis?
- What texts are produced by the most powerful actors, transmitted through the most effective channels, and interpreted by the most recipients?
- Which of the above texts are available for analysis?
- Which of the above texts is it feasible to analyse?
- How will I sample the texts?
- How will I explain the choices I have made? (Phillips & Hardy, 2002)

When analyzing the data, the scope and approach of the study should dictate the direction the analysis should take. As previously developed, the data and approach of research should be aimed at Macro – level discourse that focuses on Arena and Vehicle strategic elements. Further consideration in analysis includes the categories the data will generate, how the data is qualitatively related to the research question and if the data justifies the approach and categories.

At the strategic level, the organizational positioning and leadership interaction associated with the CRM positioning and structure is assumed to be most effectively researched through discourse analysis at the macro level. Discourse analysis provides

applied and uncontrived insight on the effects of the introduction of a CRM on power relationships. Discourse analysis also lends itself to grounded theory and is an unobtrusive method of research given the dynamics and variability of the field of inquiry. The value of developing and testing a CRM within Operational Support Hubs (OSH) was reviewed within the military literature. To lend theoretical context to the effectiveness of using OSH as microcosm test environments, literature on trial organizations is applied.

Trial Organizations

According to Miles and Snow (2003):

> Organizations must constantly modify and refine the …mechanism by which they achieve their purposes – rearranging their structure of roles and relationships and their decision making and control processes. Efficient organizations establish mechanisms that complement their market strategy.... For most organizations, the dynamic process of adjusting to environmental change and uncertainty – of maintaining an effective alignment with the environment while efficiently managing internal interdependencies – is enormously complex, encompassing myriad decisions and behaviours at several organizational levels.

A strategy employed to reduce risk and complexity is to fold external and internal elements of change into organizational strategic planning and operations dialogue. Miles and Snow (2003) purported that a prevalent method employed to incorporate elements of change is to operate trial organizations at arms lengths prior to full integration into core organizational strategy. With 2 major operations, Op REASSURANCE, Eastern Europe and Op IMPACT, Iraq, and a myriad of 11 smaller mission across the globe (blue, dark green and orange dots in Figure 13, organizational trials of strategic/operational logistics

integration with a supported mission is feasible. Exercises and low risk/low level of engagement operations could be identified to operate trial organizations due to the flexibility afforded to them in terms of experimental tolerances and training/development potentials.

An alternative venue to study trial organizations would be to employ the Operational Support Hubs (OSH) because the personnel establishment is relatively static compared to that of operations and exercises; 1 to 4 years of continuous employment compared to 3 to 6 month deployments. OSH mandates also align with logistics, the responsiveness establishment criteria as the OSH mission is to provide support and act as intermediate staging terminals of expeditionary exercises and operations. Finally, through extensive research, OSHs have been situated to deliver optimal support from locations that combine favorable conditions concerning: Commercial Lines of Communications (LOC); climate; commercial facilities (hotels, restaurants, etc.); stable political atmosphere that support Canadian interest; and Geography (close proximity to expeditionary Areas of operations (AOR) (Bacot, LCol, 2009).

Figure 13

Canadian Joint Operations Command (CJOC) Current Operations

Note: Map sourced from: Canada, 2016.

A central implication of developing and situating a CRM is the requirement of leadership to champion the organization's change and integrate it into the current organizational paradigm. To achieve the transformation, transformational leadership is required.

Leadership Considerations

Bass (1990) defined the theoretical and practical implications of employing transformational leadership. A review of transformational leadership is essential in situating the leadership requirements of transitioning from a transactional mode of global logistics to a strategic transformational one.

According to Bass (1990), “transformational leadership - occurs when leaders broaden and elevate the interests of their employees. When they generate awareness and acceptance of the purpose and mission of the group, and when they stir their employees

to look beyond their own self – interest for the good of the group". This aspect of transformational leadership is essential in affecting a strategic realignment. CAF logisticians would not only be asked to look beyond themselves, but would be asked to view sustainment operations within a global strategic construct that involves a myriad of disparate organizations that would require constant evaluation and integration.

Transformational leaders have the ability to "treat different subordinates differently, as well as providing intellectual stimulation for … employees [thus] raising standards, [transformational leaders] … rather than work within the organizational culture, they challenge and change culture" (Bass, 1990). Beyond the practical implications, transformational leadership is becoming the leadership paradigm that spans across military and civilian fields. Although "military academies have traditionally emphasized leadership education, [increasingly liberal arts colleges are responding] to an interest in leadership courses" (Bass, 1990).

Taking catastrophe military logistics operations as an example, from a transformational leadership and sensemaking perspective, catastrophes and humanitarian relief differ from lessor emergency scenarios in that the requirements involved in catastrophes far surpass the application of procedures related to containable emergency situations. Catastrophes require leadership that can "engage in rapid reflection, making sense of a fundamentally reordered landscape, and seeking new approaches rather than learned responses that do not fit" (Lagadec, 2008).

> In many respects, such leadership requires the capacity to engage in sensemaking (sic). Sensemaking requires organisational actors to recognise and find appropriate responses to new challenges. A first step of sensemaking is

> developing an accepted interpretation of external events. "Once an interpretation is stabilized, then people can design for decision making…people have to encode events into a common set of values and implications. Once that commonality is achieved, then they can begin to act like professionals" [Weick, 2001: 72-73] (sic). Sensemaking and collective improvisation is very difficult for large numbers of people to do, and so organisational leaders play a crucial role: "(S) trategic-level managers formulate the organization's interpretation. When one speaks of organizational interpretation one really means interpretation by a relatively small group at the top of the organizational hierarchy" [Weick, 2001, 243] (sic) (Moynhlhan, 2009).

It can be extrapolated that sense and decision-making in catastrophes or catastrophe related events (i.e. the CAF spectrum of operation) should occur by creative leaders (Lagadec, 2008) at the operational and strategic levels. Thus, the application of the CRM would require championship and repositioning to the corresponding level of authority and integration (SPA), an organizational paradigm that currently does not exist within the CAF.

Implications of Organizational Theory Literature Review - CAF CRM Typology

As previously defined through Hambrick and Frederickson (2001) and Miles and Snow (2003), the correct correlation between strategic elements and business strategy is important to sensemaking regarding the direction and goals of the enterprise. Positioning logistics contracting responsiveness also requires an appreciation of the strategic environment. Industry Canada (2011) provides practical insight into current global trends and future considerations pertaining to logistics strategy.

According to Industry Canada (2011), “as competition becomes more global and intensive, logistics innovation is expanding from the firm level to a supply-chain perspective. Competitive advantages are now being realized as value chain players synchronize their logistics activities”. Globalization is changing the requirements of the Arena strategic element to necessitate increased interaction and collaboration within environments. Put simply, “the sharp increase in international trade in Canada since the early 1990s has boosted the expansion of global supply chains and propelled logistics to the forefront of business strategy” (Industry Canada, 2011).

Interaction with the environment is dependent upon the nature of products and the sectors within which the organization finds itself. For example:

> Large firms in sectors such as the motor vehicle … manufacturing, many of which have subsidiaries and suppliers in other countries, report higher levels of collaboration with their foreign parents than firms in other sectors [Prospector organizations]…. [I]n the consumer products supply chain (i.e. retail, food and beverages …) generally make these decisions in Canada due to the fact that the domestic market plays a more prominent role [Analyser Organizations] (Industry Canada, 2011).

As logistics has become an integral part of business strategy, a considerable onus of research responsibility lies within the logistics community of organizations. This is especially true of organizations that require intense interaction with their environments (e.g... Motor Vehicle – Prospector Organizations). Sourcing the means of production for instance necessitates extensive interaction with the environment “due to complicate processes, country – specific regulations and cultural considerations” (Industry Canada,

2011). Some organizational requirements of sourcing are that the organization must entail bridging entities that seek coordination and collaboration of its stakeholders.

Industry Canada research therefore lends further evidence that CAF and commercial contracting responsiveness, in terms of organisational typology, should be repositioned within the Arena/Vehicle strategic elements and combined with Prospector/Analyser business strategy. Furthermore, since CAF operations are frequently not predicted where the cultural and commercial nuances may not be known, Industry Canada's research comparison indicates the requirement of dedicated organizational components that carry the sensemaking responsibility of scanning and interacting with the environment. This requires an understanding of how sensemaking develops knowledge and thereby enables decision making and strategy.

Since most CAF missions will pursue different objectives and operate in different environments, the logistics support gaps will differ between missions. Although the support gaps are specific, the ability to predict future requirements occurs at the macro level. The CAF embodies the characteristics of a prospector/analyser organization that operates at the arena and vehicle strategic elements spectrum, therefore macro level field analysis should be focused toward those characteristics.

Possible field studies, upon conception of a CRM, could be conducted using trial organizational research conducted through the Organizational Support Hubs, as they are the logistic support integration conduits that can span several missions. Field research design and parameters are however beyond the scope of this dissertation.

The theoretical and empirical implications in designing a CRM indicate that the required multilateral and integrated logistics capability focus should be shifted from

reactor to analyzer/prospector organizational activities. Therefore, the shift requires the CAF's senior leadership to accept logistics as a fundamental, multilaterally integrated (military, Government, industry, and academic) and forward looking enabler that should be positioned as a key partner, organizational sense-maker, planner and decision maker.

The contribution scenario 5 provides to the study is strategically derived organizational leadership input associated with the transformational nature of the organizational shift a CRM could trigger.

Industry best practice application of logistics contracting gap mitigation should therefore be applied in this organizational context, not gauged against the CAF logistics present organisational position.

Review of the Literature - Conclusion

With the aim of arriving at a holistic understanding of where research on CAF logistics contracting and integration responsiveness modelling would be best situated, the review of the literature included the following diverse set of sources: military literature, catastrophe response logistics integration, information technology, and organizational theory.

The benefits of multilateral logistics integration are documented across the logistics field from several sectors and industries; literature on post military operation reviews, industry research, and benchmarking reports indicate empirical evidence that supports increased collaboration and integration. Also, budget constraints, increased volumes, automation and the recognition of logistics as central to achieving competitive advantage (both commercially and militarily) all result in collaboration being capability enhancing.

Empirical evidence drawn from catastrophe logistics response integration indicates that multi field and organisational logistics (multilateral) integration strategies are best institutionalised prior to catastrophic events occurring. Being a keystone stakeholder in catastrophe capability based operations, CAF logistics should be continuously integrated with industry in order to anticipate supply disruptions of logistics enablers and the inherent sustainment lag a lack of continuous integration can cause.

Throughout much of the literature, IT integration and the resultant capability enhancements are stressed. Given the significant effect logistics integration has on organizational strategy, IT integration is a strategic leadership and management responsibility. The theoretical implications of implementing an IT logistics integration model elevate multilateral logistics integration activities from tactical (Task Force or Unit), to contractor integration through PSPC, and Operational/Strategic activities (capability prediction, multilateral agreements).

In employing scenarios to define courses of actions integral to enabling the CRM (problem statement), transformational leadership considerations were explored as organisationally repositioning logistics within the CAF will require support from senior leadership and organisational buy-in. How the organisational repositioning (transformation) is to be achieved is an element of the research design.

From the literature review, distillation of the CRM typology, theoretical framework and research design become apparent. In developing a practical model, empirical substantiation and pragmatic applications of developed systems are required to define achievable capabilities and goals. In relating the literature review to the problem statement, two distinct concepts become apparent: opportunities exist in integrating

functional fields (i.e. commercial logistics IT integration, operational forecasting, best practice analysis, etc.); and the organisational positioning/leadership a CRM requires (i.e. lessons learned from the catastrophe management of hurricane Katrina).

It has been established that multi-enterprise logistics and contracting IT integration is practical. This integration is a demonstrably sustainable and a successful business model. Operational paradigms of firms such as Amazon and Walmart provide the empirical substantiation of this position. Although the CAF continually strives to integrate state of the art technologies to remain commensurate to the technological advantages of allied militaries (i.e. NATO, EDA, US Armed Forces), the initiative to integrate contemporary logistics IT and organizational evolution, as it relates to contracting, is met with lessor élan.

The aim of this study is to develop a Terms of Reference (TOR) that provides the qualitative analysis and academic foundation required to establish a Canadian Armed Forces Commercial Logistics Contracting Responsiveness Model (CRM), and to provide pragmatic recommendations concerning the CRM's organizational alignment within the CAF where it can affect its greatest utility.

To achieve this, primary qualitative data gap analysis is required from which knowledge creation is achieved and employed in the development of the CRM TOR and its organizational structure. The theoretical treatment to accomplish this is sensemaking; a theoretical context that has aligned itself well with the aim of this study. The research paradigm is intended to qualify this approach and provide a philosophical rational for the research method.

Section 4 - Research Paradigm - R3: Deriving DND Project Identification Paradigms

This study is not intended to derive or test theory, it is an RBV inspired study intended to derive solutions to a specific business problem, to find mitigation strategies associated with CAF contracting agility and responsiveness gaps. However, the research paradigm represents the generalizable theoretical aspect of the study. This section is centered on a review of functional and Organizational sensemaking to derive decision making paradigms (i.e. CRM TORs) that ultimately form the project identification phase of a larger CRM project.

The CAF typology analysis led to the theoretical strategy of grafting thematic analytics onto an organizational knowing cycle model. The gap identification method, the scenario based COA development and the final focus group strategy represent the products of Research Objective 3.

A reoccurring and binding concept that addresses the research question throughout the literature review is sensemaking. Sensemaking activities are central to understanding complex inter-military interactions. This section is centered on a review of functional and organizational sensemaking and addresses Research Objective 3 - generalizable research methodological utility that enables DND project identification decision parameters.

To arrive at the identification of capability gaps and terms of reference (TOR) related to the CRM, the CAF's organisational typology was leveraged to develop the primary qualitative population sampling strategy and data ontology. TOR development is intended to be organic to the organization (Krauss, 2005), thus, the population sampling

is derived through the establishment of a theoretical framework that applies the CAF typology to sensemaking theory to define the data sources, data collection methods, and the organization of primary data.

Sensemaking – Conceptualization of the Population Sampling Strategy

Choo and Johnson's (2004) *Organizational Knowing Cycle* (OKC) systematically models sensemaking theory's alignment to knowledge creation. The OKC, purports that "organisations process information in three arenas: to make sense of its environment; to create new knowledge; and to make decisions" (Choo, 2002).

Sensemaking in organizations is critical because "Sensemaking (sic) in organizations seeks to answer two questions: What is going on in the environment? What does it mean for us as an organization?" (Choo & Johnson, 2004). Sensemaking enables awareness of knowledge gaps which drives knowledge creation through continuous interpretation and diffraction of environmental changes among stakeholders. This leads to decision making through interpretation management by establishing rules and routines (Choo, 2002). The ultimate outcome of Choo's knowledge cycle is organizational strategy.

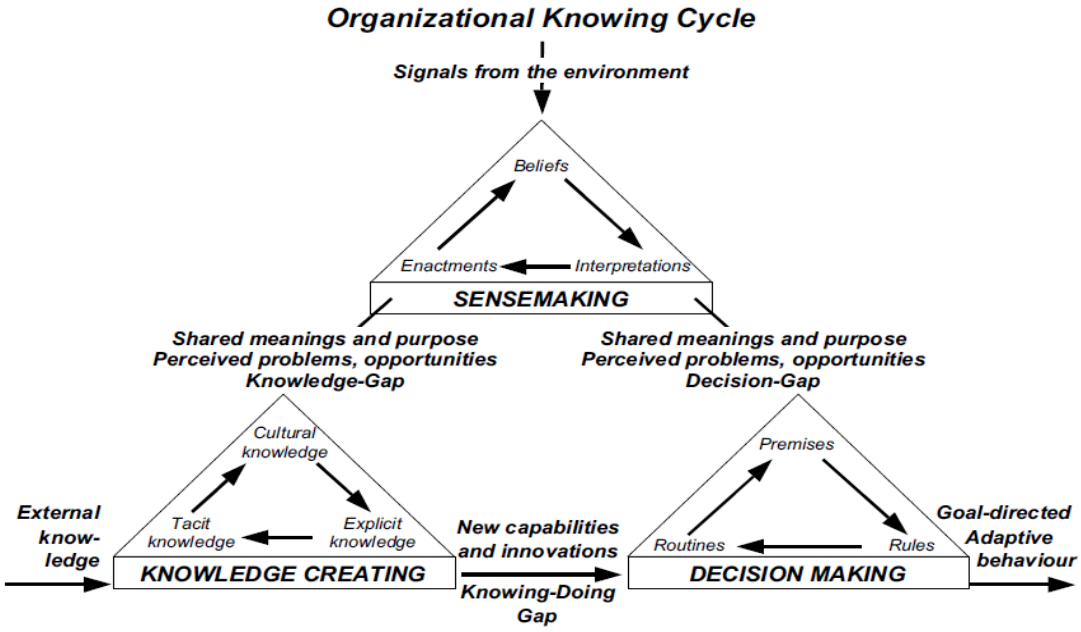
Choo and Johnson's OKC ideally lends itself to the CAF typology where its ideal commercial contracting function lies within the Arena/Vehicle strategic elements combined with Prospector/Analyser business strategies. The OKC segments the various salient operative elements of the CRM and amalgamates suppositions, in this case the conditions of the CRM.

The OKC model (see Figure 14) was therefore employed to segment the population samples in an effort to identify logistics contracting capability gaps. Defining

the research method and the research populations will follow the theoretical framework (OKC Model) that is aligned to the CAF typology - Strategic (Capability Gaps), Operational (COA development), Tactical (TOR definition):

Figure 14

Organizational Knowing Cycle



Note: Data sourced from: Choo & Johnson, 2004.

The sampling strategy is therefore OKC Modeled as follows:

Sensemaking: Capability Gap Identification

Strategic level gap identification

/ Shared understanding of challenges

⇩

Knowledge Creation: Realisable Courses of Actions (COA) development

Operational level thematic (scenario) conception of new

capabilities and innovation

Decision Making: CRM TOR Determination

Tactical identification of goal directed adaptive behavior –

Organizational change requirements

Identified gaps were socialized via scenarios (theme development) to generate knowledge in developing realisable courses of action, and finally, the organizational knowledge will be employed to devise organizational design and positioning - the terms of reference (TOR) of the contracting responsiveness model (CRM).

Sensemaking – Development of the Research Method

Commensurate to CJOC's logistics contracting responsiveness gaps are the corresponding research gaps. As reviewed in previous sections, research pertaining to contracting agility, supply chain engineering, and civil military corporation is very established within the field. However, contracting gap analysis and corresponding research on organizational impacts on CJOC specifically do not exist. Therefore, a research method that was ontologically aligned to CJOC required development.

Epistemologically aligned to the OKC and CAF typology is Krauss (2005) where deriving meaning requires construction of a meaning process. Qualitative data analysis provides a method to illicit meaning "…where qualitative data analysis is used to generate different types and levels of meaning" (Krauss, 2005). In this study, the type of meaning elicited from participants is unarticulated meaning which is "…unrecognized by respondents but …

> articulated by the researcher through the use of typifications. Typifications are based on a large range of categories of data, and are typically used to generalize

> such data under one name. Typifications are never verbalized by respondents but created by the researcher to give meaning to the wide range of data they house. That is, the data comprising the typification all point to the same general theme despite the variety of details. In this way, the diversity of data within one overall theme conveys meaning through the generalizing process" (Krauss, 2005).

Given the ontological requirements, the data analysis method required flexibility and a means of transitioning established knowledge into theoretical paradigms. Thematic Analysis (TA) allows the researcher the flexibility over data coding mechanisms, and facilitates a method where established research can be presented as scenarios (Sc) to solicit creative theory development in the form of Course of Action (COAs).

Data analysis methods are generally grouped into two categories: One follows prescribed theoretical guidelines, such as conventional analysis or interpretive phenomenological analysis; the second category of methods "…are theoretically free and can be applied in a range of theoretical and epistemological attitudes, they are implicitly categorized under the method realism/experimental" (Javadi & Zarea, 2016). TA belongs to he second category of data analysis methods.

"The history of use of TA is unclear. But it was used interchangeably with content analysis (Christ 1970), phenomenology (Benner 1985), and ethnography (Aronson 1994)" (Javadi & Zarea, 2016). TA is a method of condensing high volumes of information toward theoretical analysis. This is achieved by segmenting data into semantic themes where data is organized according to content, and latent themes where semantic themes are induced to create theoretical patterns (Javadi & Zarea, 2016).

Within this study this is achieved through the literature review based Scenarios (Sc1 to Sc5), that produced hypothetical solutions Courses of Action (COAs 1 to 6).

Depicted in table 3 is a fitting data segmentation methodology of Krauss' supposition. Theme development in qualitative content and TA categorises primary qualitative data according to phases of theme development (Vaismoradi et al, 2016).

Table 3

Phases and Stages of Theme Development in Qualitative Content and Thematic Analysis

Phases	Stages
Initialization	Reading transcriptions and highlighting meaning units; Coding and looking for abstractions in participants' accounts; Writing reflective notes.
Construction	Classifying; Comparing; Labelling; Translating & transliterating; Defining & describing.
Rectification	Immersion and distancing; Relating themes to established knowledge; Stabilizing.
Finalization	Developing the story line

Note: Chart derived from: Vaismoradi et al, 2016.

Aligning the phases and stages to the OKC derived sampling strategy results in the following theme development research phases:

- Initializing (Stage - writing reflective notes): The strategic level participants are requested to identify gaps associated contracting responsiveness;
- Construction (Stage – defining and describing): Strategic level gap analysis deployed to the operational level participants as operationally

applicable scenarios (strategic theme) to elicit operational context in the form of Course of Action (COAs) to the scenarios;

- Rectification (Stage – relating themes to establish knowledge): Operational COAs (operational themes) are deployed to a focus group in view of eliciting tactical applications of the themes; and
- Finalization (Stage – developing the story line): TORs are extrapolated from the focus group transcript.

The following is intended to lend elaborated theoretical context of the population sampling to the research paradigm and data segmentation epistemology.

Capability Gap Identification – R1 Strategic Level

Sensemaking is the operative activity in developing stakeholder commitment and potential. In many respects, leadership requires the capacity to engage in sensemaking (Weick, 2001). Sensemaking requires organisational actors to recognise and find appropriate responses to new challenges. A first step of sensemaking is developing an accepted interpretation of external events. “Once an interpretation is stabilized, then people can design for decision making…people have to encode events into a common set of values and implications. Once that commonality is achieved, then they can begin to act like professionals” (Weick, 2001).

Identification of capability gaps, the sensemaking aspect of the problem, is therefore ontologically best situated at the operational level where the target research audience is best derived from the senior strategic logisticians, strategic joint operational planners, and senior joint operations officers at the joint force employment levels.

The strategic population defines the gaps through expert sensemaking, the primary data gap results will be submitted to operational level managers to develop courses of actions available in addressing the gaps within the framework of a CRM.

Deriving Realisable Courses of Actions (COA) - R2 Operational Level

Knowledge creation occupies an integral function in CAF organisational design. Within a Prospector/Analyser business strategy context, environmental sensemaking is a key activity. As exampled by FEMA's post hurricane Katrina reorganisation and the development of the Emergency Management Reform Act, sensemaking is also a critical activity in integrating stakeholder input, buy in, and organisational realignment.

From an organisational structure perspective, it becomes evident that due to its complex, integrated, and ubiquitous nature, logistics contracting collaboration across the field of stakeholders requires deliberate championing and comprehensive buy in. The introduction of a CRM requires organisational understanding of the issues, justification of organisational restructuring, and organisational feedback to the CRM champions (leadership); all of which are critical sensemaking activities.

At the micro level, in terms of individual buy in, the commonality of sensemaking is the commitment and justification of binding action. Actions become "binding if those actions occur in a context of high choice, high irreversibility, and high visibility. If action occurs under these conditions, then subsequent events may be enacted in the service of justification" (Weick, 2011). Commitment of individual action (micro behavioural).

> …can have macro consequences, once we recognize five important properties of these commitments. Firstly, they begin as commitments to social relationships rather than commitment to individual behaviours. Secondly, these social

> relationships often generate their own conditions for commitment. Thirdly, since social relationships rather than behaviours are what people become bound to, justifications tend to invoke social entities rather than individual reasons. Fourthly, reifications that justify social commitment tend to set up expectations that operate like self-fulfilling prophesies. And fifthly, efforts to validate these social justifications tend to spread them to other actors (Weick, 2011).

Therefore, sensemaking of social order occurs because we recognize and share the method in establishing micro behavioural commitments (high choice, high irreversibility, high visibility = binding actions) that when projected onto socially binding circumstances become reality through edification. We see ourselves and our motives in one another and thereby recognize the commitments and justifications interacting actions produce.

From a macro perspective, in terms of positioning and organisational structuring, Weick indicated that organizational designs are more akin to recipes than blueprints because design is an ever changing organizational factor that is derived from "ideas, interaction, shifting competencies, and retrospect [which, when aggregated characterizes organizations as a] succession of short lived-designs that evaporate rather than erode" (Weick, 2011). The operating factor of design by improvisation is managerial bricolage. Bricolage "means to use whatever resources and repertoire one has to perform whatever task one faces" (Weick, 2011). Weick employs bricolage to discount resource dependency and ecological approaches by stating that organizational design is a function of organizational bricolage where organizations dictate their environments and define their limits through mutual interaction with other organizations. Furthermore, resource

dependency is merely a function of the limit of organizational bricolage; it is the organization that dictates which resources to explore and employ.

Weick's position on organisational commitment (micro) and bricolage (macro) aligns very well to clarifying current capabilities (levels of commitment) and identifying realizable courses of action (managerial bricolage) of enabling a CRM.

Therefore, since determining the available COAs to enable a CRM is a function of organizational bricolage, the capability gaps derived from the senior operational level were best employed via thematic analytics: the development and promulgation of operational level scenarios to solicit operational problem solving. Scenarios were therefore socialised at the CJOC operational logistics contracting managerial level (target research audience).

CRM TOR – R3 Tactical (Functional) Level Project Identification

Decision Making is at the core of leading organisational change. Choo (2004) identified two significant features of decision making: "(1) the structure and clarity of organizational goals that impinge on preferences and choices, and (2) the uncertainty or amount of information about the methods and processes by which the goals are to be attained". As depicted in Table 4, decision situations are segmented into 4 modes of organizational decision making: the boundedly (sic) rational model; process mode; political mode; and the anarchic mode.

Table 4

Four Modes of Organizational Decision Making

	Low goal ambiguity/conflict	High goal ambiguity/conflict
Low procedural uncertainty	Boundedly rational mode	Political mode
High procedural uncertainty	Process mode	Anarchic mode

Note: Chart sourced from: Choo, 2001.

The boundedly (sic) rational mode is suitable in decisions where goal and procedural clarity are high, whereas within the process mode strategic goals are clear but the methods to attain them are ambiguous. The political mode of decision making is best employed when goals are disputed by interest groups but procedural certainty is high, and finally, the anarchic mode is suited to decision situation when goal and procedural uncertainty are both high (Choo & Johnson, 2004).

The results of the contracting responsiveness capability gap analysis (sensemaking – goal ambiguity) and the available CAF COA analysis (knowledge creation – procedural clarity) indicates the decisions management process relative to the CRMs organizational placement, structural design and leadership paradigms. Goal ambiguity is high since contracting responsiveness inquiry well be unprecedented to the

target research audience. Input related to contracting responsiveness gaps may not be based on doctrine, principles, or precedence. Knowledge creation is expected to be achieved with low procedural uncertainty since contracting responsiveness COAs must adhere to treasury board and PSPC regulations; COAs will necessarily be required to be developed within a very well defined procedural and legal framework.

High goal ambiguity and low procedural uncertainty indicate a political mode of decision making. As such, "… goals are contested by interest groups. Decisions and actions are the result of the bargaining among players pursuing their own interests …(Choo, 2002). This creates the highest level of diversity in group decision making. From a methodological perspective, the political decision model can be framed within a focus group comprised of members of functional areas FEMA opted to audit in its post Katrina reorganization research, specifically:

"Staffing, Training, and Credentialing

Planning

Coordinating

Sourcing

Tracking and Timing Deliveries

Communications

Evaluating Performance" (OIG, 2010).

Equivalent functional departments within CJOC HQ (target CAF organization) are:

J4 (Logistics) Tasking;

J4 (Logistics) Planning;

J4 (Logistics) Operations;

J4 (Logistics) Contracts;

J4 (Logistics) Movements – coordination of air, rail, road, and sea transportation;

J6 (Communications) Operations; and

J47 (Logistics Training).

To arrive at the CRMs TOR, the COAs derived from the knowledge development phase are presented within a focus group discussion represented by members of each of the identified CJOC HQ branches.

Research Paradigm Conclusion: Definition of Research Objectives and Target Audiences

It has been demonstrated that CAF and commercial contracting responsiveness, in terms of organisational typology, is positioned within the Arena/Vehicle strategic elements and combined with Prospector/Analyser business strategy.

As such, sensemaking, in the form of TA lends itself fluidly to the development of a research method intended to identify capability gaps; frame available courses of action; and recommend organisational positioning and structure - the Terms of Reference (TOR) of the CRM.

Choo and Johnson (2004) Organizational Knowing Cycle (OKC) model segments sensemaking theory where it is suitable for CRM development requirements. The OKC model, purports that “organisations process information in three arenas: to make sense of its environment; to create new knowledge; and to make decisions” (Choo, 2002). The three arenas provide a conceptual framework to derive research objectives for: investigating capability gaps (sensemaking); identifying courses of action available

(knowledge creation); and developing organizational position and structure recommendations (decision making). The research objectives will follow the OKC population sampling method and thematic analysis to elicit meaning where sensemaking provides the guiding principles (R1), knowledge creation provides the definitions of contracting integration and responsiveness capabilities – courses of action (R2), and decision making on organization structure, placement and terms of reference – processes (R3).

Research Objective 1 (R1): Identification of operational contracting responsiveness capability gaps. Based on the organizational typology, the identification of capability gaps (sensemaking) is best situated at senior operational CAF executives within CJOC HQ, the target research audience is therefore best derived from the senior operational logisticians, joint operational planners, and joint operations officers.

Research Objective 2 (R2): Development of viable CRM course of Action. Based on Karl Weick's position that organizational design is a function of organizational bricolage, the capability gaps derived from the senior operational level are best socialised at the CJOC operational logistics and contracting managerial level (target research audience) to arrive at the COAs available to the CRM.

Research Objective 3 (R3): Decision making paradigms of the DND project initiation phase – Terms of Reference (TOR) Recommendations. The results of the contracting responsiveness capability gap analysis (sensemaking – goal ambiguity) and the available CAF courses of action analysis (knowledge creation – procedural clarity) indicates that the decisions management process related to the CRMs organizational placement, structural design and leadership paradigms is the political mode of decision

making (high goal ambiguity and low procedural uncertainty). Based on FEMA's post Katrina reorganization research methodology, the OKC political mode will be applied to the CJOC equivalents of the FEMA target research audience.

Research objectives have been assigned to primary population samples using the OKC model. The research methodology and questions will be commensurate to the level of ambiguity: sensemaking (R1); to course of action development (R2); and finally concrete terms of reference of the CRM (R3).

Section 5 - Research Method

Although many other established gap analytic research approaches exist, such as quantitative, baseline, or case studies, the ontological and operational requirements of the organization indicated an approach that ensures organizational validity and ontological generalisability. The approach must be adequately comprehensive to foster confidence in project decision makers and program / model engineers. A generalizable research paradigm developed ontologically to the organization, by the organization lends sequential subject matter familiarity to the research population, and addresses gaps integrally.

The empirical and theoretical secondary data review therefore shaped the selection of the target organization (Site), the research method, and defined the sample populations according to an OKC / theme analytics distillation of ambiguity and aggregation. In this section, the site and sample will be defined, followed by a description of the collection method strategies accorded to each sample population.

Research Site

The literature review confirmed that a continual global contracting responsiveness capability serving the entire CAF spectrum of operation is best situated within the Canadian Joint Operations Command (CJOC)[12]. Therefore, primary data sources were selected from CJOC staff branches, subordinate formations and direct stakeholders. The segmentation of target audiences (primary data sources) follows Choo's OKC model Sensemaking (R1 - gap identification), knowledge creation (R2 – COA development), and decisions making (R3 - TOR).

[12] For a detailed rational, please refer to the Limitation of the Study section Page 22.

Research Sampling Sources

Since FEMA's logistics reorganization and repositioning based on extensive research is related to a mega disaster, the organizational position of study's population samples are derived from the United States Department of Homeland Security, Office of the Inspector General *FEMA's Logistics Management Process for Responding to Catastrophic Disasters* (2010).

The R1 strategic, R2 operational and R3 functional samples are all nonprobability purposive samples that represent integral population associated with each stratum of discourse and functionality.

R1 - Strategic Level Sample: The qualitative data is derived from a target population of senior officers within the CJOC strategic/executive spectrum which included the following 6 individuals:

- Senior CJOC Operations Officer – Chief of Staff Operations (COS Ops);
- Senior CJOC Logistician – Chief of Staff Support (COS Sp);
- Senior CJOC Planning Officer – Chief of Staff Readiness (COS Rdns);
- CJOC Comptroller;
- CJOC Policy Advisors – POLAD; and
- Retired senior CJOC logisticians who currently occupy strategic level industry/OGD posts.

R2 - Operational Level Sample: Commanders and Directors within the CJOC operational spectrum of logistics and operations which included the following 21 individuals:

- Assistant Deputy Minister Materiel Department Major Procurement 8 - ADM (Mat) D Maj Proc 8 (sample size – 4);
- Canadian Joint Operations Command (CJOC) Force Development (FD) (sample size – 4);
- CJOC J3 (Operations) (sample size – 2);
- CJOC J4 (Logistics) (sample size – 2);
- CJOC J5 (Plans) (sample size – 2);
- CJOC J6 (Communications) (sample size – 2);
- Commander (Comd) Canadian Forces Joint Operations Support Group (CFJSOG) (sample size – 1);
- Comd Canadian Materiel Group (CMSG) (sample size – 1);
- Commanding Officer (CO) Operational Support Hub Europe (OSH(E)) (sample size – 1);
- CO Operational Support Hub Kuwait (OSH(KW)) (sample size – 1); and
- CO Operational Support Hub South West Asia (OSH(SWA)) (sample size – 1).

R3 - Functional Level Samples: functional spectrum of logistics operations which included a sample of 25 representing desk officers, managers and department heads of:

- D Maj Proc 8 (sample size – 3);
- J34 (Operational Logistics) (sample size – 2);
- J34 (Operational Logistics Planning) (sample size – 2);
- J4 Logistics Tasking (sample size – 2);
- J4 Logistics Plans (sample size – 2);
- J4 Logistics Operations (sample size – 2);

- J4 Logistics Contracts (sample size – 2);
- J4 Movements (Transportation) (sample size – 2);
- J6 Communications Operations (sample size – 2);
- J7 Training; (sample size – 2)
- J8 Finance Operations (sample size – 2); and
- J8 Finance Plans (sample size – 2).

Data Collection Method – OKC Segmentation

The data collection method follows the OKC model of sensemaking, where knowledge creation and decision making is aligned with the three levels of Canadian Military Doctrine (see Table 5).

Table 5

Data Collection Ontology Matrix

Level	OKC Aspect	Military Doctrine	Data Collection
R1: Strategic	Sensemaking	Guiding Principles	Open-ended survey
R2: Operational	Knowledge Creation	Objectives and Force Capabilities	Scenario-based survey
R3: Tactical (Functional)	Decision Making	Use of CRM	Focus groups

The following section describes the methods in which primary data were collected and stored.

R1 - Strategic Level Qualitative Data, Contracting Responsiveness (Complete Documentation at Appendix G)

Strategic level qualitative data was solicited by means of questionnaire. The

questions were intended to solicit strategic staff and stakeholder input pertaining to logistics contracting responsiveness gaps. The responses were requested in written statements outlining capability deficiencies and ancillary input related to the research objective.

R2 – Operational Level Qualitative Data, COA development (Complete Documentation at Appendix G)

Operational level qualitative data were solicited by means of questionnaire. Contracting responsiveness capability gaps that had been identified by the strategic research audience (R1) were presented to the operational audience with the objective of developing COAs open to the CRM. The R1 gap identifications were framed within scenarios in order to connect strategic guiding principles that were obtained through sensemaking to COAs that were developed through knowledge creation scenarios. The scenarios were framed with instructions to develop viable COAs to address the strategic gaps (see appendix G).

R3 - Functional Level Qualitative Data (Focus Group Moderator Guide at Appendix H, Complete Transcript at Appendix J)

Functional level qualitative data were solicited by conducting Focus Groups. The decisions parameters associated with developing the CRM TOR are high goal ambiguity and low procedural uncertainty which indicate a political mode of decision making. The goal ambiguity is high since contracting responsiveness inquiry may be unprecedented to the target research audience. Input related to contracting responsiveness gaps may not be based on doctrine, principles, or precedence. Knowledge creation is expected to be achieved with low procedural uncertainty since contracting

responsiveness COAs must adhere to treasury board and PSPC regulations; COAs will be developed within a very well defined procedural and legal framework. Within the political mode of decisions making "… goals are contested for by interest groups. Decisions and actions are the result of the bargaining among players pursuing their own interests …" (Choo, 2002).

In arriving at decision related to the CRM's organisational positioning and structure through the political mode of decision making, focus groups were employed. R2 COAs were presented to the functional group with instructions to develop the terms of reference of the CRM capability. COAs were presented sequentially and according to scenario criteria (Sc 1 through 5) that were converted into categories using thematic analysis. Focus groups were held according to category; TORs associated with each category were aggregated into a common set of R3 recommendations. This aggregation represented the proposed TORs.

Qualitative Data Collection Method, TOR and Organizational Structure

Questionnaire and focus group data were recorded and subsequently transcribed into records. The data were edited for omissions and respondent consistencies. Commonalities and correlation within the responses were aggregated (employing Grounded Theory) to arrive at R3 recommendations.

Data Analysis Method – RBV Thematic Analytics

The data collection method followed Vaismoradi et al's (2013) thematic analytics model Using Otter ®. Common themes emergent from focus groups were qualified and aggregated, and then arranged into functional TOR recommendations leading to the model according to the following substantive category scheme:

- The IT Integration Category (IT) derived from recommendations categorised by Scenario 1 (Sc1): Given the identified contracting capability gaps what IT integration and solutions are available to address the deficiency?
- The Legislative Category (Lgl) derived from recommendations categorised by Scenario 2 (Sc2): Given that the identified contracting capability gaps hat PSPC and Treasury Board coordination and streamlining strategies can be employed to address the deficiency?
- The Procedural Category (Pdl) derived from recommendations categorised by Scenario 3 (Sc3): Given the identified contracting capability gaps what CAF and DND procedural strategies can be employed?
- The Civilian/ Military Cooperation Category (MilCoop) derived from recommendations categorised by Scenario 4 (Sc4): Given the identified contracting capability gaps what military organization contracting strategies and reorganization can be employed and or integrated to address the deficiency?
- The organizational Alignment Category (IndCom) derived from recommendations categorised by Scenario 5 (Sc5): What organizational best practices can be employed to address the identified contracting capability gaps?

The aggregation of the commonalities and complimentary concepts of all substantive models resulted into the conception of the Formal Canadian Armed Forces and Commercial Contracting Responsiveness Model (CRM).

Justification of Research Method (Conclusion)

In reiterating the aim of the study, the research intended to develop terms of reference required in establishing continual responsiveness and collaboration between

military and commercial logistics. The aim is to enable appropriate organizational contracting responsiveness in support of military operations within an increasingly unpredictable global socio-political and economic environment.

Given the exploratory nature of the research objectives and the requirement to aggregate communalities of strategic experts to shape the structure and interdependencies of the CRM, thematic analytics was considered a suitable methodology. TA allows for the employment of various data recording methodologies (i.e. interviews, discourse, etc.) to establish cohesive themes.

Because TA is not theory specified, it is restricted in it's claims pertaining to language use (Braun & Clarke, 2006). Furthermore, the flexibility afforded TA can lead to cohesion issues and inconsistencies unless framed within an according epistemological context (Holloway & Todres, 2003). Since this study is not intended test theory, or establish theory, the language use issue is negated. Language use is relevant to the organization and the business problem, rather than theoretical relevance. Furthermore, the TA data analysis method is structured within an epistemological structure that represents the subject organization; the OKC model.

These themes (current capability deficiencies and realisable course of action) were intended to produce the fundamental direction and principles of the CRM, to enable real time secure integration between the CAF logistics network and the commercial logics field to effect mission tailored logistics support management expeditiously, effectively and efficiently.

Section 6 - Ethical Review Process and Access to Research Population

Due to the applied nature of the study, it is relevant to include ethical review and population access procedures and processes within the body of the study; it constitutes a guide to conduct primary research within the CAF.

Conducting research involving human beings within the Government of Canada is governed by stringent ethical principles and requirements. Within the Department of National Defence, this oversight is provided by the Chief Military Personnel (CMP) Director General Military Personnel Research Analysis (DGMPRA). To illustrate limitations of the study related to the impact of imposed restrictions on participation rates and approval timeline requirements, the following section will clarify the requirements involved in obtaining access to the research population, and corresponding revision to the program schedule.

Director General Military Personnel Research Analysis (DGMPRA) Research Principles and Requirements

In order to obtain DGMPRA ethical approval to conduct research on CAF members and DND employees, three distinct policy principles require consideration: Classification of the research, obtaining organizational sponsorship, and the ethics approval process.

Classification of the Research: Classification involves identifying who will develop the surveys, solicit participation, analyze the data, and report on the data. Is the researcher a GOC contracted or non-contracted entity? In this case, the primary researcher is the doctoral candidate (non-contracted) where DGMPRA assessed that the level of scrutiny and support required of an individual researcher are much lower than

that of contracted commercial research. Upon determination of the research's nature, qualification of the significance of the Public Opinion Research (POR)[13] required definition. In this case the research was classified as Program Evaluation where the research can be employed to augment current programs and systems in alternative ways. The research was evaluated as supportive to departmental priorities and therefore qualified for the support and oversight of DGMPRA.

Sponsorship: DGRMPA's determination of the research's potential benefit to the CAF did not, and would not, provide for automatic organizational sponsorship and access. The DGRMPA endorsement allays concerns related to the veracity of the researcher and the research intent; securing sponsorship is incumbent upon the researcher. A value proposition required staffing to the CJOC Chief of Staff – Support (COS Sp) for consent and approval. The research proposal was analysed by the J4 Logistics staff and deemed a valuable endeavour to support. The sponsorship approval process required 8 months to conclude.

Ethics approval: Upon classification, DGMPRA's Social Science Research Review Board (SSRRB) reviewed the research proposal from technical, methodological and ethical perspectives under Defence Administrative Orders and Directives (DAODs) DAOD 5062-0 and 5062-1 (Conduct of Social Science Research). The SSRRB Submission Form (found at Appendix C) was submitted 3 January 2018, where all aspects of the social science research proposal was evaluated and eventually approved on 31 January 2019; an over one-year time span. A prerequisite online course concerning ethical conduct for research involving humans also required completion (certificate at Appendix D).

[13] POR: (https://www.tpsgc-pwgsc.gc.ca/rop-por/index-eng.html)

CJOC Research Population Coordination and Messaging

Due to the seniority of the strategic and operational survey populations and the complexities involved in coordinating various departments for the tactical focus groups, organizational coordination and pre-research deployment messaging was required. The CJOC head of expeditionary contracting, Lieutenant Colonel Ugo Leblond-Fortin offered his support in vetting and refining the research samples, deploying an organizational messaging strategy, coordinating the focus groups, and to act as the organization subject matter expert. The following are therefore the definitive and approved research samples:

R1 - Strategic Level Sample: The qualitative data was derived from a target population of senior officers within the CJOC executive spectrum which included the following 5 individuals:

- Senior CJOC Operations Officer – Chief of Staff Operations (COS Ops);
- Senior CJOC Support Officer – Chief of Staff Support (COS Sp);
- Senior CJOC Readiness Officer – Chief of Staff Readiness (COS Rdn)
- Senior CJOC Planning Officer – Deputy Chief of Staff Plans (DCOS Plans)
- CJOC Comptroller;

R2 - Operational Level Sample: Commanders and Directors within the CJOC operational spectrum of logistics and operations which included the following 16 individuals:

- Assistant Deputy Minister Materiel Department Major Procurement - ADM (Mat) D Maj Proc 7 (sample size – 2) D Maj Proc 8 (sample size – 2);
- CJOC J3 (Operations) (sample size – 2); and
- CJOC J4 (Logistics) (sample size – 2).

- CJOC J5 (Plans) (sample size – 2);
- CJOC J6 (Communications) (sample size – 2);
- CJOC JEngrs Ops and Plans (Engineers);
- Commander (Comd) Canadian Forces Joint Operations Support Group (CFJSOG) (sample size – 1);
- Comd Canadian Materiel Support Group (CMSG) (sample size – 1);
- Commanding Officer (CO) Operational Support Hub Europe (OSH(E)) (sample size – 1); and
- CO Operational Support Hub South West Asia (OSH(SWA)) (sample size – 1).

R3 - Functional Level Samples: Functional spectrum of logistics operations which included a total sample of 17 representing desk officers, managers and department heads:

- D Maj Proc 8 (sample size – 3);
- J4 Plans (sample size – 2);
- J4 Operations (sample size – 2);
- J4 Logistics Contracts (sample size – 2);
- J4 Movements (sample size – 2);
- J6 Communications Operations (sample size – 2);
- J7 Training; (sample size – 2); and
- J8 Finance Operations (sample size – 2).

Program Schedule

The following schedule represents deliverable expectations starting with the deployment of the communication strategy to the conversion of the knowledge attained into Standard Operating Procedure (SOP) and post project review tasks:

Table 6

Program Schedule

Mechanism	**Feb 19**	**Mar 19**	**Apr 19**	**May 19**	**Dec 19**	**Jan 20**	**Feb 20**
A. Communication strategy.							
B. Strategic Consultation/Survey Analysis.							
C. Operational Level consultations to ascertain current level of support and identify any concerns/Operational Scenarios.							
D. SOP, regulatory framework, organizational function/tactical focus groups.							
E. Collation and analysis of information gathered.							
	May 20	**Jun 20**	**Jul 20**	**Aug 20**	**Sep 20**	**Oct 20**	**Nov 20**
F. Final report, including research analysis, recommendations and draft implementation plan. **Dissertation Submission / Revision**							
Organizational Review	**Jan 21**	**Feb 21**	**Mar 21**	**Apr 21**	**May 21**	**Jun 21**	**Jul 21**
G. Identify SOPs and orders requiring change to reflect new responsibilities.							
J. Establishment Changes Analysed							
K. Move of function/position and personnel							

Section 7 - Technical Aspects of Qualitative Data Solicitation

As noted above, surveys, scenarios and focus groups to identify logistics contracting capability gaps and their corresponding mitigation using typological alignment within the CAF's chain of command. The following section reviews the deployment of the research methodology.

Upon assignment of an SSRRB approval number, surveys would normally be assigned to a DGRMPA developer and published to the research population. For this research project however, the researcher has opted to create a web portal solely dedicated to the project and administrated by the researcher directly. SSRRB had reviewed the web portal and has approved its employment. The research population was sent a link to the letter of invitation (at Appendix F; Figure 15) and directed to the consent prompt where the research subjects consent to or refuse participation (Figure 16). Upon consent, the survey links (Figure 17) were activated and available to be completed where results were documented and stored for further analysis.

Figure 15

Online Strategic Survey Letter of Invitation

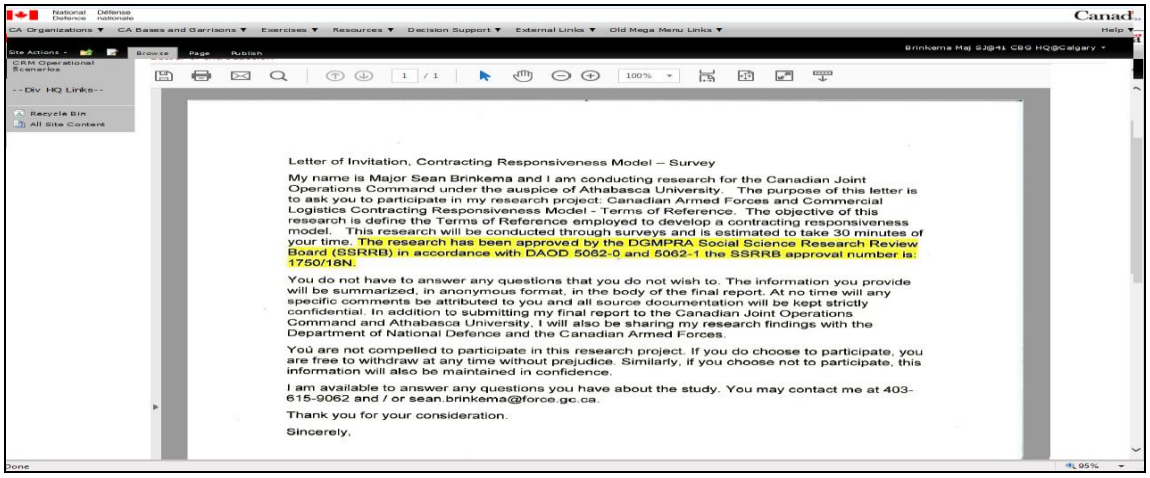


Figure 16

Survey Consent Prompt

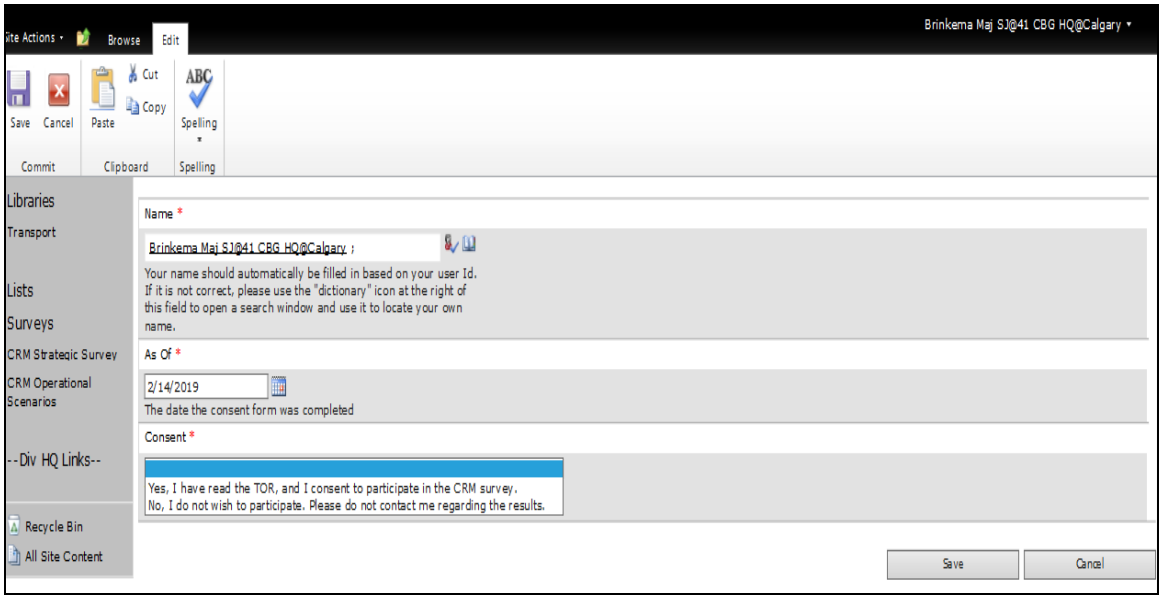
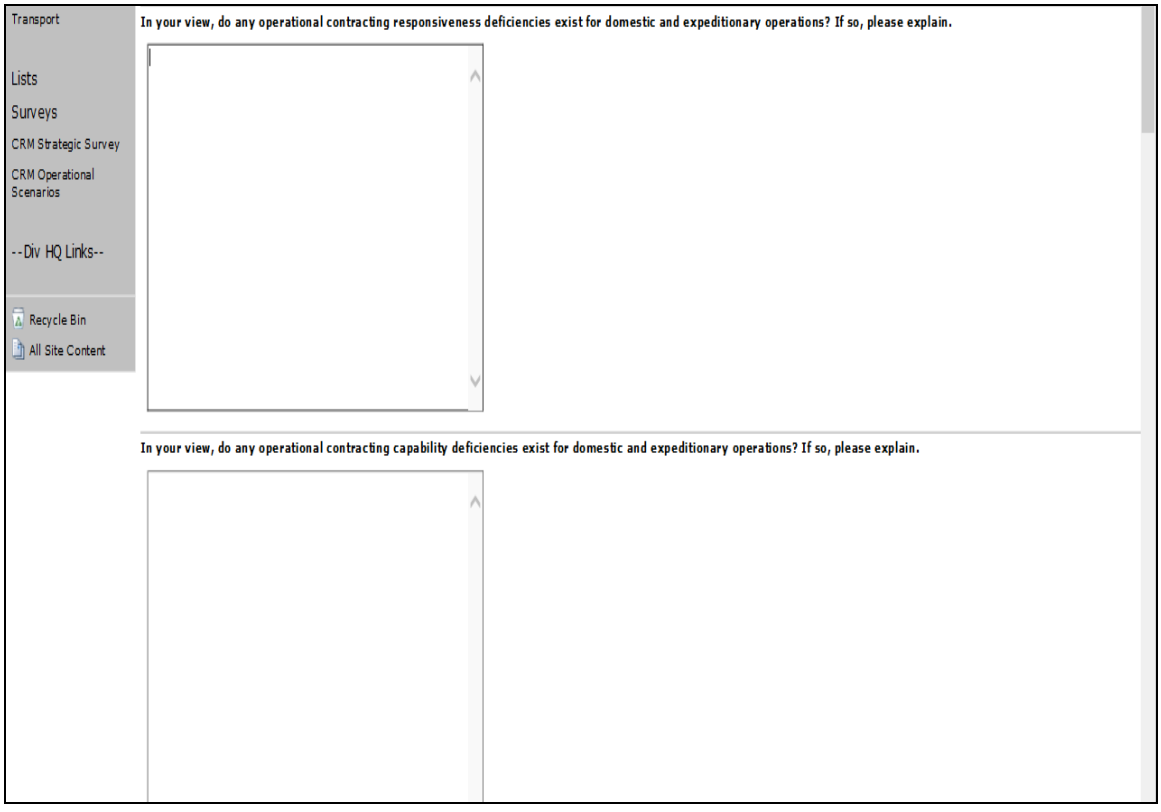


Figure 17

Online Strategic Survey



Participants were also provided access to all reference material associated with the CRM. This included the research proposal and ethical review submission documentation (Figure 18) and approvals (Figure 19).

Figure 18

CRM Research Portal/Reference Material

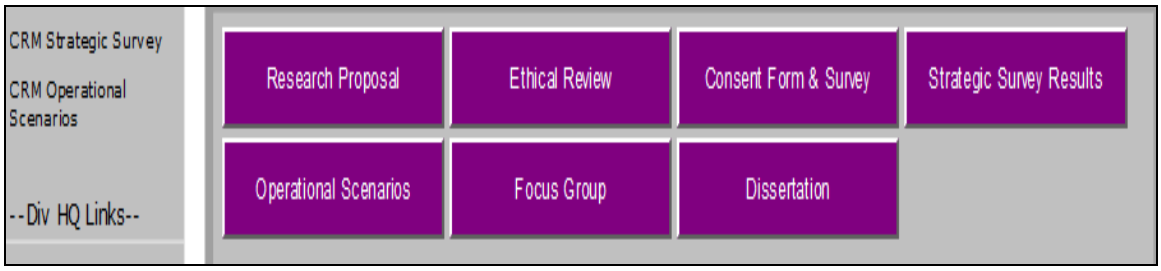
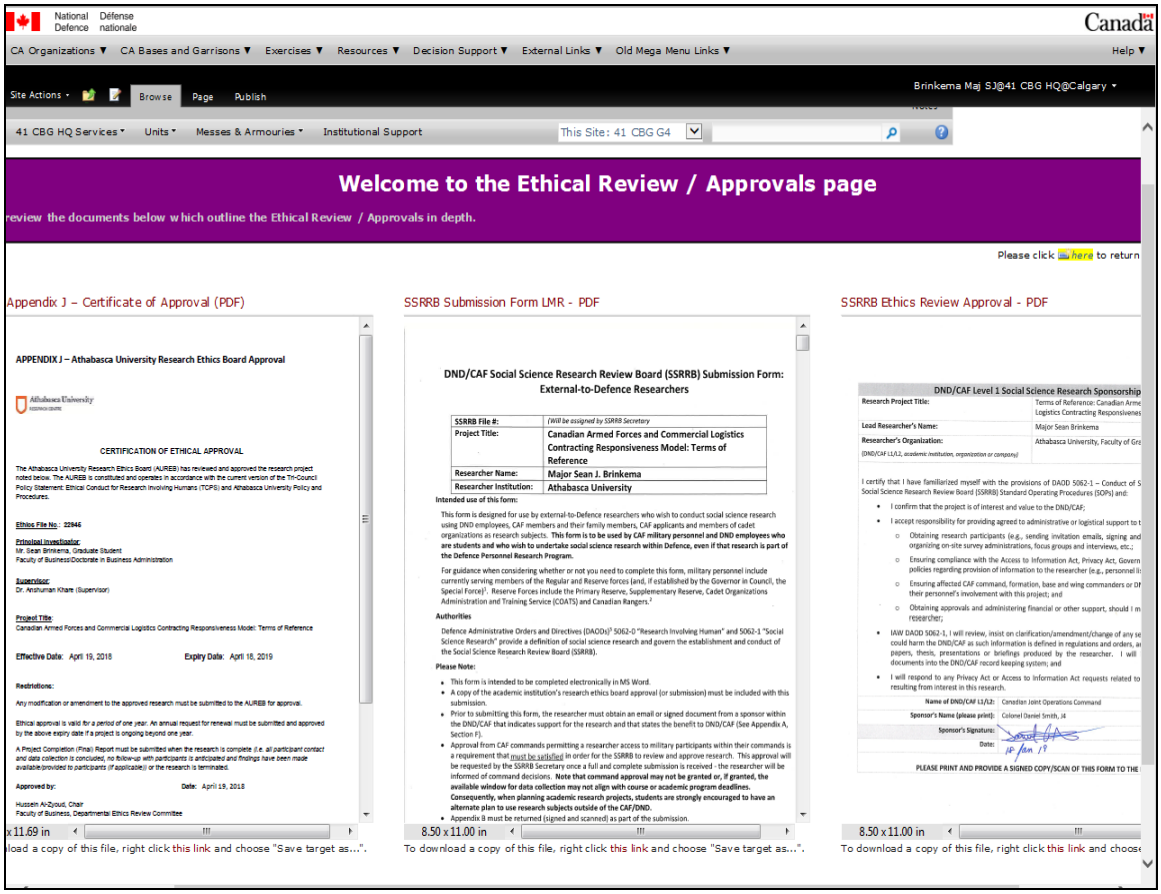


Figure 19

Ethical Approvals



Section 8 - Research Results

As reviewed in section 4, the research paradigm and methodology followed thematic analysis that categorises primary qualitative data according to phases of theme development (Vaismoradi et al, 2016).

To reiterate, thematic analysis phases and stages were aligned to the OKC derived sampling strategy as follows:

- Initializing (writing reflective notes): The strategic level participants are requested to identify gaps associated contracting responsiveness;
- Construction (defining and describing): Strategic level gap analysis deployed to the operational level participants as operationally applicable scenarios (strategic theme) to elicit operational context in the form of Course of Action (COAs) to the scenarios;
- Rectification (relating themes to establish knowledge): Operational COAs (operational themes) are deployed to a focus group in view of eliciting tactical applications of the themes; and
- Finalization (developing the story line): TORs are extrapolated from the focus group transcript.

Strategic Survey Results – TA Initialization

The strategic survey remained available to invited participants for 3 weeks and merited the following input.

Q1. In your view, do any operational contracting responsiveness deficiencies exist for domestic and expeditionary operations? If so, please explain.

Response: In general, contracting supports operations effectively. It is a vital part of the sustainment of all operations and serves us well, particularly when contracting for less complex items such as food. The more complex the item or service though, the more cumbersome the process. In cases where it is difficult to obtain multiple bids for the same item or service, the case to be made to sole source a contract is too complex and requires too much justification. Likewise, where a similar item or service might be substituted it should only require a commander's military expertise to justify exclusion of that option.

Q2. In your view, do any operational contracting capability deficiencies exist for domestic and expeditionary operations? If so, please explain.

Response: Smaller units often do not have experts in contracting. This is mitigated through reach back to experts but this extends and complicates the process. The answer lies in simplifying the process and permitting more authority at lower levels, not in yet more training to learn how to navigate the current contracting system.

Q3. What CAF contracting improvements would you recommend?

Response: Simplification of the system to permit single source contracting, where in the opinion of a commander no other option will provide a suitable solution.

The narrow concepts precipitated from the results of the strategic survey represent core gaps inherent within CJOC operational paradigms and corresponding contracting agility lag. They represent identified sustained dysfunction perceived at the highest levels of CJOC leadership. These concepts were framed and analysed within operational

scenarios to be converted to latent themes (COAs) by senior operational staff and operational commanders.

Operational Scenario Results – TA Construction

The gaps and concepts identified by the CJOC executive were correlated to substantive areas of inquiry derived from the literature review. The CJOC Strategic Survey results indicate a lack of sole source contracting authorities and a lack in readily available access to contracting expertise to be key impediments to supporting operations. In creating latent themes, the operational scenarios were formalised and submitted to the operational population (see Appendix G).

The Operational Scenarios remained available to invited participants for 6 weeks. and resulted in the following latent themes (COAs), arranged in order of commonality and impact on contracting responsiveness:

COA1. GoC contracting authority and autonomy review. CJOC contracting authority, flexibilities, and autonomy requirements should be empirically quantified and qualified. The assessment should then be compared and contrasted to the contracting thresholds and requirements of OGDs such as the RCMP, GAC, CBSA and the Coast Guard. The aim is to demonstrate to central agencies such as the Treasury Board Secretariat and Treasury Board that increased contracting autonomy is in the interest of National Security and Defence responsiveness.

COA2. Implementation of mandatory contracting training thresholds and standardization: With the aim of fostering credibility and professionalizing the CJOC contracting function, the following is indicated:

1. Mandatory contracting training certifications must be accredited to persons

according to delegated level of authority prior to the occupation of roles and positions;

2. Work experience must also be qualified and then made commensurate to the level of authority;

3. Efforts should be made to standardise training across OGDs (i.e. RCMP, GAC, CBSA, and Coast Guard);

4. Training in Force Protection (FP) risk analysis; and

5. Persons shall not occupy contracting positions unless training and proficiencies of corporate systems of record, (i.e. Defence Resource Management Information System - DRMIS), can be demonstrated.

COA3. Creation of a centralized contracting database: Currently, contracting information is decentralised among individual spreadsheets. In effort to improve contracting responsiveness, cross departmental and contracting entity synergies must be created. Therefore, efforts must be made to centralise contracting information, such as:

1. Standard Offer Agreements (SOA);

2. Contracting SOPs; and

3. Domestic and Expeditionary Points of Contact (POC) registry for:

    a. Prime Contractors;

    b. TB Security Requirements Check List (SRCL) cleared Vendors (domestic and expeditionary);

    c. CJOC, CAF, DND, affiliate defence agencies (e.g. NATO, US, European Defence);

    d. OGD and NGO contracting cells and departments;

    e. Activation procedures of affiliate defence organization contracting

mechanisms (i.e. NATO Support and Procurement Agency [NSPA], and USA Acquisition and Cross-Servicing Agreement [ACSA]);

f. Database of local procurement vendors for less than $25K; and

g. Database and SOP for the use of fixers (low risk contracts).

COA4. Development of a centralized contracting enabling function: The centralised contracting data must be mobilized in order to effect contracting responsiveness. Suggested methods to mobilised centralised information include:

1. Maximum leverage of the CJOC contracting centre of excellence;

2. Continual sharing of contracting knowledge (i.e. Lessons Identified [LI], Lessons Learned [LL], and After Action Reviews [AAR]) within and between theatres of operation;

3. Knowledge sharing, contracting methodology standardization and liaison activities with GAC, Head of Missions (HOM – embassy staff), PSPC, RCMP, and CBSA; and

4. Mission based contracting effect analysis of the contracting database, how the centralised database can be configured to support specific theatres of operation.

COA5. Development of a rapid contracting support framework to Task Force (TF) Commanders (Comds): A framework must be developed that confers direct support of TF Comds contracting requirements. Contracting challenges vary greatly between missions. A ubiquitous challenge to every TF Comd is the TF Comd's ability to maneuver contracting mechanisms rapidly and flexibly enough to support the mission and to provide for the security and welfare of the TF contingent (soldiers, OGDs, NGOs, Locals etc.).

COA6. Development of a contracting risk framework that enables sole sourcing of third party contractors thereby facilitating access to international vendors: The risk framework is intended to identify and moderate contractor Force Protection risks, counter intelligence risks (ability to clear employees of contractors for access to sites), responsiveness to unstable demand cycles, and assessments of financial liquidity to sustain fluctuations in demand.

Narrow concepts obtained from the strategic survey were analysed against the literature review and the research paradigm to develop operational scenarios that were employed to produce operational courses of action (COAs 1 through 6). The COAs represent expert solution analysis to a strategic gap assessment. The operational COAs ere presented to a practitioner / managerial audience in an effort to define practical application strategies associated with the COAs; defining of the Terms of Reference.

Tactical Focus Group Results – TA Rectification

Tactical level qualitative data was solicited by focus group. The decisions parameters associated with developing the CRM TOR were high goal ambiguity and low procedural uncertainty which indicated the application of a political mode of decision making. Therefore, a focus group was employed to collect applied data derived from the concepts developed within the Four Modes of Organizational Decision Making (Choo, 2004). The focus group application is further substantiated in FEMA's use of focus groups for the tactical study of its breakdown during hurricane Catrina (OIG, 2010).

R2 COAs were presented to the functional group with instructions to develop the terms of reference of the CRM capability. COAs 1 through 6 were presented sequentially where TORs associated with each category were aggregated into a common set of R3

recommendations. The recommendations represent a set of applied solutions to the strategic gap identification and operational COAs to address those gaps.

Discussion of COA 1: Augmenting CJOC Contracting Authority and Autonomy

COA 1 TOR Constraints (C):

C1. Procurement thresholds for Canada's Trade Agreements: As Table 6 depicts, it is incumbent on the GoC to solicit for the procurements of goods and services according to the procurement thresholds of various trade agreements. This directly constrains the procurement threshold limits authorised to the CAF and in turn its operational commanders.

Table 7

Contracting Policy Notice 2019-6 Trade Agreements: Threshold Updates

Thresholds
(CDN$ January 1, 2020 – December 31, 2021)

	Entities (departments and agencies)			Crown corporations and other government enterprises		
Free Trade Agreement	**Goods**	**Services**	**Construction**	**Goods**	**Services**	**Construction**
Internal						
Canadian Free Trade Agreement (CFTA)	26,400	105,700	105,700	528,300	528,300	5,283,200
International						
Canada–Chile Free Trade Agreement	108,400	108,400	9,100,000	542,400	542,400	17,300,000
Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)	238,000	238,000	9,100,000	650,000	650,000	9,100,000
Canada–Colombia Free Trade Agreement	108,400	108,400	9,100,000	542,400	542,400	17,300,000
Canada-European Union Comprehensive Economic and Trade Agreement (CETA)	238,000	238,000	9,100,000	Annex 19-3, Section A: 650,000 Annex 19-3, Section B: 732,400	Annex 19-3, Section A: 650,000 Annex 19-3, Section B: 732,400	9,100,000
Canada–Honduras Free Trade Agreement	108,400	108,400	9,100,000	542,400	542,400	17,300,000
Canada–Korea Free Trade Agreement	100,000	100,000	9,100,000	N/A	N/A	N/A
North American Free Trade Agreement (NAFTA)						
Canada/US	32,600	108,400	14,100,000	542,400	542,400	17,300,000
Canada/Mexico	108,400	108,400	14,100,000	542,400	542,400	17,300,000
Canada–Panama Free Trade Agreement	108,400	108,400	9,100,000	542,400	542,400	17,300,000
Canada–Peru Free Trade Agreement	173,900	173,900	9,100,000	542,400	542,400	17,300,000
Canada–Ukraine Free Trade Agreement	238,000	238,000	9,100,000	650,000	650,000	9,100,000
World Trade Organization–Agreement on Government Procurement (WTO-GPA)	238,000	238,000	9,100,000	650,000	650,000	9,100,000

Note: Table sourced from: Government of Canada, Last Modified 2019-12-18.

C2. Contracts administration throughput: A second constraint associated with

augmenting contracting thresholds and authorities is the limited contracting human resource capacity within CJOC, the CAF, PSPC and GOC in general. Therefore, notwithstanding a solution for TOR constraint 1, the contracting throughput requiring a high level of authority remains limited by the contracting human resources.

The COA 1 discussion resulted in the following recommendations (R):

R1. Develop an inventory of Standing Offer Agreements (SOAs) that would cover most operational contingencies. The J4 contracts plans department would conduct strategy session with the J5 branch to develop contingency SOAs that span domestic and global areas and countries where a CJOC mission is probable. In this manner, all GoC contracting regulations and trade agreements are adhered to and respected. CJOC HQ, subordinate commands, and supported commanders have thereby responsive and reliable access to a myriad of contracted goods and services. However, as discussed in relation to TOR C2, the contingency SOAs require administration and processing. Therefore,

R2. Along with continued in house coordination with ADM(Mat) D Maj Proc 7 and 8, the embedding of at least one PSPC procurement officer is necessary to lend PSPC authorities direct access to GoC contracting resources. For continuity and increased flexibility, the hiring of CJOC contracts administration clerks is also indicated (e.g. CR 05 to PG 01).

Discussion of COA 2: Implementation of Mandatory Contracting Training Thresholds and Standardization

COA 2 TOR Constraints (C):

C3. Inconsistent periods of contracts related work experience among CAF

members. Contracts administration positions are occupied intermittently between other positing, dedicated contracts officer/administrator vocational streams or sub-specialties do not exist within the logistics branch.

C4. Standardised availability of contracts training: Rudimentary contracts training is required for any individual who exercises expenditure authorities. However, specialised training for contracts officers is currently not institutionalised.

C5. Interdepartmental contracting standardization: OGD's such as RCMP and GAC operate under much different time thresholds and requirements. OGD's are long terms program based and aren't seeking to develop contacts based sustainment or effects. OGD's are typically embedded within the CAF sustainment envelope for effects or real life support contracting.

The COA 2 discussion resulted in the following recommendations (R):

R3. The creation of contracts officer/contracts administrator vocational streams or sub-disciplines (NCO): This implies analysis and reorganization of the logistics branch, a possible requirement to reallocate or seek the authorisation of the creation of new positions, and analysis of the assignment of authorities based on rank levels and training/work experience thresholds.

R4. The professionalization and institutionalization of contracts training: Contrast training rigor that is commensurate to that of PSPC, TB and ADM(Mat) should be designed with a DND/CAF framework and institutionalised within Canadian Forces Logistics Training Centre (CFLTC).

Discussion of COA3: Creation of a Centralized Contracting Database

COA 3 TOR Constraints (C):

C6. The demand on human resources to administrate and operate the database: CJOC staffing levels are deemed to be at saturation levels in performing current mandates. Additional personnel would be required to operate and administrate the database.

The COA 3 discussion resulted in the following recommendations (R):

R5. Contracting responsiveness databased prime contractor outsourcing. Database operation and administration can be outsourced to contractors that operate in regions of interest. This strategy would provide current and relevant vendor sources, local regulations, and access to local supply chains while mitigating the lag caused by stringent GOC contracting regulations.

R6. The leveraging of multilateral agreements such as European Air Transport Command ATARES and Strategic Airlift Interim Solution (SALIS)[14] to lend access to theatre and region specific expertise would also increase contracting responsiveness since service delivery is negotiated through agreements rather than contracting processes.

R7. Integration of the Contract Management System (CMS): The CMS is a system of record within which all GOC contracts are registered. The CMS could be employed as a contracting responsiveness database baseline.

R8. Employment of analytics: With the recent emphasis on analytics across the CAF, applying analytics to the centralised contracting responsiveness database could lend focus and predictive characteristics to the system, thereby improving its efficiency and effectiveness.

Discussion of COA4: Development of a Centralized Contracting Enabling Function

COA 4 TOR Constraints (C):

[14] Past and currently CJOC employed international transportation service agreements.

C7. Scope specification: Contracting operates in a very broad spectrum of purposes, desired levels of effect (Strategic, Operational, Tactical), and delivery time horizons. Consolidation of a contracting responsiveness function requires deliberate articulation of its purpose, organizational positioning, and authority.

C8. Identification of Force Generator: Given that a centralised contracting enabling function suggests a training and development aspect, where would the force generation responsibilities reside? Since the Navy (RCN), Army (CA), and Air Force (RCAF) differ in contracting requirements, where would the consolidation of the education and training analysis and development reside before it becomes employed within CJOC? It is suggested that CJOC remain with its mandate to be the force employer rather than assume force generation functions.

C9. Human resource constraints: Although various contracting functions coordinate within CJOC (J4 Agreements, J4 Contracts D Maj Proc, J4 Mov etc.), consolidation of the various functional requires centralised oversight and administration; an HR requirement CJOC is currently not mandated or staffed to support.

The COA 4 discussion resulted in the following recommendations (R):

R9. Establishment of a CRM Project: To address scope and force generation, it is suggested that a project team defines the CRM's scope and coordinate with the elements (RCN, CA, RCAF), the Logistics Branch, CFLTC, TB, PSPC, and ADM (Mat) to define training and accreditation development.

R10. Organizational Realignment: HR and authority deficiencies can be

addressed by embedding PSPC and ADM (Mat) staff directly into CJOC. Increased contracting authorities' resident within PSPC and ADM (Mat) personnel authority thresholds are directly integrated within the organization.

Discussion of COA5: Development of a Rapid Contracting Support Framework to Task Force (TF) Commanders (Comds)

COA 5 TOR Constraints (C):

C10. Strategic authority delay: The authorities' incumbent to a Task Force Commander are delegated through the Chief of Defence Staff Implementation Directive (CDSID) that is produced by the CDS' Strategic Joint Staff (SJS). The CDSID is ultimately delegated by parliament. The time lag between mission deployment and assignment of delegated authorities can be significant. Therefore, in-theatre supported commanders can experience prolonged periods where delegated authorities to contract are not assigned.

The COA 5 discussion resulted in the following recommendations (R):

R11. Non-Mission Specific Task Force Contracting Support Frameworks: Mission contingency support planning would provide contingent logistics preparation of battel spaces. J4 and J5 contingency working groups could look to anticipate probable theatres of operations and future support requirements. Local vendors and prime contractors could be contracted on a contingency basis where the support statements of requirements are produced by contingency operational planning. The CRM would execute contract call ups on the supported commander's behalf until the CDSID is promulgated.

R12. Use of prime contractors: Prime contractors contract local vendors to

produce the required support effects. Contracting prime contractors with a broad statement of requirements allows for delivery of responsive and flexible contracting effects to apply to contingency requirements. A deployed representative of the CRM could be attached with the appropriate authorities to the missions' theatre opening process.

R13. Effective use of Operations Support Hubs (OSH). OSH are established with the capability to project contracting support through their areas of responsibility (AOR). OSH's mandates are to support multiple missions and allied nations, however, due to fiscal constraints and technicalities, such as cost capture under Operational Funding Accounts (OFA), OSHs become appropriated to a specific mission to act as a surrogate Mission Support Component (MSC). If OSH's where to function as designed, supported mission commanders could draw responsive contracting support from an OSH while the mission evolves to full delegated authorities.

COA6: Development of a Contracting Risk Framework for Sole Source Contracting

COA 6 TOR Constraints (C):

C11. Scope of authorities: Risks frameworks for the CAF are limited to CAF contracting authorities. Contracting for goods and services above DND, the CAF threshold invokes central agency policy and process. A risk mitigation framework would therefore be very limited in scope.

C12. Human resource limitation: HR capacities to vet vendors for a multitude of eventualities simply do not exist. Intelligence and force protection assets are engaged in operational threat assessment and cannot segment a significant proportion of its capacity to support activities.

C13. Lack of technical writing abilities: In many instances, sole sourcing errors are caused by a lack of contracting and technical writing experience. Prior to sole sourcing, procurement objectives require identification. Often, goods and services are sole sourced and are discovered to be ill fitted to the requirement. An experienced technical writer can identify the requirement, research sources, and write comprehensive bid solicitations in less time than it would take to justify sole source requirements.

The COA 6 discussion resulted in the following recommendations (R):

R14. Inclusion of risk analysis training within contracting qualifications: The development of risk analysis proficiencies within the contracting community may develop a degree of self-sufficiency that the intelligence community may accept. The risk analysis and vetting of vendors is thereby largely incumbent on the contract officers, thereby reducing HR demands on force protection and intelligence assets. This capability may also prove to be symbiotic with source list research.

R15. Use of prime contractors: As reviewed in R12, the use of prime contractors could produce the same sole source capability under a contracted entity.

R16. Technical writing training: Contracting qualification training and curriculum should not only focus on regulation and process, but also on analysis, research, and technical writing skills.

Finalization – TOR Development

The intent of the research is not to define a solution set for improved contracting responsiveness, its purpose is rather to identify logistic contracting gaps at the strategic and operational levels, and to present an empirically derived Terms of Reference that could be employed to define the project identification phase (policy framework,

organizational position and capability assessment of the CRM) within the DND project framework.[15]

Employing the research method described in earlier sections, to improve CJOC's contracting capability and responsiveness, the following recommendations are presented to address contracting responsiveness gaps:

1. Gap: Insufficient contracting authority and autonomy, including those associated with sole source contracting. Recommendations:

    a. Development of a contingency Standing Offer Agreements (SOAs) inventory. The J4 contracts plans department could conduct strategy session with the J5 branch to develop contingency SOAs that span domestic and global areas and countries where a CJOC mission is probable. In this manner, all GoC contracting regulations and trade agreements are adhered to and respected. CJOC HQ, subordinate commands, and supported commanders have thereby responsive and reliable access to a myriad of contracted goods and services. The caveat however, as discussed in relation to TOR C2, is that contingency SOAs require administration and processing.

    b. Embedding of central agency authorities: Along with continued in-house coordination with ADM(Mat) D Maj Proc 7 and 8, the embedding of at least one PSPC procurement officer to lend PSPC authorities and direct access to GoC contracting resources is recommended. For continuity and increased flexibility, the hiring of CJOC contracts administration clerks is also indicated (e.g. CR 05 to PG 01).

[15] Defined further in section 9.

c. Operational use of prime contractors: Prime contractors contract local vendors to produce the required support effects. Contracting prime contractors with a broad statement of requirements allows for delivery of responsive and flexible contracting effects to apply to contingency requirements. A deployed representative of the CRM could be attached with the appropriate authorities to the missions' theatre opening process. Prime contractors could produce surrogate sole source capability under a contracted entity.

2. Gap: Lack of institutionalised and professionalised military contracting vocational streams. Recommendations:

a. The creation of contracts officer/contracts administrator vocational streams and sub-disciplines (NCO): This implies analysis and reorganization of the logistics branch, a possible requirement to reallocate or seek the authorisation of the creation of new positions, and analysis of the assignment of authorities based on rank levels and training/work experience thresholds.

b. The professionalization and institutionalization of contracts training: Contract training rigor that is commensurate to that of PSPC, TB and ADM(Mat) should be designed with a DND/CAF framework and institutionalised within Canadian Forces Logistics Training Centre (CFLTC).

c. Inclusion of risk analysis training within contracting qualifications: The

development of risk analysis proficiencies within the contracting community may develop a degree of self-sufficiency that the intelligence community may accept. The risk analysis and vetting of vendors is thereby largely incumbent on the contract officers, thereby reducing HR demands on force protection and intelligence assets. This capability may also prove to be symbiotic with source list research.

d. Technical writing training. Contracting qualification training and curriculum should not only focus on regulation and process, but also on analysis, research, and technical writing skills.

e. Establishment of position qualification standards. Qualification standards associated with contracting positions and associated authorities are to be defined. Persons occupying defined contracting positions are to have achieved qualification and experience thresholds.

3. Gap: Absence of a recognised and centralised contracting database.

Recommendations:

a. Prime contractor outsourced database. Database operation and administration can be outsourced to contractors that operate in regions of interest. This strategy would provide current and relevant vendor sources, local regulations, and access to local supply chains while mitigating the lag caused by stringent GOC contracting regulations.

b. Leveraging multilateral agreements. The leveraging of multilateral agreements such as European Air Transport Command ATARES and Strategic Airlift Interim Solution (SALIS) to lend access to theatre and

region specific expertise would also increase contracting responsiveness since service delivery is negotiated through agreements rather than contracting processes.

c. Operationalization of the Contract Management System (CMS). The CMS is a system of record within which all GOC contracts are registered. The CMS could be employed as a contracting responsiveness database baseline.

d. Employment of analytics. Applying analytics to the centralised contracting responsiveness database could lend focus and predictive characteristics to the system. The literature review examples the potential application of logistics analytics. Contracting analytics can be employed to predict supply chain in break points and steady points using the "swallowtail catastrophe model of logistics capacity for logistics system of national economic mobilization" (Sun & Tan, 2011).

4. Gap: Absence of centralised synergistic contracts coordination.

Recommendations:

a. Establishment of a CRM Project. To address scope and force generation, it is suggested that a project team defines the CRM's scope and coordinate with the elements (RCN, CA, RCAF), the Logistics Branch, CFLTC, TB, PSPC, and ADM(Mat) to define training and accreditation development.

b. Organizational Realignment. HR and authority deficiencies can be addressed by embedding PSPC and ADM(Mat) staff directly into CJOC. Increased

contracting authorities' resident within PSPC and ADM(Mat) personnel authority thresholds are directly integrated within the organization.

5. Gap: Absence of a Rapid Contracting Support Framework to Task Force (TF) Commanders (Comds). Recommendations:

a. Non Mission Specific Task Force Contracting Support Planning. Mission contingency support planning would provide contingent logistics preparation of battel spaces. J4 and J5 contingency working groups could look to anticipate probable theatres of operations and future support requirements. Local vendors and prime contractors could be contracted on a contingency basis where the support statements of requirements are produced by contingency operational planning. The CRM would execute contract call ups on the supported commander's behalf until the CDSID is promulgated.

b. Effective use of Operations Support Hubs (OSH)[16]. OSH are established with the capability to project contracting support through their areas of responsibility (AOR). OSH's mandates are to support multiple missions and allied nations, however, due to fiscal constraints and technicalities, such as cost capture under Operational Funding Accounts (OFA), OSHs become appropriated to a specific mission to act as a surrogate Mission Support Components (MSC). If OSH's where to function as designed, supported mission commanders could draw responsive contracting support from an OSH while the mission evolves to full delegated authorities

[16] See section 2 (literature review) page 39 for OSH background

Discussion of the Research Results

The primary source research followed many of the concepts anticipated in the semantic themes deployment (Scenarios). Organizational development and realignment requirements as well as the deployment strategies for analytics and risk mitigation frameworks[17] precipitated from the research methodology. The following summarizes the secondary data analysis semantic theme alignment with the primary data latent theme analysis outcomes:

Sc 1 – IT integration did not result in any primary research applications. Although anticipated as a source of competitive advantage, respondents identified other sources described within Sc 2 to 4 results. The results are however consistent with Mata et al's RBV supposition that IT integration is not uniformly accepted as a source of competitive advantage, an aspect that the research population astutely recognised.

Sc 2 – The procurement policy application semantic theme precipitated to recommendations of leveraging and improved integration of current systems of records, such as the contracts management systems, the professionalization and institutionalization of contracting career streams, and increased emphasis on technical writing skills. The implementation of this recommendation could result in deployed commanders' augmentation of sole source contracting thresholds and increased delegation of authorities given that conceptually PSPC / TB trained uniformed contracts advisors / liaisons be assigned to them.

Sc 3 - The procurement strategy scenario also delivered effective gap mitigation strategies that include; Non Mission Specific Task Force Contracting Support Planning;

[17] I.e. Sun & Tan (2011) swallowtail catastrophe model of logistics capacity for logistics system of national economic mobilization

establishment of a CRM project that would include force generators as stakeholders; and an increased integration of prime contractors.

SC 4 – the Civil / Military corporation theme suggested the deliberate organization and employment of multilateral agreements along with leveraging mass data analytics and the development of a logistics contracting risk management frameworks would lend multilateral perspective and confidence in OGDs such as TB and PSPC.

SC 5 – CAF Organizational paradigm analysis purported the effective use of Operations Support Hubs (OSH), the professionalization and institutionalization of contracts training, and the embedding of central agency authorities where PSPC and ADM(Mat) personnel authority thresholds are directly integrated within the organization.

Summary

The preceding section documents the results initially derived from executive and command driven gap identification. It represents the culmination of strategic, operational and tactical stakeholder gap analysis associated with CAF contracting responsiveness, mitigation, and organizational repositioning. Through the continuation of themes developed from operational level scenarios into focus group categories, the resulting aggregation is the CRM TOR.

Through the application of this study's research paradigm, the expertise, experience, training and the professionalism of the organization resulted in the identification of capability gaps and ultimately the necessary requirements, TORs, of a model to address them. The intelligence of the organization was leveraged to develop suitable solutions instead of grafting inflexible research methods onto a complex problem

Section 9 - CRM TOR

The following represents a succinct set of capability categories that require development, realignment or augmentation from their present state. In coordination, they represent the Terms of Reference for the establishment of the Canadian Armed Forced Contracting Responsiveness Model project initiation phase:

1. The Legislative Category:
    a. The creation of contracts officer/contracts administrator vocational streams and sub-disciplines;
    b. development of technical writing standards and training; and
    c. operationalization of the Contract Management System (CMS).
2. The Procedural Category:
    a. Conducting continual Non-Mission Specific Task Force Contracting Support Planning;
    b. development of a forward planning contingency Standing Offer Agreements (SOAs) inventory;
    c. operational use of prime contractors; and
    d. operationalization of prime contractor outsourced databases.
3. The Civilian/ Military Cooperation Category:
    a. Leveraging multilateral agreements;
    b. integration and employment of business analytics; and
    c. the development of logistic / industry contracting risk management frameworks.
4. The Organizational Alignment Category:

a. Embedding of central agency authorities;

b. inclusion of risk analysis training within contracting qualifications;

c. establishment of position qualification standards;

d. The effective prescribed employment of Operations Support Hubs (OSH); and most critically;

e. organizational realignment to create a SPA mandated to integrate and coordinate these capability requirements.

Section 10 - Implications of the Research

The CRM requires development and validation from the practitioner community as the models' ultimate intent is to be functionally employed. The research shows that to achieve the ultimate purpose of the CRM, the continual advancement of contracting responsiveness and effectiveness; the following summarised constraints require negotiation / resolution:

1. Procurement thresholds related to Canada's Trade Agreements;
2. limited contracts administration throughput;
4. articulation of CRM's Scope and authorities;
5. identification of CRM establishment Force Generator;
6. human resource constraints related to centralising the contracting function;
7. delays associated with strategic level contracting authorities;
8. human resource limitation associated with risk analysis and security clearance; and
9. the lack of technical writing abilities.

Common to all identified constraints is the requirement of organization realignment, and the organizational repositioning of capability. Central to negotiating the constraints is the augmentation of human resources.

Organizational Realignment

Referenced in the literature review, organizational realignment is predicated on identifying the criticality of an emerging capability to an organization, and realigning the organization in view of enabling that capability. This is achieved through "surveillance of those environmental elements deemed most critical to the organization. [Organizations

have] the choice of being reactive, waiting for events to take shape clearly before responding), or proactive (anticipating the shape of events and acting quickly) with respect to information it gathers" (Miles & Snow, 2003). Thus, as demonstrated by disaster relief literature review, and conceptually through NATO and European Defence Agency industry responsiveness integration literature, the CRM should be positioned within "Arena" and/or "Vehicle" strategic elements with adaptation capabilities to be mandated within the proactive spectrum of operation.

To motivate organizations to realign and integrate strategically enabled capabilities, leaders should first seek their organization's adaptive characteristics. Miles and Snow (2003) identified four of the adaptive characteristics:

1. Defenders;
2. Prospectors;
3. Analysers; and
4. Reactors.

Arena and vehicle strategic element structure combined with prospector/analyser organizational adaptive characteristics define the organizational characteristic and operational paradigm required to enable the CRM. In order to gauge the CJOC's commercial responsiveness capabilities with that of the theoretical paradigm, the identification and correlation of internal and environmental actors and stakeholders is required. To this end, as depicted in Table 7, the CRM TOR provides empirical and functional basis that could be employed to define the project identification phase within the DND project framework.

Table 8

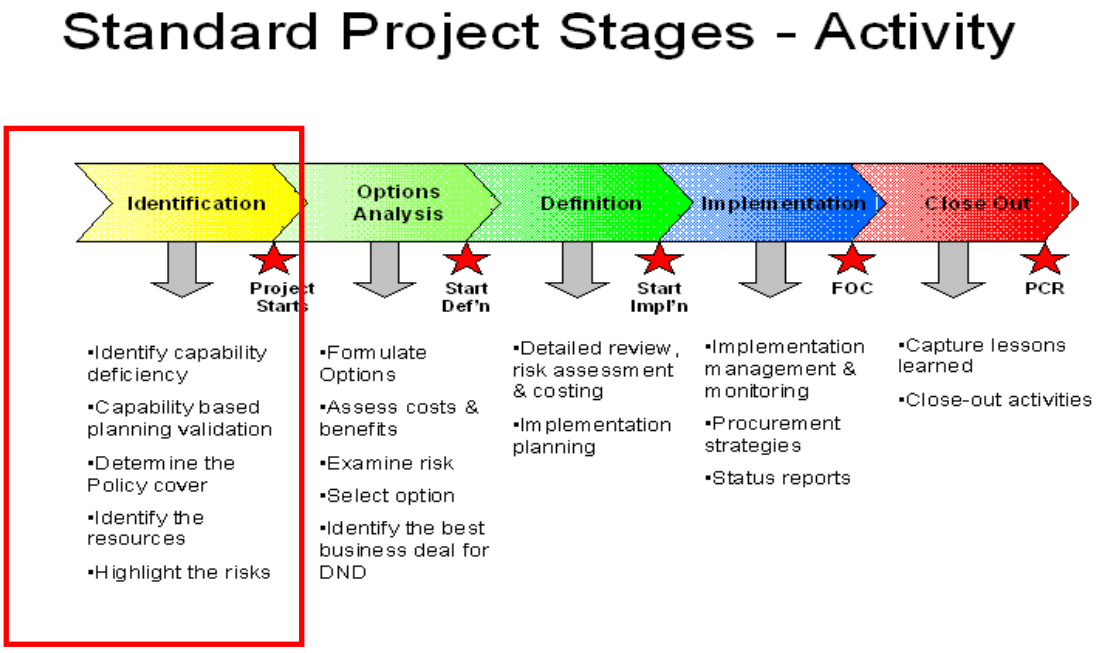
Project Identification Validation Matrix

	Step 1	**Step 2**	**Step 3**	**Step 4**
	Concept Validation	**Project Approach**	**Programming**	**Project Start**
Activity	Project proposals are vetted against current inventory of programs, initiatives and structures.	Option analysis to determine initial operational capability.	Description of impact on DND and organizational structure of project.	Submission of option analysis for project approval and departmental commitment.
Research Proposal Validation	**Yes**	**Yes**	**Yes**	**Yes**

Note : Table scoured from: VCDS, 2016.

Figure 20

DND Project Framework



Note: Figure sourced from: VCDS, 2016.

Future Research

Although aspects of this study concern shared trade agreements with allied military nations[18] and multinational procurement strategies, generalizations concerning the application of a CRM outside of the CAF are not addressed; this study is limited to CAF contracting responsiveness gaps. Defining the project identification stage for contracting responsiveness models concerning allied procurement policies and processes lies far beyond the scope of this study.

However, the gap analysis method, the research paradigm and research methodology of employing OKC and thematic analysis to illicit creative and comprehensive solutions can be generalised and applied to studies of similar nature.

Therefore, although this study is limited to Canadian procurement policy applicable to the CAF, it can be employed as a guide to obtaining research access to military organizations and formulating research methodologies that are aligned with military ontologies.

[18] See table 7, page 129

Section 11 - Contributions of the Study

Academically, this dissertation has produced clear empirical, practical, and methodological contributions.

Empirical Contribution

This research empirically identified contracting responsiveness gaps across the strategic, operational, and functional domains. Thus, it produced a set of operational and tactical gap solutions, indicating a critical need to align CJOC logistics contracting considerations with executive planning and decision cycles.

The study also yielded practical recommendations that lend legitimacy to uniformed[19] contracting capabilities, and thereby substantiate the augmentation of uniformed contracting authorities. These recommendations include:

- Establishment of a Contracting Officer and NCO career streams; and
- Development of vocational contracting curriculum carrying federal accreditations within the Canadian Forces Logistics Training Centre (CFLTC) Borden.

Practical Contribution

The study identified legal and legitimate contracting responsiveness strategies. These strategies are independent of political dynamics, and they employ contracting policy and process purposefully and effectively.

To access the research population, a road map of CAF population access, when not commissioned to perform research, was documented. The access process played out over 18 months, including the following major steps:

[19] The term uniformed within this context is defined as in-service personnel who wear a military uniform.

- Director General Military Personnel Research Analysis (DGMPRA) classification of the research, obtaining organizational sponsorship;
- Ethics approval Process: Upon classification, DGMPRA's Social Science Research Review Board (SSRRB) reviewed the research proposal from technical, methodological and ethical perspectives under Defence Administrative Orders and Directives (DAODs) DAOD 5062-0 and 5062-1 (Conduct of Social Science Research); and
- Completion of the Tri Council Certification for Ethical Conduct for Research Involving Humans.

Methodological Contribution

The study entails a generalizable, novel application of sensemaking theory, intended to maximize consensus and stakeholder support. This methodology includes an application of the OKC Model to define organizational typology and population segmentation. In turn, this affects ontological research method differentiation between samples to enable population appropriate data solicitation, specifically:

- Direct questions based on military context;
- RBV theme development to solicit COAs; and
- Thematic analysis using COAs as discussion criteria.

The study can also be employed to satisfy the Project Identification Validation Matrix, which constitutes the Identification Stage of the DND Project Framework.

Section 12 - Knowledge Mobilization Plan

The knowledge mobilization plan involves promulgation of the CRM and its supporting research to the outlets listed below:

- Director Supply Chain Operations (DSCO) conference, Ottawa.
- CRM web link on Chief Force Development website to inform about progress, implications and upcoming research stages.
- Article submission to the DND's *Maple Leaf* monthly periodical.
- Article submission to the *Canadian Military Journal* outlining results, potential and implications of research.

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Appendix A – Secondary Data Matrix

Secondary Data Matrix	Theory	Applied	Practitioner
Organizational	Weick, Karl (2001). Making Sense of the Organization. Phillips, N. & Hardy, C. (2002). Discourse Analysis, Investigating Process of Social Construction.	European Defence Agency (2012). *Integrated Way of Working.* Ixelles, Belgium Eisenhardt, K.M. (1989). Building theories from case study research. Wharton (2006). Avoiding the Cost of Inefficiency: Coordination and Collaboration in Supply Chain Management.	National Defence and the Canadian Forces (2012). *Canadian Forces Operations: Current Operations.* Ottawa ON: National Defence. Hambrick, D. C., & Frederickson, J. W. (2001). Are you sure you have a strategy? Miles R.E., Snow C.C. (2003). Organizational strategy, Structure, and Process. Palo Alto, CA: Stanford University Press. pp. 3 – 30. European Defence Agency (2012). Integrated Way of Working. Ixelles, Belgium.
Behavioural	Bass, B.M. (1990). From transactional to transformational leadership: Learning to share the vision. Weick, Karl (2001). Making Sense of the Organization. Sutcliffe, Weick (2005). Organizing and the process of sensemaking.	Industry Canada (2011). *Global Business Strategy and Innovation: A Canadian Logistics Perspective.*	Ghanmi, A. (2011). Canadian Forces global reach support hubs: facility location and aircraft routing models. *Journal of the Operational Research Society (2011),*
Practical	Prove**n**ca, D Jr, Duarte, E.E. (2005). The Concept of Logistics derived from Clausewitz: All That is Required so That the Fighting Force Can be Taken as a Given.	European Defence Agency (2012). *Integrated Way of Working.* Ixelles, Belgium Mitrovic-Minic S., Conrad J. (2011). Issues and Challenges related to the Tactical and Operational Logistics: Final Report. Smith, L. (1999). Commercial Logistics Best Practices for the Revolution in Military Logistics.	Garg, M., & Gupta, S. (2012). Cases on Supply Chain and Distribution Management: Issues and Principles. Provenca, D Jr, Duarte, E.E. (2005). The Concept of Logistics derived from Clausewitz: All That is Required so That the Fighting Force Can be Taken as a Given. Garg, M., & Gupta, S. (2012). Cases on Supply Chain and Distribution Management: Issues and Principles.

Athabasca University
RESEARCH CENTRE

Appendix B - Certification of Ethical Approval

The Athabasca University Research Ethics Board (AUREB) has reviewed and approved the research project noted below. The AUREB is constituted and operates in accordance with the current version of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS) and Athabasca University Policy and Procedures.

Ethics File No.: **22945**

Principal Investigator:
Mr. Sean Brinkema, Graduate Student
Faculty of Business\Doctorate in Business Administration

Supervisor:
Dr. Anshuman Khare (Supervisor)

Project Title:
Canadian Armed Forces and Commercial Logistics Contracting Responsiveness Model: Terms of Reference

Effective Date: April 19, 2018 **Expiry Date**: April 18, 2019

Restrictions:

Any modification or amendment to the approved research must be submitted to the AUREB for approval.

Ethical approval is valid *for a period of one year*. An annual request for renewal must be submitted and approved by the above expiry date if a project is ongoing beyond one year.

A Project Completion (Final) Report must be submitted when the research is complete *(i.e. all participant contact and data collection is concluded, no follow-up with participants is anticipated and findings have been made available/provided to participants (if applicable))* or the research is terminated.

Approved by: **Date:** April 19, 2018

Hussein Al-Zyoud, Chair
Faculty of Business, Departmental Ethics Review Committee

Athabasca University Research Ethics Board
University Research Services, Research Centre
1 University Drive, Athabasca AB Canada T9S 3A3
E-mail rebsec@athabascau.ca
Telephone: 780.675.6718

Appendix C -DND/CAF Social Science Research Review Board (SSRRB) Submission Form: External-to-Defence Researchers

SSRRB File #:	*(Will be assigned by SSRRB Secretary*
Project Title:	**Canadian Armed Forces and Commercial Logistics Contracting Responsiveness Model: Terms of Reference**
Researcher Name:	**Major Sean J. Brinkema**
Researcher Institution:	**Athabasca University**

Intended use of this form:

This form is designed for use by external-to-Defence researchers who wish to conduct social science research using DND employees, CAF members and their family members, CAF applicants and members of cadet organizations as research subjects. **This form is to be used by CAF military personnel and DND employees who are students and who wish to undertake social science research within Defence, even if that research is part of the Defence Personnel Research Program.**

For guidance when considering whether or not you need to complete this form, military personnel include currently serving members of the Regular and Reserve forces (and, if established by the Governor in Council, the Special Force)[20]. Reserve Forces include the Primary Reserve, Supplementary Reserve, Cadet Organizations Administration and Training Service (COATS) and Canadian Rangers.[21]

Authorities

Defence Administrative Orders and Directives (DAODs)[22] 5062-0 "Research Involving Human" and 5062-1 "Social Science Research" provide a definition of social science research and govern the establishment and conduct of the Social Science Research Review Board (SSRRB).

Please Note:

- This form is intended to be completed electronically in MS Word.
- A copy of the academic institution's research ethics board approval (or submission) must be included with this submission.
- Prior to submitting this form, the researcher must obtain an email or signed document from a sponsor within the DND/CAF that indicates support for the research and that states the benefit to DND/CAF (See Appendix A, Section F).
- Approval from CAF commands permitting a researcher access to military participants within their commands is a requirement that must be satisfied in order for the SSRRB to review and approve research. This approval will be

[20] National Defence Act (R.S.C., 1985, c. N-5), http://laws-lois.justice.gc.ca/eng/acts/N-5/
[21] Queen's Regulations and Orders: Volume I - Chapter 2 - Government and Organization, http://www.forces.gc.ca/en/about-policies-standards-queens-regulations-orders-vol-01/ch-02.page#cha-002-034
[22] Defence Administrative Orders and Directives 5062-0 "Research Involving Human" and 5062-1 "Social Science Research, http://www.forces.gc.ca/en/about-policies-standards-defence-admin-orders-directives-5000/toc-5062.page

requested by the SSRRB Secretary once a full and complete submission is received - the researcher will be informed of command decisions. **Note that command approval may not be granted or, if granted, the available window for data collection may not align with course or academic program deadlines. Consequently, when planning academic research projects, students are strongly encouraged to have an alternate plan to use research subjects outside of the CAF/DND.**

- Appendix B must be returned (signed and scanned) as part of the submission.
- Email the completed MS Word submission or any questions to: SSRRB-CERSS@forces.gc.ca

SSRRB Submission Checklist:

All pertinent appendices from the list below must be included with your submission in order for the SSRRB to commence its ethical and technical review of your research project.	
Please check boxes to indicate with documents are included with your submission:	
☐	A completed SSRRB Submission Form (See Appendix A)
☐	• Sponsorship approval (See Appendix A, Section F)
☐	• A signed SSRRB Research Agreement (See Appendix B)
☐	• For students/academia – your academic institution's ethics approval (See Appendix A, Section E15)
Supporting appendices (as required):	
☐	Email/letters of invitation (See Appendix C)
☐	Informed consent form for interviews and focus groups (See Appendix D)
☐	Informed consent form for surveys (See Appendix E)
☐	Interview/focus group moderator's guide (See Appendix F)
☐	Copy of survey (See Appendix A, Section I)
☐	Description of survey constructs, scales and items (See Appendix G)
☐	Contact numbers (See Appendix H)
☐	
☐	
☐	

Appendix D - TCPS2: CORE Certification Tri Council Certification for Ethical Conduct for Research Involving Humans

PANEL ON RESEARCH ETHICS
Navigating the ethics of human research

TCPS 2: CORE

Certificate of Completion

This document certifies that

Sean Brinkema

has completed the Tri-Council Policy Statement:
Ethical Conduct for Research Involving Humans
Course on Research Ethics (TCPS 2: CORE)

Date of Issue: **28 March, 2018**

Appendix E - SSRRB Sponsor Form

DND/CAF Level 1 Social Science Research Sponsorship Form	
Research Project Title:	Terms of Reference: Canadian Armed Forces and Commercial Logistics Contracting Responsiveness Model
Lead Researcher's Name:	Major Sean Brinkema
Researcher's Organization: (DND/CAF L1/L2, *academic institution, organization or company)*	Athabasca University, Faculty of Graduate Programs.

I certify that I have familiarized myself with the provisions of DAOD 5062-1 – Conduct of Social Science Research and the Social Science Research Review Board (SSRRB) Standard Operating Procedures (SOPs) and:

- I confirm that the project is of interest and value to the DND/CAF;
- I accept responsibility for providing agreed to administrative or logistical support to this project, including:
  - Obtaining research participants (e.g., sending invitation emails, signing and distributing invitation letters), organizing on-site survey administrations, focus groups and interviews, etc.;
  - Ensuring compliance with the Access to Information Act, Privacy Act, Government regulations and DND/CAF policies regarding provision of information to the researcher (e.g., personnel lists, email addresses, etc.);
  - Ensuring affected CAF command, formation, base and wing commanders or DND Level 1 advisors are aware of their personnel's involvement with this project; and
  - Obtaining approvals and administering financial or other support, should I make any commitments with the researcher;
- IAW DAOD 5062-1, I will review, insist on clarification/amendment/change of any sensitive information set out that could harm the DND/CAF as such information is defined in regulations and orders, and approve all resulting reports, papers, thesis, presentations or briefings produced by the researcher. I will incorporate copies of all final documents into the DND/CAF record keeping system; and
- I will respond to any Privacy Act or Access to Information Act requests related to the project or media inquiries resulting from interest in this research.

Name of DND/CAF L1/L2:	Canadian Joint Operations Command
Sponsor's Name (please print):	Colonel Daniel Smith, J4
Sponsor's Signature:	
Date:	

Name of DND/CAF L1/L2:	Canadian Joint Operations Command
Sponsor's Name (please print):	Colonel Daniel Smith, J4
Sponsor's Signature:	
Date:	18 Jan 19

PLEASE PRINT AND PROVIDE A SIGNED COPY/SCAN OF THIS FORM TO THE RESEARCHER

PLEASE PRINT AND PROVIDE A SIGNED COPY/SCAN OF THIS FORM TO THE RESEARCHER

Appendix F – Letter of Invitation

Letter of Invitation, Contracting Responsiveness Model – Survey

My name is Major Sean Brinkema and I am conducting research for the Canadian Joint Operations Command under the auspice of Athabasca University. The purpose of this letter is to ask you to participate in my research project: Canadian Armed Forces and Commercial Logistics Contracting Responsiveness Model - Terms of Reference. The objective of this research is define the Terms of Reference employed to develop a contracting responsiveness model. This research will be conducted through surveys and is estimated to take 30 minutes of your time. The research has been approved by the DGMPRA Social Science Research Review Board (SSRRB) in accordance with DAOD 5062-0 and 5062-1 the SSRRB approval number is: 1750/18N.

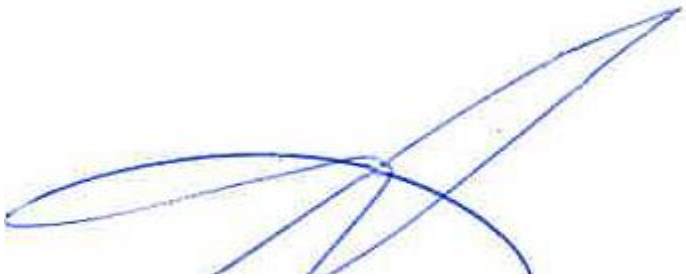
You do not have to answer any questions that you do not wish to. The information you provide will be summarized, in anonymous format, in the body of the final report. At no time will any specific comments be attributed to you and all source documentation will be kept strictly confidential. In addition to submitting my final report to the Canadian Joint Operations Command and Athabasca University, I will also be sharing my research findings with the Department of National Defence and the Canadian Armed Forces.

You are not compelled to participate in this research project. If you do choose to participate, you are free to withdraw at any time without prejudice. Similarly, if you choose not to participate, this information will also be maintained in confidence.

I am available to answer any questions you have about the study. You may contact me at 403-615-9062 and / or sean.brinkema@force.gc.ca.

Thank you for your consideration.

Sincerely,



Major Sean Brinkema
Athabasca University
4225 Crowchild Trail Southwest, Calgary, AB T3E 1T8
Tel: 403-615-9062
E-Mail: sean.brinkema@force.gc.ca.

Appendix G – Survey Questions

Research Objectives

The research objectives are a product of secondary data empirical field and gap analysis and theoretical data review as highlighted in the previous section. Research objectives are categorised as R1a and b (strategic), R2 (Operational), and R3 (Functional):

R1. Sensemaking: Identification of operational contracting responsiveness capability gaps;

R2. Knowledge Creation: Development of viable CRM implementation Courses of Action; and

R3. Decision Making: CRM Terms of Reference (TOR) and Organizational placement and structure.

Strategic Level Qualitative Questions (R1a and R1b)

Strategic level qualitative data will be solicited by means of questionnaire. The questions (Q) are intended to solicit strategic staff and stakeholder input pertaining to logistics contracting capability gaps. The responses are requested to be provided in the form of written statements outlining capability deficiencies and ancillary input related to research objectives R1 and R2:

Q1: In your view, do any operational contracting responsiveness deficiencies exist for domestic and expeditionary operations? If so, please explain.

Q2: In your view, do any operational contracting capability deficiencies exist for domestic and expeditionary operations? If so, please explain.

Q3: What CAF contracting improvements would you recommend?

Q4: Do other militaries and military alliance organizations (e.g. NATO) possess contracting capabilities you wish would be incorporated into CAF contracting abilities? If so, please explain?

Q5: Are you aware of any industry contracting practices that should be integrated into CAF contracting practices? Please elaborate.

Q6: Please elaborate on any other CAF contracting responsiveness, or capability gaps you have identified.

Q7: What deficiencies exist with respect to CAF and industry contracting integration? Please explain.

Q8: In your view, how can CAF contracting be better integrated with the CAF and commercial stakeholders.

Q9: Do you have a vision for CAF contracting integration, if so, please elaborate.

Operational Level Qualitative Data (R2)

Operational level qualitative data will be solicited by means of questionnaire. Contracting responsiveness capability and integration gaps that had been identified by the strategic research audience (R1 and R2), will be presented to the operational level audience with the objective of developing Courses of Action (COAs) available to the CRM. The R1 and R2 gap identifications will be framed within scenarios (Sc) with instructions to the target audience to develop COAs employable to address the gaps:

- Scenario 1 (Sc1): Given the identified contracting capability gaps what IT integration and solutions are available to address the deficiency?

- Scenario 2 (Sc2): Given the identified contracting capability gaps what PSPC and Treasury Board coordination and streamlining strategies can be employed to address the deficiency?
- Scenario 3 (Sc3): Given the identified contracting capability gaps what CAF and DND procedural strategies can be employed?
- Scenario 4 (Sc4): Given the identified contracting capability gaps what allied military and military organization contracting strategies can be employed and or integrated to address the deficiency?
- Scenario 5 (Sc5): What organizational best practices can be employed to address the identified contracting capability gaps?

Results:

Results were copies and pasted directly from the SharePoint Site and are itemised sequentially, in order of responses, as follows:

R1a.

Q1. In your view, do any operational contracting responsiveness deficiencies exist for domestic and expeditionary operations? If so, please explain.

In general, contracting supports operations effectively. It is a vital part of the sustainment of all operations and serves us well, particularly when contracting for less complex items such as food.

A1. The more complex the item or service though, the more cumbersome the process. In cases where it is difficult to obtain multiple bids for the same item or service the case to be made to sole source a contract is too complex and requires too much justification.

Likewise, where a similar item or service might be substituted it should only require a commanders military expertise to justify exclusion of that option.

Q2. In your view, do any operational contracting capability deficiencies exist for domestic and expeditionary operations? If so, please explain.

A2. Smaller units often do not have experts in contracting. This is mitigated through reach back to experts but this extends and complicates the process. The answer lies in simplifying the process and permitting more authority at lower levels, not in yet more training to learn how to navigate the current contracting system.

R1b.

Q4. What CAF contracting improvements would you recommend?

A4. Simplification of the system to permit single source contracting, where in the opinion of a commander no other option will provide a suitable solution.

R2.

Sc 1. Given the limitations CJOC subordinate formations /units experience in terms of contracting authorities, process acumen, and access to contracting solutions, what Information technology (IT) integration and solutions are / could be available to address the deficiencies?

COA1a. More training must be provided prior to military (or civilian) personnel being placed in a position of procurement/contracting authorities.

A contracting SOP must be created for CJOC as a basis for understanding the process, procedures, and legal requirements.

DRMIS is the mandated electronic system to be used for all procurement/contracting requirements, which many people are still not using, even though it has been in place for almost a decade.

My main point is that personnel must be trained and have experience before being put into a position of procurement/contract authority. They also need to understand the limits of individual Delegations of Authority prior to signing any contracting documents to reframe from creating a Confirming Order.

COA 1b. Centralized contracting databases! The current problem set is that we start over every time despite the fact that the GoC/CAF has operated in every country in the world at one point in time. The problem is twofold:

a. Within the CAF, we do not direct contracting information to be in a standardized, accessible location. It is kept on local MS Excel spreadsheets versus being centrally accessible similar to SOAs within Canada.

b. There is no standardization across the GoC for contracting requirements - RCMP, GAC, CBSA, Coast Guard and DND do not synchronize their systems to take advantage of cleared contractors let alone trusted services already rendered.

The MM module within DRMIS is a potential solution however, this only solves the CAF problem and ONLY if a Sup Tech is deployed that can access this information. Moreover, the information is only accessible if the Meta data tags are used properly to indicate country and region.

Sc 2. Given the authority and process complexities involved in contracting for complex, high value goods and services, what PSPC and Treasury Board coordination and streamlining strategies could be proposed or employed to increase process time and efficiency?

COA 2a. There should be one standard for all of DND/CF and government offices to streamline and make it easier to learn and retain the information, then adapt should you move from one government group to another. Then the process will be constant across all groups. Right now every group has their own procedures and processes, but still staying within the legal guidelines.

COA2b. The devolution of authorities MUST be to the TF level. As it currently stands, CAF members will NOT have access to the increased delegations but require reach back to ADM Mat for deployed operations.

Moreover, there are no in-Canada and out-of-Canada contracting processes since the shuttering of PWGSC Koblenz. Koblenz represented a detailed understanding of European and Middle East contracting that was rapid, responsive and flexible. Since this time, the process and protectionism that has been put in place has stifled the flexibility locally, let alone enabling dynamic forecasting of requirements.

Current process dictate the requirement for multiple bids and lowest cost compliance as PSPC regulations do not factor in local security concerns (they will only accept risk to national security) nor the impact to the CAF for a chosen contractor i.e. increased TO&Es to accommodate the selected contractor. The factors and considerations of a local commander are not taken in to consideration.

Sc 3. Given the complexities and authority requirements associated with sole source contracting, what CAF and DND procedural strategies could be proposed or employed to simplify the process?

COA3a. An SOP must be created so people understand their limitation for sole source and government contracting rules and regulations. Basically more training has to be done by the military prior to them working on a sole source contract. Contracting must be fair, open and ethical.

COA 3b. A contracting risk framework that would justify sole sourcing would simplify this process. This framework could include consideration of third party national ownership (i.e. Russian or Chinese), Force Protection risks, counter intelligence risks (ability to clear employees of contractors for access to sites), responsiveness to unstable demand cycles, financial liquidity to sustain fluctuations in demand, etc.

Bottom line, in order for this to work, CAF requires the authority to operate within the guidelines of an environment that is not Canadian.

Sc 4. What allied military and military organization contracting strategies would you see be employed and/or integrated to address the contracting lag and efficiency?

COA4a. Military need more training before them an inserted into a contracting/procurement position, so they totally understand their responsibilities before starting to work on a contract.

COA4b. We need the authority to utilize NATO and allied contracts themselves. NATO regulations dictates the three bid process for low-cost compliance selection; it is inefficient for us to conduct the same contracting process in the same area of operations.

The contracting lag and efficiency is not a contracting strategy issue - it is a lack of responsiveness on the part of ADM Mat personnel who are demanding SOWs for complex procurement versus simple procurement of goods and services that are priced high due to local economic influences. Moreover, their contracts are being written with next to no flexibility for the commander on the ground. I.e. the hotel contract at the OSH in West Africa cannot be amended more than 10% of requirement without going back to Ottawa for them to do the amendment. Most countries do not understand why our contracts are so onerous and bureaucratic.

Sc 5. What organizational best practices can be employed to address the identified contracting capability gaps?

COA5a. People need to be trained and experience so they know and understand their contracting responsibilities. I have seen so many people promoted or put into a contracting/procurement portions that should not be. They just don't understand enough to do the job property.

COA5b. N/A. Our problems are not like those of industry. We do not lack the ability to do environmental scanning; we lack the contracting authority to behave like industry.

If we are allowed to contract like industry, we can put in place performance based contracts with response times that place the onus on the service provider to put in place the flexibility we demand. However, governmental contracting policy prohibits the ability to pay for services not rendered.

Sc 6. What general initiatives and strategies can be employed to address the identified contracting responsiveness and capability gaps?

COA6a. They must take the initiatives to get the training they need to fully understand contracting/procurement and the limitations.

COA6b.

- Centralized databased for local procurement less than $25K.

- Contracting officers trained in FP risk analysis and being able to effectively convey/translate what this means to operational effectiveness. Very few can quantify the risk to enable Comd decisions at higher levels.
- Shared knowledge between theatres of operations to utilized best practices. Within CFJOSG, a Contracting Centre of Excellence has been stood up to ensure shared lessons of local contracting predominantly within the authorized limits i.e. how best to utilized chandler services within an overarching contract.
- Utilization of the principles of a "Prime Contractor' where you pass the risk to a company that can provide multiple services i.e. food delivery and waste disposal.
- Better sharing of data with GAC local embassy staff; they can do the majority of the legwork.
- How to use 'fixers' for low risk employment.

Appendix H – Focus Group Moderator Guidelines

Focus Group Moderator Guide

Tactical (Functional) Level Qualitative Data (R3)
Employed to arrive at decisions related to the CRM's organisational positioning and structure will be derived from the conduct of a focus group. R2 COAs will be presented to the functional group with instructions to develop the terms of reference of the CRM capability. COAs will be introduced sequentially according to the Discussion Guidelines. TORs associated with each COA will be aggregated into a common set of R3 recommendations. This aggregation will represent the set of proposed TORs.

Focus Group Population

R3 - Functional Level Samples: functional spectrum of logistics operations who include a total sample of 17 representing desk officers, managers and department heads of:

- D Maj Proc 8 (sample size – 3);
- J4 Plans (sample size – 2);
- J4 Operations (sample size – 2);
- J4 Logistics Contracts(sample size – 2) ;
- J4 Movements (sample size – 2);
- J6 Communications Operations (sample size – 2);
- J7 Training ; (sample size – 2); and
- J8 Finance Operations (sample size – 2).

Discussion Guideline

The discussion will be recorded to ensure that we have captured and transcribed the responses accurately. Only I will have access to the recoding and it will be destroyed after the report is written.

Do you have any questions for me, before we begin?

1. **Topic Generation** *(50 minutes)*

The following Contracting Responsiveness Courses of Action have been distilled from narrow concepts obtained from a strategic survey that were analysed against a theoretical framework to develop operational scenarios that were in turn employed to produce operational courses of action (COAs 1 through 6). The COAs represent expert solution analysis to a strategic gap assessment. The operational COAs are hereby presented to you in an effort to define practical application strategies associated with the COAs. For each COA, please discuss how the COA objective could be applied functionally, in short, defining of the Terms of Reference of a contracting responsiveness capability. Let's begin

the session by discussing COA 1.

After the responses from each R2 COA are exhausted, please introduce the subsequent scenario.

2. Closing (10 m)

When ending the focus group session please ensure to:

- state closing remarks;
- thank the participants;
- reiterate privacy and confidentiality considerations (refer to the letter of invitation); and
- Distribute DND/CAF contact numbers (refer to the letter of invitation).

3. COAs:

COA 1. GoC Contracting Authority and Autonomy Review. CJOC contracting authority, flexibilities, and autonomy requirements should be empirically quantified and qualified. The assessment should then be compared and contrasted to the contracting thresholds and requirements of OGDs such as the RCMP, GAC, CBSA and the Coast Guard. The aim is to demonstrate to central agencies such as the Treasury Board Secretariat and Treasury Board that increased contracting autonomy is in the interest of National Security and Defence responsiveness.

COA2. Implementation of Mandatory Contracting Training Thresholds and Standardization. With the aim of fostering credibility and professionalizing the CJOC contracting function, the following is indicated:

6. Mandatory contracting training certifications must be accredited to persons commensurate to authorities prior to the occupation of roles and positions;
7. Work experience must also be qualified and then made commensurate to the

level of authority;

8. Efforts should be made to standardise training across OGDs (i.e. RCMP, GAC, CBSA, and Coast Guard);
9. Training in Force Protection (FP) risk analysis; and
10. Persons shall not occupy contracting positions unless training and proficiencies of corporate systems of record, (i.e. Defence Resource Management Information System - DRMIS), can be demonstrated.

COA3. Creation of a Centralized Contracting Database. Currently, contracting information is decentralised among individual spreadsheets. In effort to improve contracting responsiveness, cross departmental and contracting entity synergies must be created. Therefore, efforts must be made to centralise contracting information, such as:

4. Standard Offer Agreements (SOA);
5. contracting SOPs; and
6. domestic and Expeditionary Points of Contact (POC) registry for:
   b. Prime Contractors;
   b. TB Security Requirements Check List (SRCL) cleared Vendors (domestic and expeditionary);
   c. CJOC, CAF, DND, affiliate defence agencies (e.g. NATO, US, European Defence);
   d. OGD and NGO contracting cells and departments;
   e. activation procedures of affiliate defence organization contracting mechanisms (i.e. NATO Support and Procurement Agency [NSPA], and

USA Acquisition and Cross-Servicing Agreement [ACSA]);

f. database of local procurement vendors for less than $25K; and

g. Database and SOP for the use of fixers (low risk contracts).

COA4. Development of a Centralized Contracting Enabling Function. The centralised contracting data must be mobilized in order to effect contracting responsiveness. Suggested methods to mobilised centralised information includes:

1. Maximum leverage of the CJOC contracting centre of excellence;
2. continual sharing of contracting knowledge (i.e. Lessons Identified [LI], Lessons Learned [LL], and After Action Reviews [AAR]) within and between theatres of operation;
3. knowledge sharing, contracting methodology standardization and liaison activities with GAC, Head of Missions (HOM – embassy staff), PSPC, RCMP, and CBSA; and
4. mission based contracting effect analysis of the contracting database, how the centralised database can be configured to support specific theatres of operation.

COA5. Development of a Rapid Contracting Support Framework to Task Force (TF) Commanders (Comds). A framework must be developed that confers of direct support of TF Comds contracting requirements. Contracting challenges vary greatly between missions. A ubiquitous challenge to every TF Comd is the TF Comd's ability to maneuver contracting mechanisms rapidly and flexibly enough to support the mission and to provide for the

security and welfare of the TF contingent (soldiers, OGDs, NGOs, Locals etc.).

COA6. Development of a Contracting Risk Framework. Specifically, a contracting risk framework that enables sole sourcing of third party contractors thereby facilitating access to international vendors. The risk framework is intended to identify and moderate contractor Force Protection risks, counter intelligence risks (ability to clear employees of contractors for access to sites), responsiveness to unstable demand cycles, and assessments of financial liquidity to sustain fluctuations in demand.

Ap**pendix I – Letter of Invitation: CRM Focus Group**

Letter of Invitation, Contracting Responsiveness Model – Focus Group

My name is Major Sean Brinkema and I am conducting research for the Canadian Joint Operations Command (CJOC) under the auspice of the CJOC COS Support and Athabasca University. The purpose of this letter is to ask you to participate in my research project: Canadian Armed Forces and Commercial Logistics Contracting Responsiveness Model - Terms of Reference. The objective of this research is define the Terms of Reference employed to develop a contracting responsiveness model. This research thus far was conducted through a series of surveys, culminating in this focus group, wish is estimated to take 60 minutes of your time.

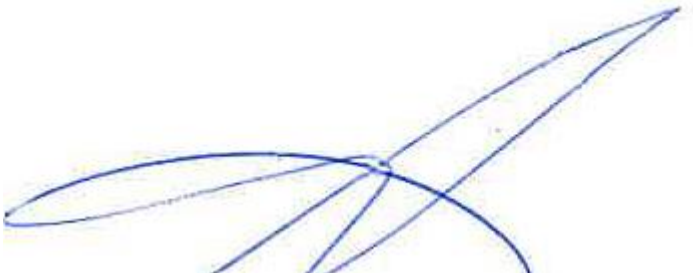
The research has been approved by the DGMPRA Social Science Research Review Board (SSRRB) in accordance with DAOD 5062-0 and 5062-1 the SSRRB approval number is: 1750/18N.

You do not have to answer any questions that you do not wish to. The information you provide will be summarized, in anonymous format, in the body of the final report. At no time will any specific comments be attributed to you and all source documentation will be kept strictly confidential. The final report will be submitted to the Canadian Joint Operations Command and Athabasca University.

You are not compelled to participate in this research project. If you do choose to participate, you are free to withdraw at any time without prejudice. Similarly, if you choose not to participate, this information will also be maintained in confidence. I am available to answer any questions you have about the study. You may contact me at 403-615-9062 and / or sean.brinkema@force.gc.ca.

Thank you for your participation.

Sincerely,



Major Sean Brinkema
Athabasca University
4225 Crowchild Trail Southwest, Calgary, AB T3E 1T8
Tel: 403-615-9062
E-Mail: sean.brinkema@force.gc.ca.
The focus Group moderator will review the discussion guidelines for the following contracting responsiveness COAs:

COA 1. GoC Contracting Authority and Autonomy Review. CJOC contracting authority, flexibilities, and autonomy requirements should be empirically quantified and qualified. The assessment should then be compared and contrasted to the contracting thresholds and requirements of OGDs such as the RCMP, GAC, CBSA and the Coast Guard. The aim is to demonstrate to central agencies such as the Treasury Board Secretariat and Treasury Board that increased contracting autonomy is in the interest of National Security and Defence responsiveness.

COA2. Implementation of Mandatory Contracting Training Thresholds and Standardization. With the aim of fostering credibility and professionalizing the CJOC contracting function, the following is indicated:

11. Mandatory contracting training certifications must be accredited to persons commensurate to authorities prior to the occupation of roles and positions;
12. Work experience must also be qualified and then made commensurate to the level of authority;
13. Efforts should be made to standardise training across OGDs (i.e. RCMP, GAC, CBSA, and Coast Guard);
14. Training in Force Protection (FP) risk analysis; and
15. Persons shall not occupy contracting positions unless training and proficiencies of corporate systems of record, (i.e. Defence Resource Management Information System - DRMIS), can be demonstrated.

COA3. Creation of a Centralized Contracting Database. Currently, contracting information is decentralised among individual spreadsheets. In effort to improve contracting responsiveness, cross departmental and contracting entity synergies must be created. Therefore, efforts must be made to centralise contracting information, such as:

7. Standard Offer Agreements (SOA);
8. contracting SOPs; and
9. domestic and Expeditionary Points of Contact (POC) registry for:
   c. Prime Contractors;
   h. TB Security Requirements Check List (SRCL) cleared Vendors (domestic and expeditionary);

i. CJOC, CAF, DND, affiliate defence agencies (e.g. NATO, US, European Defence);
j. OGD and NGO contracting cells and departments;
k. activation procedures of affiliate defence organization contracting mechanisms (i.e. NATO Support and Procurement Agency [NSPA], and USA Acquisition and Cross-Servicing Agreement [ACSA]);
l. database of local procurement vendors for less than $25K; and
m. database and SOP for the use of fixers (low risk contracts).

COA4. Development of a Centralized Contracting Enabling Function. The centralised contracting data must be mobilized in order to effect contracting responsiveness. Suggested methods to mobilised centralised information includes:

1. Maximum leverage of the CJOC contracting centre of excellence;
2. continual sharing of contracting knowledge (i.e. Lessons Identified [LI], Lessons Learned [LL], and After Action Reviews [AAR]) within and between theatres of operation;
3. knowledge sharing, contracting methodology standardization and liaison activities with GAC, Head of Missions (HOM – embassy staff), PSPC, RCMP, and CBSA; and
4. mission based contracting effect analysis of the contracting database, how the centralised database can be configured to support specific theatres of operation.

COA5. Development of a Rapid Contracting Support Framework to Task Force (TF) Commanders (Comds). A framework must be developed that confers of direct support of TF Comds contracting requirements. Contracting challenges vary greatly between missions. A ubiquitous challenge to every TF Comd is the TF Comd's ability to maneuver contracting mechanisms rapidly and flexibly enough to support the mission and to provide for the security and welfare of the TF contingent (soldiers, OGDs, NGOs, Locals etc.).

COA6. Development of a Contracting Risk Framework. Specifically, a contracting risk framework that enables sole sourcing of third party contractors thereby facilitating access to international vendors. The risk framework is intended to identify and moderate contractor Force Protection risks, counter intelligence risks (ability to clear employees of contractors for access to sites), responsiveness to unstable demand cycles, and assessments of financial liquidity to sustain fluctuations in demand.

Appendix J – CRM Focus Group Record of Discussion

Tue, 06/25 10:07AM 71:52 Minutes

SUMMARY KEYWORDS

contracting, contracts, authorities, support, people, commander, operation, training, issue, headquarters, deployed, operational, officer, task force, centralized, piece, capability, problem, expeditionary, requirement

INTRODUCTION AND ETHICAL REVIEW

Moderator: Okay. So let me just like to preface by telling you all, I appreciate this very much that you're participating. It's been a long road getting here, it took about seven years to get to this point. And cost support finally approved my access for research to see jog. So This is all in hopes of improving some of the responsiveness issues that we've had domestically in expeditionary and some of the contracting gaps that have uncovered and others as well Throughout sitting at various desks throughout the years. So you're welcome to participate, you don't have to, of course, your personal information will be kept private. In fact, this conversation is being recorded, but not by voice is just being transcribed as we go along. So nobody can identify you and identify you by voice in any way. Yeah, and once is transcribed, the original is destroyed. The entire work will then be given to CJOC, senior leadership for their review and see what they want to do with the

project. And when once they approve it, and they're happy with the classification of it, then I'll send it to Athabaskan University. So, thus far based on a literature review, and having solicited strategic directive from the CJOC executive, down to operational commanders and operational level Branch heads, I have devised several colors and these calls are actually devised by them. So, the intent here really, is to define a terms of reference of a centralized contracting capability, within see job that will be able to or could be installed to perform various function that currently CJOC doesn't have.

DISCUSSION OF COA 1: GoC Contracting Authority and Autonomy Review

Moderator: So the first core and the most obvious one that came up was that the contracting authority and autonomy has to be reviewed. So for supported expeditionary and domestic commanders, and also branch in Section heads, within CJOC, more delegated authority has to be assigned. So obviously that goes through Central agencies treasure Board Secretariat and Treasury Board. Also strong, secure engaged, some of those delegations are increased. How do you see that being implemented?

Participant 1: Yeah, I did want to jump right away. Cuz I mean, you're obviously speaking to specifically my lane there. I am, what you're saying. And I would venture to say that this is actually currently the structure that CJOC has adopted. But granted that the delegations of authority themselves aren't there, but the centralized approach to contract and support to the operation. So the operation, as you know, they have their own

build capability. And everything is been sucked back for anything above their do a. So is that kind of the model that you're kind of alluding to there?

Moderator: No, it's more. Command delegations expeditionary are usually 75,000. And although within operations, there is a contracting cell, and there's always reach back to CJOC, but sometimes time zones are an issue. And sometimes the centralized centralization of like a center of excellence of contacts of have direct access to ATM matter, Treasury Board itself is lacking. So the delegations being as they are 75,000 out the door. What if a commander required two to 3 million any required tomorrow? How would you go about providing that?

Participant 1: From my perspective where we need the floor right away from using like airframe within the next 72 hours? Yeah, I don't have an opinion, because definitely go to the image brought a good take of that process. But I can see that our mouths are growing very quickly for like a transport aircraft. ships, maybe. But yeah, yeah, I see, I see where you're going with this. And, you know, maybe I can talk with someone for later on. But if we from Toronto, there's already $10 million. Available true, do you manage to execute on this kind of thing. And if it's an emergency, there's CJOC already asked 2.5 million for deployments of troops. So that like 75 k is the default threshold, which is a variety of special authorities that have been given by Treasury Board to address some not all of the issues that we face, and then don't get me wrong.

Participant 2: I'm not saying that what is currently in place from a central CJOC perspective, addresses gaps. But the flip side to that, and that's a discussion I've had a lot with EDM over the last year in my job, the manager getting into higher threshold, you're also getting into higher problems. Awarding contracts for 5 to 10 million dollar, there's much more scrutiny when it comes to trade agreements when it comes to who you were to people take you to court for that kind of thing. And if you're wanting to do this as an operational headquarter, you have to recreate the mini PSP care within that operational headquarter, And which is great. I mean, if we want to do this without our resources. And when you count the number of times where you need to completely control your destiny, and a contract that it's in that range. I haven't done the metrics. Hopefully you have. But I haven't seen that, as a frequent case. Had it? Generally we handle authority's jurisdiction only. So The Treasury Board has, has dictated the rules and we had our matrix. And that's very jurisdictional and positional. So the way we deal with it, Right now, to put things in that it's available in to the customer's commander, if you will, outside of emergency is we use standing offers. And so there are pre-existing contracted terms. And then the Task Force Commander, provided he's in the right direction can make a call up, which serves as the contract which is only limited by the maximum call up level on the particular sending offers. So for instance, for fuel, I think it's 10 million, isn't it? It wouldn't be specific to the standing offers. But yes, typically based on commodity for and even if you need to go above this SBC, SPC is normally supportive of this. But yes, like you can pre facilities contracts in a variety of ways. And there that I'm being Navy, we have these all over the world. And they're maintained all over the world, kind of like the British used to do back in the days and fail. You provide. To seize and just a word an important you need

to begin with any frequency. And you set up these results at contracts. And we do our equivalent to what the name because specifically for CJOC and CANSOF to cover both Africa and Latin America and Caribbean. I mean, 5000 is really a restriction that exists. Once again, that is jurisdictional, because when the Task Force Commander is somewhere else, his maximum is 400 K. Now I know that's not the 2 million you're trying to get at. But it is really, I think that the nugget that needs to be cracked, is when you're contracting in Canada, for something is going to be deployed overseas in the money exchanges in Canada. How do you deal with the level of authorities that are lower here in Canada? And how do you deal with the trade agreements that crop up like posting it on MERX and things of that nature, that you wouldn't have those restrictions overseas in an operational setting. And arguably, the requirement is for an overseas operational setting, yet the only source is domestic life and all of a sudden the rules of contracting change because you're domestic and you have to wear three sets of handcuffs. Right? Right, right.

Moderator: So I'm getting a pretty clear picture about some of the strategies that can be employed both expeditionary and domestically. If we were to centralize it, to maybe put into place, PS PCs, always covering a range of eventualities or possibilities where the call up thresholds are a lot higher. And then perhaps, as CJOC does have above and beyond the managed pocket, perhaps a PS PC rep embedded within that function within the job.

Participant 3: So it's something that can be done. And we've had that previously, back in the chaos calm days, when we had can cap we actually had PSP here. So it's not, it's not

unheard of, it just hasn't been a requirement of late. But it's definitely doable in there is that office and gun person that the PSPC gets fully funded by the end to not only support deployed operation, They also have a role in sport to a VM that, but there is those revenue dependency agreements that are done between the our departments to ensure that we have dedicated resources to support deployed operations Now, granted, and what you described, for example, like setting up the world with those spending offers and everything like that, Like those are all things that people that work in that field with, like, yes, big thumbs up to that. And for the most part, it's typically a bandwidth issue more than the idea exists. And you're right to push on that, because those are the tools that we have, and we need to implement. But you know, as I've been saying, to Jeff, our contracts for a year now. Yeah, those things take time and effort to get done. And, yeah, That’s, that's, that's a good way for just a hard one to dedicate resources to. Okay. Well,

DISCUSSION OF COA 2: Implementation of Mandatory Contracting Training Thresholds and Standardization

Moderator: Thank you very much. I'll just segue to the second course of action, which is was highly emphasized by D Maj Proc 8, the implementation mandatory contracting training, thresholds and standardization. So the thing is, they would like to see certain training thresholds be achieved before occupying certain positions with within levels of authorities. Another idea they had is to standardize training across the government with RCMP gack, CBS a postcard training enforced protection risk analysis. So, just touching on some of the issues we talked on before is that that flexibility and responsiveness has to

be there. Yeah, and also work experience has to be commensurate to the position. Now, I know there's certain challenges involved in that, because there's not that many contracting officers. And the training isn't as defined in rigorous as Treasury Board and at a map and agencies like that would like to see. And in order to develop that capability in house and CJOC, What are your suggestions?

Participant 1: Can you define it, you're talking about a lack of training, say at the command level, or within the technical contracting level, or folks basically at the technical level.

Moderator: So the commanders always have advisors and technical experts to support any kind of command roll. So what they're more concerned about, and I think what they've actually seen is that there is there seems to be a training and work experience Delta with in some of those roles. For example, of Task Force goes out the door. Sometimes, you know, you're going to the level zero taskers, and somebody goes overseas as the day for contracts, or the task for contact officer, without necessarily having all the prerequisite work experience or training. I think that's sort of what they were alluding to. So if we can centralize that sort of experience and training that there's an immediate reach back. Because sometimes there's time zone differences. And I know, I know, there's PS PC, what used to be in Koblenz and GK, but they also have their work hours, etc. So just to expand that sort of corporate knowledge and to enable function with that corporate knowledge and experience can be propagated.

Participant 1: You know, a mandatory contracting, training, you know, that is in place already.

So we have the even just to get a delegation of authority, you have to have contracting, trade, you know, the green procurement, things like that. There's basic procurement and contracting as well. And now, of course, we have the deployed operational procurement process course. Or, as other people call it a PC, which is a requirement for those who are going to be a contract officer in theater. And I'd help with that they have to come here to conduct a three day training session with Jane for contracts. So there's definitely there's definitely training. But I agree from the work experience perspective, that's where that's where the challenges because everybody can take a test, and everybody can kind of get three or four tries to go on and do the contracting directly trade and get it and pass it eventually.

But when you don't actually have to put it into practice for months afterwards, that's, you know, it's a skill fade. And you are you actually did you even have the skills, you just pass the test, essentially. So the work experiences is definitely a problem. But from me think, from the training perspective, there's quite a bit there. And there are other options, even from an individual perspective, if they choose to go on, because there are other courses as well to that can be can be used to assist to kind of augment your training too.

Participant 2: You keep harping, sorry, not harping, but you kick right back to the you know that the time change the time change, or, you know, when you're on deployed operations, and you know, Canada is working at this hours in Iran deployed operations? Well, we very rarely is a contract put in place in a matter of five hours. It doesn't happen

that often. It's usually a much more extended process sort of thing we have standing offers that we can, you know, action quickly. But most of the time, I think the responsiveness is not necessarily going to say PSPC, but from here on the D major proc seven side, I would guess the D major proc a site as well to be very responsive j for contracts. Also, I don't think we all have blackberries too. So I think from a communication perspective, we're very much aligned and in tuned with the admissions quite often speaking to them over the weekend in the evenings, whatever the case may be. I don't know if that is as much. Maybe you could have said that a few years ago, but I don't think as much now.

Participant 3: Again, I think the training is definitely there. But I can't really speak to like to just by the numbers on what D*** was talking about. Because I had to write a fair amount of papers this year on the development of contracts officers in the in the cast, because that's what we're talking about. And like I'm with E***, in the sense that there is tons of training available and easily available. The knowledge of that availability, isn't there. No, that is something that we need to do better. And we also need to be able to align that with what the big development stream is. So that's one thing and I'm pretty sure that's where do you manage Rocky is kind of going in their view of what training should. There's a couple of issues though, and like that are hard to address. The first one is that there is no employment stream. For contracts officers and the CAF, we are one and done for the most part, you going operations, you trained for it, you deploy, you do the work, and you will likely never be employed as a contracts officer ever again, there's a few jobs, I can say for a contract, you're all welcome to competently. But outside of it, there are

very, very few jobs that is expected. Some jobs have contract responsibilities, but to say your contracts officer, that's pretty much the end of it. So we need to work with the force generators to make sure that the same way a supply officer a fan officer a transport officer movements officer foods officer gets a developmental stream to learn in Canada before you go out and get your you know, break things when you're in garrison has faith. As opposed to do that when you're on operations, then you deploy and then you come back. And then you can reap the rewards of that experience, where years from getting that done. But that would be a good place to talk about it in your favor. And then following this, and only like as a stream that qualification that's full of you. And it's like carrier planning side balls, again, a person this is one o'clock contract. But the next contract job and I think this is how you're going to develop your people. And that will manage carrier, and it's going to devalue is that we're going to have more effective ways of writing our contracts.

Participant 4: Following the rules, what's the right rank level for you?

So in my, in my experience, there's a lot of senior and CEOs in the Navy, that are of a supply discipline where we kind of role in this contracting piece. And they have a lot of experience in contracting because they're generally the ones they start out as a as a junior and CME at the ones charged with responsibility of actually going out and making the purchase with a credit card. So before they do that they have a certain level of threshold knowledge that they have to pass on contracting. So they have those three courses, and especially they have to take that to the lane it has alluded to. So I would argue that there's a lot of senior NCOs, in the Navy, for instance, that would be the right level of

experience and development of maybe is where we would, we would want to consider that it's not necessarily an officer strategy. And then in the Navy, we've experimented, I can only speak to the name experience, because that's where I come from every one of the naval Log Os' train as a contracting officer kind of as a tech Colonel mentioned, and have to pass a deployed contracting course. And then one of the things they do with their next career move is to go into logistics officer where they're responsible for the contracting on board. Theoretically, that should give them a test. But the problem is, as E*** mentioned, When you get the training, you don't necessarily not necessarily ready to do the job. So The challenge is going to be how you right size it in, provide the work experience that gives you the comfort level, so that you can execute the responsibilities because instantly As a two ringer in the contract, and you could be making million dollar sort of decisions, if you will, you wouldn't be necessarily making a contracting decision. But you wouldn't be responsible for executing those decisions and having million dollar impact. And if you're too scared of the job, because you haven't done it before, then you'd have to have some way to build in that experience. And they are in charge.

Moderator: Okay, so what I'm hearing is a couple of things. One is to make the contracting capability more like finance, then it actually becomes a vocational stream. I know that based on the size of our force and everything that might not be realistic, but it's something that we certainly recommend, Then I've heard from basically unanimously that training is one thing, experience is another thing, It just the way we're set up with that function. So perhaps have certain vocational threshold experienced threshold, and then

analyze and categorize those authorities, relate them to work experience and the level of training and education, According to rank and authorities.

Would there be any value and what was suggested to do cross training or at least have to have some sort of liaison capability with other agencies such as GAC, RCMP.

Participant 4: My experience with this with a PR team in Afghanistan, where we did as GAC with us doing their thing, and, and we were doing our thing. They're not looking at contracting at all, in the same way that we do like, for most agencies, contracting is a program delivery, in and of itself, like they put a contract in place, because a dam is going to be built with that contract. And that's the delivery of their program, The way we look at contracting, we look at contracting as a sustainment piece that as impact on the value space, but primarily as a sustained piece. Okay. So, yes, you know, you, especially when you're in a whole of government approach, you coordinate together you talk, but because the outcome that you seek is very different in its nature, not so much And so what you get, but the why you get it, That kind of makes it difficult to want to operate with the same processes, I guess, for lack of a better term. And I think that the subtle nuances between the way that departments do work, in contracting make a difference in terms of the authorities, right? To try to have somebody know it all. And the subtle nuances can be, you know, you could assign one department the responsibility to do the do the contracting, for instance. And then it's a much easier minefield to navigate, if you will, you're not creating three or four levels of complexity, which just make the problem exponentially more difficult. And just really just have the one problems face their own

problems face to do it. Because when you bring in slightly different rules and contracting like for the RCMP, they have these restrictions, and DMD has these restrictions to have to navigate, folks, I think, is a bridge to front. Okay.

Participant 3: Yeah, I would agree with that coordination is definitely one year to hold up with government environments, for sure. But integration, in the same way, we don't do it with other countries, for obvious reasons that we don't even have the same law system. Like it would be very difficult to, to want to integrate more. One more thing to add about, about the training and such to is, I think we have to keep remembering to that this teaching community, you know, wherever, in the Government of Canada, It hasn't been that long, that they have just started to really kind of professionalize what they're doing as well to, Up until, you know, probably the past seven years or so, They did not have the kind of courses or the kind of like now they're at a point where they're actually trying to almost develop a professional designation, I guess, they did not have that. And that's, that's really recent, and that, and what they do, doesn’t always transfer perfectly over into our world either. And that that's coming from having worked in aerospace procurement, where, you know, I had PG fours to, they could write a task authorization, but if I brought them down into G***’s desk and said, Okay, I need you to write me up a contract using all these back clauses, they wouldn't necessarily be able to completely transfer those skills. Right away, either the state would understand the policies may have the background, but it's not as, as quick and simple as we may tend to think it is.

DISCUSSION OF COA 3: Creation of a centralized contracting database.

Moderator: Thank you very much no segue to the third COA, which is the creation of a centralized contracting database. There's recently been put together a contract a center of excellence within CJOC. But the feeling is, from operational commanders that sort of the same setup as for example, at move Ops, where you could call in, and somebody could field very standard, as always, that could be available for the capability you're looking at contracting, so, some of them are quite obscure, especially when dealing in the international realm, domestic and expeditionary points of contracts for prime contractor, Treasury Board security requirement checklist people that are experts at that affiliate agencies, perhaps liaising with them to see if there's an SOA that they're employing that we're not aware of that that could help us in a pinch, or in NGO contracting cells to see what's out there to reduce perhaps the time and searching for vendors, depending on where the theater operation is. And then activation procedures for affiliate defense organizations, such as any NSPA, or AXA, which is also fairly specialized, and database of local procurement vendors, based on wherever we have an operation ongoing. So do you feel that this would be a valuable capability within CG headquarters? And if so? How would you create it? And where would it be located? In terms of staff authorities? Would it be directly at the core support level? Under Jay, for? How do you envision that?

Participant 1: Sorry, I, I'm not shy. Again, speaking. What you described? I would say one short answer is yes, it would be valuable. But there's a big asterisk by that. And the asterisk comes from the cost benefit analysis of the expertise that you're describing. And the resources that we have here at CJOC for one little over 200, strong here with 20

people we have, let's say 215, right. And if you look at the support, part of that, it's much smaller. And then if you get into a subset of people that are engaging, directly engaged in contracting, and even those that are related to contracting, so like myself, and the most people around the table, I would say are related to contracting, but not necessarily directly engaged in contracting, There's a very, very small subset of expertise or so to Sorry, sorry, set of resources to feature wise. So Yes, it would be nice to have all those sorts of things, a database that you could pull up in real time, find out who's who in the zoo that can provide this kind of grommet in that car, And then how you go about paying them, That would be nice, but the level of resources, it would have to be applied to that problem in order to maintain that even just to establish it, let alone maintain it is valid two years down the road is astronomical. I think that the way to go and that would be more of a just in time approach and look for private contractors that already exists. Back on naval experience, there’s contractors that want to do this sort of thing all over the world. Wherever there's a seaport there's people that do this, wherever you see important, usually an airport nearby. And there's usually people willing to sell their expertise. And I would suggest that the rather than trying to bring it in house, It would be maybe better to look at how best to tweak our systems in order to have access to that information. Within is unfettered by contract and regulations as content as federal by contracting regulations. So you get somebody on the ground somewhere without necessarily violating an authority. But you could do some informational purchasing before you actually contract. Participant 2: Okay, it certainly will start from the move shop. One thing that we see more and more as the service exchange, Yes, we are, as the commander alluded to, we are connected with, you know, he makes property contracts, and stuff. But service

exchange is becoming more and more of an option for us, for example, an ATARIS is a new program that we've signed on, Untitled There's 20 countries hold on mistaken. And there see us as well for ground transportation. So there's no money exchanged, but it's becoming popular among the countries are involved. It's just a matter of exchanging points for the on a point system or whatever the means of payment is, but in one can be transferred to the other. So it's just a matter of, you know, coordinating with the MCC, and the assigned countries to that are called upon to assess.

Participant 3: That's a good point. And that's kind of in line of what I wanted to bring. So when we're talking about the center of excellence, to support operation, I think we have to look at what is core to what we provide, and what can we buy somewhere else, For example, this exchange of services. That's why they have experts in Agreements for move. That's why D**** exists in J4 for contracts. Because this is score, this is mill to mill relations. And you want to have people in the in the in the jock that does that relationship work across the world to make sure we can do those exchange of goods and services with our partners and allies. So that that's a good example of a thing that you build within the headquarter because nobody else will do that for you. I can't contract out my ability to use AXA with the US the things that we can get out of other agencies, for example, you know, you have an intellectual property issue. On a theater contract, there is no reason for me in J4 for contracts to IP experts. But I do know where to find them the live in the MVP and the live in CF LA. And I think the expertise that you're describing in a center of excellence, is to be able to leverage all those assets in a quick manner to support the issues that theatre have. And right, I think the issue we've had over the years

is that we are not very good at keeping track of who does what, and we need to be better at it. But there's so much facility resources within the federal government that we can leverage. And then when it comes to creating source Lift, outside of Canada, so much and can be gathered from a few of those vendors, I know do for move as a contractor that goes out and find ports and things services. when they need it, we have the DFS, by setting offers that at the other day, we used in Africa to find a you know, people who sell houses, Real Estate realtor, Like you get, you can do all these things with very minimal stuff, As long as you out the information. And that's the piece that we're building. So this database you're talking about, although I'm not necessarily seeing a database of vendors, But I definitely see for us internally to support operation, I call it those points of contact being gathered and maintained by the staff and the CMS as well too, Right. So every contract that's raised goes into the CMS and people, the people who do know how to use EDM as well can draw out that information. You know, for most people who are doing contracting, potentially, it's just a matter of, you know, but knowledge and putting in the information. But if you want to find out what's happening in there, there's experts in to ramp up that can pull up pretty much anything you required through CDs. But that is kind of almost that centralized spreadsheet you would talk about in a different format.

Moderator: Okay, so what I'm getting is to, to create a functional, centralized contract and baby databases, leveraging prime contractors to greater extent to have informational sort of superiority, then we would have also a lot more relevant based on the theater operation liaison and perhaps becoming a little better at using CMS, which is a great database to draw some other information from. Yeah, but generally speaking, in order to administrate

maintain, and control database, as such, would be a little bit too taxing on the current organizational structure of CJOC.

Participant 3: I think what you're talking about is information sharing. Yes, right. Like when it goes down service, I always go back to my marketing days and Business School, you're never selling a product or selling a service. And in this, we need to make sure that we have the information that we need available to us at the right time. So CMS is one source of that.

That information sharing. But like CJOC is currently going through the throes of trying to figure out what the differences between Information Technology, what it was the new it where this basically is. Right? Trying to figure out what factors are or what data points that CMS for instance, or what data points that the MLS representative in Decker has are going to be relevant years down the road and making sure we track that somewhere where years down the road, we're going to have it when we need it to.

Participant 4: analytics and, the piece here on that I had a great, brilliant idea, or almost brilliant. So it couldn't have been really, really about I get the information. That the challenge Oh, yeah, I was gonna say, when I had conversations with J*** and was on for 10 on managing authorities, or somebody in the task force with contracting questions, or somebody in the headquarters of contracting questions. I'm done. I don't know the answer half the time. They don't know what they're looking for. And it’s always awkward and uncomfortable, which goes to the challenge really being back to the piece that we have, we need to figure out how to centralize that information piece as opposed to and most of

the pieces, are there just a matter of pulling it into the right. ATMs compatible with all of our other information systems here that we have in the headquarters. Can someone draw a report from CMS? Like they would in Excel? Know, they probably So Yes, it's probably there. But the people that need it on the ground, in Dakar or in anywhere that we happen to be deployed? No, I would say that those people don't actually know because I never had to do it. And I would like to because it's like that triggered something in my head too. So we also have to be prudent into what we put on the shoulder of the deployed contracts, awesome. Because the person is the car probably doesn't need to take into all of them. But they definitely need someone that has the time and expertise to do that digging for them and then present them with their ready choose solution. Because I mean, a few people around this table I know as the blab deployed, supporting, contracting or doing contracting, and you're busy enough as it is managing that process and the operation. If you can offload some of that longer term thinking to a higher ed or I'm not saying you should do it at all times, but it's probably a welcome thing on the ground. Okay.

DISCUSSION OF COA4: Development of a Centralized Contracting Enabling Function

Moderator. Thank you very much. So I'm just to shift now we reviewed contracting authorities and autonomy. We look at the training requirement and experience thresholds for certain positions, both being deployed and within the CJOC headquarters. And then creation of a centralized contracting database that would leverage myriad nodes of information and centralize them into one point where expeditionary contracts officers or

commanders could reach back to and, and get, get the information they're looking for very quickly. So that sort of culminates into what your ideas would be in the development of a centralized, contracting, enabling function. So If you were to take everything together, we've, we've discussed so far, The feeling is of, of the people that have already participated in this study, is that if we could centralize all of that, and there will be a central administrative and managerial function that would tie everything together the whole authorities, the whole training, the whole Knowledge Center of Excellence, understanding that there would be some HR challenges involved in that and they are already those capabilities are inherent within see job but disparate to spread. Do you think that is a capability should be developed? And if so, where should it be within CJOC? Should it be with CJ headquarters? And how would you go about assembling that centralization?

Participant 4: So the premise is we're going to centralize the training, authority and delivery of information capability within inject into and you're asking where we should have in whether it's in HQ proper, CJOC HQ or elsewhere, is that correct.

Moderator: That's correct. And where would you draw from? I mean, obviously, I think this is a project and the project manager would have to look at it. And I think people would need to be hired and maybe some p wise need to be taken from somewhere else, and etc. But in terms of the terms of reference of this, the structure and the administration management of it, how would you go about creating something like this?

Participant 4: Can I ask a question somebody else around the table? What How do you feel when you are asking me what an authority question I come back? And I'd say, you know, it's a Treasury Board role, or it's a development department level rules? To be honest, frustrating, Yes or No, they came to me. So hate the person delivers the message is nobody, I'm going somewhere with it.

Participant 3: I know, I know. And I think I know where you're going with this as well, like, there's a lot of constraints on this. But to try and kick this, to where Sean trying together, I think he is, there's actually two issues that you're trying to tackle here. There's one providing more effective support to operations. And that ties to authority buys to Information Management ties to information sharing. The second piece is the professionalization of contracts officer, uniformed contracts officers, both in the deployed setting, and in the ones that do provide that information. I think, one space where see this can play, because this is our core business. Supporting operations, this is the part of the delivering the operational excellence that the boss wants to do. And therefore the tool should be in different contracts, or in a function of Ed support somewhere and CJOC HQ to provide because this is the enabler to all the deployed task forces. I have a little bit more of an issue when it comes to training is training management, delivery and assessment and then developing the experience, because we tend to de link The force generators responsibility, which is to get the truth in a ready state to be employed on those operations are to be deployed to dare to fire, you know, to grow them in the Army, Navy Air Force to then employ them and operational at headquarters. So that's, that's where the farm is to, to grow these contracts officer. And as much as I would love to say,

give me the ball, I want the ball. I think this part needs to be looked at in the same way we look at the development of other supporting officers. You aren't doing it jack should have that for sure is your responsibility or they should not should not. This is this is absolutely and we just want, We just want the fully formed contracting, to work your crime, he can tell you what it is that they're going to do, right and you need to train them to be able to get anywhere violent agreement around the table. Yeah.
As much as I would want the ball to training is not something we need to get into but the support pieces. And To be fair, like this support piece, for example, where the one speaking 3ds DBS when it comes to either delegations of authorities are considered for contracting for the department. So it's already the mouthpiece for all these things, all these initiatives, with Treasury reviews, contracting policy, which he just we issue,

Participant 4: After like 75 years of review, were the one speaking on behalf of the command. So this is not a big change. It's more to, you know, give us the authorities to actually execute on it with the understanding that you know, with greater authorities come greater problems. Okay, so what I'm getting is that that centralization has already occurred or is already happening to satisfactory level is just the authorities commensurate with what you're being required to support expeditionary and domestically needs to change, they need to be augmented.

Participant 3: By the way I would present this as right now, when we brief outgoing contracts officers, we tell them, you got the biggest up on the block, you cannot call commander see jobs a three star general to help you because he doesn't have a bigger

stick than YouTube. And, and that's that is an issue that is really, really hard to, to communicate, because we tend to associate rank with higher authorities, which in the case contracting is not actually the case. The flip side to that is I don't think that you need these contracting authorities within CJOC, for seeing job to be able to leverage them. The fact that we have co located with us at ADM(Mat), both on the move side and the general support side, and with the responsiveness levels that they can provide. And yes, we always ask them to do more and faster and bigger. But they try really hard to achieve it. I honestly don't think that we would do that much better if we had those authorities to ourselves.

DISCUSSION OF COA5: Development of a Rapid Contracting Support Framework to Task Force (TF) Commanders (Comds).

Moderator: I'd like to transition now, to the fifth speaking point, which is there, there is a feeling out there that frameworks need to be established. So basically, in contracts be sort of, like rules of engagement. So one of them was the development of a rapid contracting support framework to task forces. That means, once a mission has been identified, Contracts officers and finance officers and experienced CSS officers look at it, And basically analyze how this task force is to be supported. From a contracting perspective, and theatre opening and initiation and all that, obviously, there's different stages to task force establishment. But there's a feeling that this needs to be captured, and it needs to be systematized and not just Task Force gets pushed out the door, and then we'll deal with it when they start doing their business. Do you support the development of contracting

frameworks prior to launching a task force? And if you do, who would be around the table to design that framework?

Participant 4: The framework is like a nice to have, but I think it's about 20 or 30 years out of date. In this day and age all need rules of engagement. And we all need to know what the fire are. But the flash to bang on a task force being on the ground is often the amount of time that takes it off the term by the political side. And the operation side here and headquarters, and lower on down CJOC and even the force generators are handcuffed by the politicians making a timely decision. And the politicians don't work to our speed. And they are masters. And we just have to pitter patter and get out or with whatever they give us. And that's the way of being in the military. So I'm not complaining with the politicians. But the reality is, having said that, with no authorities until that CDSID is signed, which doesn't get signed until the politicians negotiate with the UN or whoever is the one asking for the delivery of effect somewhere in the world. Until that CDs, ideas massage and worded and goes through the SJS and the CDS, and all that other churn at ADM(Fin). And there isn't really time for us to then take that, and have a tabletop sort of planning session before we do an OPG, here at headquarters. So and I think what you're trying to get at is the idea of establishing all the can so that as soon as the fit inside, we all know what to do. That's a good idea. If it’s generally speaking, but it can't be mission specific, is no time.

So like, Task Force x goes out the door, these are the ways that exists to support this, these are the boys, we need to push through the system rapidly in order to support the

deltas. What you're saying. So this is essentially what Mission Support planning is. So there's going to be and again, like I don't want to insult you, like I know you've done all this. But essentially, we get a feel somewhere, somehow that there's going to be an operation that's going to get out the door. And we get a record out as soon as we can as early as we can. And everybody gets thinking about how are we going to sustain this thing, including the contracts planners, like there's a sell into four contracts, that's option plans that does specifically that now good DRF destiny, You know, something you can read in there for years. But the reality is this, this is actually happening. We're dependent on the timeline. And we're dependent on also the decision as to what that force is going to be. And The other thing that is also a factor that often you don't realize until you get there is the ability of the economy to support what you thought it could that we like you we still have issues in Ukraine, for example, with that, Based on some currency issues. So they're tough nut to crack. And, again, like when you want to provide contractors support, you have to take the good with the bad, if you're not willing to take the bad that comes with it, then you deploy a military solution.

Participant 3: I just want to add one other thing, one of the things that we do have that, in my personal opinion, we are not using to the full effect is our operational support that we have located in various locations around the world. But how we use those and the authorities that they are given could be if we could maximize those, we could definitely be able to support not necessarily in that country, potentially, but they could potentially be looking forward to help in the region perhaps.

Moderator: But unfortunately, because of the, you know, the way we are structured and the way again, there's delegations of authorities, especially that kind of binds us a little bit more to the force protection teams, for example, I was at the hub at the Euro hub for a number of years. And the first protection teams will do continue Iraqis going out into where we could potentially be and they do the threat assessments from there, if we had something like that, A team dedicated have to I know it's HR dependent.

Participant 1: again, to look to see what the host nation could support who's who, vendor wise, because more often than not, we have to be sensitive to the security requirements, because we can't just do business with anybody anywhere. So those need to be vetted. And that's that goes hand in hand with the forest protection team. So Yeah, that's a great idea. We're going to head down there, from a layman perspective.

Participant 4: Given that I'm a non-contractor, I'll jump into that role for a minute. The operational support hubs are great ideas, they're not being executed properly. The third associated generally, and your experience in Europe is different. But generally, they're associated with a specific mission. And the designed intent behind them wasn't that they're bastardized and hijacked because of budgetary reasons. And as the guy and responsible with the budget, I might be the face of the problem here. But the reality on the ground is there, they're tucked underneath a mission. And then they're not able to do support to multiple missions, which is what they're designed. The idea operational support hub is supposed to provide mission support to multiple nations. And they're just not able to do that because of the fact that they're hijacked for fiscal reasons, and not

operational reasons. So right now, we're, we're arguing with that here in the headquarters. And the, again, the fiscal restraints are likely going to win the day. Bam, again, call them on tap for the authority piece, which is the durability, they have no effing budget, and therefore no resources. Because the way that we fund things in this department is put it under OFA. But OFA has to be tied to a specific mission. So if they want to, if they want access to money, they have to have it under a certain sort of certain corporate fund. But when they go into that corporate fund, it has to be under a specific mission. And so they're no longer able to spend money to support multiple missions. It's like, structural gridlock created designed gridlock is what it is.

Yeah, it's, it's frustrating. Other we support a number of missions. But yeah, it's the budget, it’s the resources that are available. Fault. Yes.

DISCSUSSION OF COA6. Development of a Contracting Risk Framework.

Moderator: I'm very clear on where to go forward with that. And then the final one, and it’s associated with that, and sort of alluded to it already is the development of contracting risk frameworks. So depending on where we are, and where we're going, I already mentioned the force protection aspect to analyze security risks of certain vendors. But also, And this is sort of a ubiquitous issue that I got from most of the respondents is a risk framework that addresses sole source contracting, If the commander on the ground or CJOC needs to, It is felt that the expertise and the command authorities with inherent and

given positions should be enough for Treasury Board and PSPC, in order for them to make those decisions.

Participant 3: So there is some frustration out there that they need to play the game, instead of just saying, this is our perfect guy, this is what we want to go with. And is this company will support us in the ways that we want to, and we need to get that done now. Amen to that. Sure. I nobody can be against virtue, wherever I can, you still can, but nobody else on me. So I fully accept that we empower those commanders with our life and death over people. And then they can't pick a contractor. That sounds like a stupid thing. And to a certain extent, Yeah, There's a case to be made for. Now, to be perfectly honest here, because I've been dishonest this whole time about this one, I'll be honest. I'm joking. Commanders can make that determination. You can hit you, I'm going to explain. The one of the reason for sole sourcing is that there is absolute only one contractor that can do to work in the manner that the work is expected to be done. And that's, you know, if that determination is made on the ground by the commander, then yes, you can totally sole source that way. The caveat that is with this, we also need the delegations of authority was soul sourcing. Very, very, very small because the government that said, you will compete. That's the default setting. So Yes, we give you authority to sole source and every commander that can make the determination that this contractor is the only one that can provide the goods or services in the matter, you need to be provided, like the whole kit and caboodle that just I need gizmos, and gizmos, needs to be that security. And really vetting has to be part of that try these resistance to be to support my whole operational plan. You can make that determination. But then instead of adding like 500 k

theater, you're down to like 75 k 25 k. so that you can do so. So is that what was coming out? Yeah, there was just a general frustration, it wasn't just from one source was several sources.

Participant 2: That frustration comes from and don't take this word the wrong way, because people use it the wrong way. But ignorance, ignorance of the reality is to what the lieutenant colonel just said, is completely true, the ability to control source is already there. The issue is technical expertise resonant with the Task Force Commander on the ground In order to actually why we know that he can do it, and to have the actually identified the real requirement correctly. And so if he entered into a sole source contract the ends up getting what he wants, isn't what he or she actually needed. And the issue that I find air is quite often, we end up arguing back and forth about something like this … REDACTED.

Participant 4: And then of course, back to headquarters, the budget guy that was convinced on this and the HR back at CJOC wasn't technically up to speed enough in order to provide the proper vetting here at headquarters, it would say I've had time to send this off to the six here and, or nationally. And they say that these won't actually be able to, they won't be able to use the frequencies that they want to be able to use because of the environment they're in.

Participant 3: You know, as much as we think that everybody is doing the right thing for the right reason. There are people who are just going to do things the way they want to do it. And they're not going to follow policy because they don't want to follow policy,

whether we're being directed to go to a specific venue for a specific event that, yes, if we can do it within our delegation of authority, but that isn't necessarily a sole source contract, When there's all kinds of other venues in the city of Ottawa that can do that. No, it's not truly a sole source contract. So there are other things that are happening in the background, Sometimes, I can give you a few examples of times where people have come to me and said, there's one and this this is like just last week, there's only one provider that can do this for us. And it's very simple Google search, Doc shit simple. And I'm really bad on computers, by the way, has come up with five different sources. And nobody, whether nobody bothered to take the five seconds that I took, or nobody wanted to do it. Or perhaps there were other, you know, other factors involved that said, No, we can't use it. And that's fine. And that's why we have to answer those questions, but we put in the full service requirements. But quite often people will just say, No, this is the sole source for the point that I think we're both now trying to make it full source isn't necessarily a problem. And everybody has a reputation that doesn't deserve. Everybody points to it as the scapegoat for why something didn't work. Most of these people that are pointing to it as a scapegoat for why it didn't work don't have the level of expertise that they need to in order to be saying what the real problem is. And at the end of the day, like government has decided that competition is authentic. And as much as a military operation, we would want to say it's different. It is a government operation. And, you know, we can make justification for sole source of where the justification is. And we do. There's a good example of one camp in REDACTED that is fantastically sole source and creates all kinds of issues that we wouldn't want it to be so source and yet it is. So that, like, I, I get a feeling that the people who gave those answers are maybe

misunderstanding, The ability for a commander to sole source, versus the ability to truly define the requirements, and obtain only services from contractors that would be able to fully answered a requirement. And I'm just going to expand a bit on that. And I know you live that, because you've done the contracting work for a bit. You know, people come in, they want to rent the truck, they don't want to rent the truck, and they want to rent the truck that will also provide the maintenance service. But that will also provide money to a certain area of the economy that you want to develop, that will also have access to specific camps that you want to be in, and so on, and so forth. So the problem we're facing often is we don't spend the time upfront, fully defining the record, like the example that bill was bringing about the radio, we don't have the time, we want to do it fast, we saw something in a magazine that we think is awfully cool, and sound like it would solve our problem. But the real solution to this. And I would argue that if you want to me about contracting capability and operation, it's not my more contracting capability that you need. It's more technical writing capability that you need, what you need to be able to develop those four requirements, and then competing, it is not going to be an issue. Because the only people who can be compliant to what you want to do are the people who can fully address this. Unless it's a contracting officer telling you that soul sourcing is a problem, take it with a grain of salt.

CONCULDING COMMENTS

Moderator: All right. So that concludes all of the identify the issues that will result in two of the research thus far, I will take this transcript, categorize them under those issues.

And that will then create the terms of reference to identify some of the responsive contract and responsive gaps that we've seen over the time of this study. If you'd like to be included in the results, I can certainly send them to you when they're done. And but know that everything that you've said is confidential, no names will be mentioned and no positions will be identified. I'd like to thank you all very much for your very valuable time. I know how busy replaces and, and I truly appreciate it. Are there any final concerns or anything you'd like me to put it in my report? I just like to be included in your in your responses when you have them. Okay, E***.