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UNITED STATES MARINE CORPS GROUND SUPPLY CHAIN MANAGEMENT: FACT OR FICTION

A Seminar Paper

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ABSTRACT

The United States Marine Corps' (USMC) Ground Supply Officer training and doctrine lags behind commercial industry because it focuses on logistics instead of Supply Chain Management. The Marine Corps' fascination with logistics is epitomized in Fleet Admiral E.J. King's (1946) now famous quote to a staff officer during World War II, "I don't know what the hell this 'logistics' is that Marshall is always talking about, but I want some of it." The Marine Corps' fascination with logistics has pigeonholed the Ground Supply Officer's job into a sub-function of logistics acting as a purchasing and accountability officer rather than a Supply Chain Manager. Industry has made strides to develop Supply Chain Management knowledge, responsibilities, and practices in the last twenty years. Near peer adversaries like China have developed a National and Global Military and Economic strategy based off of a Supply Chain Strategy e.g.: The Maritime Silk Road. While the world recognizes implementing Supply Chain Management practices and developing Supply Chain professionals as necessary to stay viable in an increasingly competitive global economy, the Marine Corps has relegated their Ground Supply Officers to consumer level action officers managing basic purchasing and property accountability functions without a true understanding of how Supply Chain principles can be used to improve their unit or the Marine Corps as a whole.

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INTRODUCTION

Marine Corps Ground Supply Officers are not taught the principles of Supply Chain management to execute their duties. They are taught the tactical level functions necessary to manage a Consumer Level Supply Account and budget of a Marine Battalion. A lack of investment in the Supply Officer community creates an Officer Corps that fails to value the depth and intricacies of Supply Chain management, builds a misconception of how an efficient supply chain works, and decreases the service's ability to effect change from the bottom up by applying supply chain principles to processes and policies. Furthermore, few officers can explain the Marine Corps' Supply Chain through the lens of commercial supply chains.

The purpose of this paper is to draw contrasts and comparisons between the Marine Corps Supply Chain and Commercial Supply Chains in order to best define the Marine Corps' Supply Chain, discuss the culture of working within the Supply Chain, and determine if integrating supply chain management principles into Supply Officer development would benefit the Marine Corps.

The significance of presenting a different paradigm of how the Marine Corps views Supply Chain, evaluates its supply chain, and trains its Supply Officers will enable the military to design more agile supply chains and refine current policies and procedures from the bottom up. Adopting a new paradigm of Supply Chain Management will build an operationally savvy supply officer community, which can bring current business practices to current operations rather than defaulting to decade old supply chain practices from the "last war".

LITERATURE REVIEW AND DISCUSSION

The review of literature for this paper covered Marine Corps Orders, Publications and Policies, Commercial Supply Chain Literature, and various articles to define the peculiarities of the Marine Corps Supply Chain, Leadership, Structure, and evaluation criteria, as well as compare the military Supply Chain to commercial practices. The literature review reveals the limitations of the Marine Corps Ground Supply Chain.

In order to define the nature of a supply chain, the organization being supported must be described and understood. Literature defining the United States Marine Corps is found in Congressional Law. (10 United States Code sub-section 5063) This code defines the organization as a Service organization:

> The Marine Corps, within the Department of the Navy, shall be so organized as to include not less than three combat divisions and three air wings, and such other land combat, aviation, and other services as may be organic therein. The Marine Corps shall be organized, trained, and equipped to provide fleet marine forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign. In addition, the Marine Corps shall provide detachments and organizations for service on armed vessels of the Navy, shall provide security detachments for the protection of naval property at naval stations and bases, and shall perform such other duties as the President may direct.
>
> The Marine Corps shall develop, in coordination with the Army and the Air Force, those phases of amphibious operations that pertain to the tactics, technique, and equipment

used by landing forces. The Marine Corps is responsible, in accordance with integrated joint mobilization plans, for the expansion of peacetime components of the Marine Corps to meet the needs of war.

Established as a service, the organization of the Marine Corps is defined in 'MCRP 5-12D Organization of the United States Marine Corps'. Marine Corps manning levels have grown and shrunk based on the desire of the external customer to prosecute wars and be prepared for wars. The current structure of the Marine Corps is designed to support approximately 186,000 Marines around the globe, from three Marine Expeditionary Forces, and a supporting establishment made up of training commands and support commands. A single Marine Expeditionary Force is made up of an Air Wing, a Marine Logistics Group (MLG), and a Division. The Division and MLG are made up of Regiments, which are made up of Battalions. The Battalion is the most significant level of the organization when it comes to Commander's influence on the Ground Supply Chain. The Battalion Commander is the first level of command where the commander has a staff that is organized across functions that plan, support, and execute the training, exercises, and operations, which the Battalion's forces (the internal customer) participate in. The Battalion Commander's staff is comprised of Administration, Intelligence, Operations, Logistics, and Communication Officers. The officer in charge of each is considered a Primary Officer and each Primary Officer has subordinate staffs to execute sub-functions. For example, the Logistics Officer oversees six functional areas, which are supply, maintenance, transportation, general engineering, health services, and other services. Other services include legal, food, disbursing, postal, billeting, religious, mortuary, and morale and recreation services (Marine Corps Doctrinal Publication 4, Logistics).

The Battalion Commander also has a number of special staff officers who report directly to him. Special staff officers handle functions outside the purview of the Primary Staff officers. Typically, the special staff is comprised of the Ground Supply Officer, the Chaplain, the Family Readiness Officer, Career Counselor, etc. The Battalion Commander will also have subordinate company commanders (usually four to five) that manage the bulk of the internal workforce. Each Company Commander will have subordinate Platoon Commanders. Additionally, the Battalion Commander also has a senior enlisted leader to guide him on enlisted matters and an executive officer to manage the staff. The Battalion Commander is responsible for the Marines, equipment, and funding appropriated to the Battalion by the Regiment and defined by a Table of Organization that is determined at Head Quarters Marine Corps. The Commander's career path coincides with their particular Military Occupational Specialty (MOS). Likely, the commander will have spent time as a Platoon Commander, a Company Commander, an Operations Officer or Executive Officer within his designated specialty e.g.: infantry officers serve within infantry battalions and are subject matter experts on the employment of infantry. However, they typically lack in-depth knowledge of supply chain management. Understanding the organization's structure allows the Supply Chain Manager to identify the customers.

In the Marine Corps, the internal and external customers are unique. The internal customer is the workforce and the external customer is the consumer of the service. Aveta Business Institute, Six Sigma Online (retrieved from: https://www.sixsigmaonline.org/six-sigma-training-certification-information/defining-and-dealing-with-internal-and-external-customers/) frames the difference in this way:

> Those found outside the company are aptly named external customers. External Customers include your ***average everyday clients and consumers where most marketing***

strategies are targeted toward……. they are the individuals thought to bring in all of the revenue, thereby keeping corporations and businesses afloat. Business professionals within many industries do whatever they can to keep external customers happy and satisfied because of the crucial role they play for success in business. The importance of internal customers is significantly less obvious in nature. ***They are referred to as such because they exist within the organization rather than outside of it***. Examples include shareholders, stakeholders, managers, general employees, and more. Because the needs of the ***external customers are seemingly more vital, and business managers feel that they should be catered to as soon as possible, it is often easy to overlook the internals. It is easy to forget about them and they are generally taken for granted.***

The internal customer is well defined within the United States Marine Corps. It is the Marine at every level working to accomplish the services outlined in USC 10 and exemplified in current strategic documents such as 'Marine Corp Operating Concept' (2016), to satisfy the desires of the external customer. These are Marines on the battlefield destroying enemy forces by fire and maneuver, Marines moving supplies, ammunition, food, and parts for vehicles to bases or staging areas, or it could be Marines at intermediate repair facilities rebuilding vehicles, generators, and helicopters.

The external Customers are Congress and the President. Congress pays the force, demands results from the force, holds the force accountable for a myriad of issues ranging from the successful prosecution of wars, eliminating sexual assault in the ranks, creating and demanding quotas for race and gender within the service, and evaluating training standards. The President has the authority to employ the force in contingency operations. The last 20 years has

shown requirements put on the force by the President for interventions in many countries across the world.

It is important to keep in mind that the external customer influence on the supply chain is determined by an electorate of voters. This means that environmental conditions across any State within the United States leading to a shift in those States' representatives or sentiments of that representative in Congress, or a shift in the President's role, platform, or policy, or a significant international event all factor into changing the demands of the external customer on the service the Marine Corps provides. These demands change with each election cycle. It is also important to remember that restraints on the supply chain are directly made by the external customer in the form of policies. For instance, the 'Buy American Act' limits purchases in the executive branch to American made products only. There are extenuating circumstances allowing the purchase of products not made in America, however, the circumstances are designed to force a majority of products to be purchased from American companies. This essentially eliminates the global market from participating in the USMC Supply Chain and is a self-restriction that Supply Officers must negotiate when purchasing supplies for the internal customer which are needed to meet the demands of the external customer.

Federal Acquisition Regulations capture and regulate all purchasing within the USMC ground supply chain. These regulations mandate the use of small businesses, minority owned businesses, products made by the blind, prisoners, etc. These limitations define the supply chain and limit the Marine Ground Supply Officer to sources that may not meet the desires of the internal customer but are absolutely mandated by the external customer based on desires created by the external customer and codified into law.

A recent example of an external customer's dissatisfaction with a Marine Corps acquisition was the procurement of a new rifle. The M27 Heckler & Koch rifle was determined to be a superior rifle for the Marine Infantryman. The Marine Corps' believed this weapon would allow the Marine Corps to provide a better service to the external customer by equipping the internal customer with the weapon system. (Marine Corps Times, 2018) Congress took issue with the 'sole source' contract because the weapon is produced in Germany. The external customer's complaint was not based on how the weapon system would impact operations or effectiveness of the service being provided; it was based on the fact that the Marine Corps legally circumvented a constraint that the external customer had levied on the service ie: competition between vendors and buying American. Additionally, the lawmakers questioning the decision were upset that the weapon was not made by an American Arms manufacturer located in their congressional district.

To the Supply Chain professional, this type of customer demand and bias creates a constrained supply chain where effectiveness, cost savings, and efficiency are put aside to facilitate the needs of chosen suppliers based on external customer desires, which may or may not be aligned with the internal customers' interest or benefits. This constraint is particularly frustrating to a culture that is dedicated to mission accomplishment.

The external customer designed the workforce to meet its needs when it legislated the Marine Corps into service. The creation of a military force requires the training and retention of military professionals trained in the art and science of warfare. To that end, the Marine Corps received its beginnings based on the model of Royal Marines manning ships and posts within the British Empire circa 1775. The American Martial traditions stemmed from European forces of the day, but also took on attributes of volunteer rifleman who fought counterinsurgency and

guerrilla wars against Indians in austere and rural environments. Over time, the Marine Corps defined itself as a small but tenacious fighting organization that consistently meets external customer expectations with less funding per capita than any other service. The following martial cultural points define the internal workforce (Leading Marines MCWP 6-11):

1) Every Marine is a Rifleman. Meaning every Marine is ready to fight on the battlefield despite their role in the organization ie: supply clerk, mechanic, and infantryman.
2) The mission will always be accomplished no matter what. The force is trained to overcome physical, mental, and external conditions to win battles at all costs. This mission accomplishment mindset permeates through everyday life to include paperwork, process, etc.
3) Physical fitness. Marines take pride on being the fittest force out of all the services.
4) Never leave a Marine behind. Unit cohesion and loyalty to service are indoctrinated in Marines.
5) A set code of leadership traits and principles adhered to by the entire force.

Thus, the internal workforce is a hierarchical and martial organization designed to please the external customer without fail and to throw themselves at a given task until the external customer removes the requirement, or the Marine Corps fails. Additionally, in a martial organization, leadership skills are valued over management skills.

The internal customer's leadership style is key to understanding how the internal customer manages the supply chain and interacts with the external customer. The Marine Corps is command centric and the commanders are leaders first and then managers. A Battalion Commander is typically a Lieutenant Colonel with 16-23 years of service in the Marine Corps. The Commander is selected through a screening process and the board that selects commanders

typically chooses the most well rounded and distinguished leaders for command positions. The average command tour is two years. Commander's release a command philosophy to their battalion when they take command. The command philosophy typically discusses team effort (unity of the command), the gravity of the Battalion's mission (exhortation), and expectations of performance by the internal customer base, reiterates the values-based system of the Marine Corps, and usually finishes with a call to excellence. The commander demands absolute allegiance and loyalty of the workforce. The Commander's mission is to improve the Battalion and ensure it is kept in a state of absolute readiness for a deployed combat mission. The Commander's influence on the supply chain is limited to influence over their Supply and Logistics Officers. The commander's incentive to care about supply chain matters rests solely (outside of the practical desire to be most prepared for war) on several measures of unit performance that he is graded on to include: equipment, maintenance, and supply readiness as well as staff performance per compliance with the respective Marine Corps Orders that dictates their staff actions. The Commander typically drives Supply Chain Excellence by demanding and relying on a Ground Supply Officer and Logistics Officer who may have 0-5 years of experience within a battalion or practicing the discipline of supply chain management. Which means the Commander must lead his staff members to excellence without being an expert in the associated processes. The stopgap for lack of experience at the lower echelon of command is higher and more experienced levels of command at the regimental, division, and MEF. When the Commander discusses purchasing and accountability, they talk to their Supply Officers. When they talk about movement, distribution of supplies, maintenance, and tying material support to operations they talk to the Logistics Officer.

Logistics across the Department of Defense (DOD) and its subordinate services, to include the Marine Corps, is discussed more than Supply Chain Management. The idea of logistics and the associated doctrine of logistics mirrored the importance commercial industry placed on logistics from WWII to the present. However, as Supply Chain Management theory and practices have evolved to encompass logistics, DOD and USMC doctrine has not. Current doctrine assigns anything with the word “Supply” as a function of logistics. Joint Publication 4-0 classifies "Supply" as a function of logistics and defines Joint Logistics Operations (across multiple DOD organizations) across Strategic, Operational, and Tactical levels in this way:

Strategic Level:

- Industrial Base capacity enables sustained operations.
- End to end processes drive efficiencies across Services, agencies, and industry.
- Effectiveness dependent upon optimizing processes against required outcomes.

Operational:

- Combatant Commander integrates joint requirements with national systems.
- Must optimize component, agency, and other partner nation capabilities to meet requirements.
- Most significant impact for joint logistics and the joint force.

Tactical:

- Outcome measured.
- Operational readiness enables freedom of action.
- Desired outcomes should drive optimization from strategic to tactical.

In Marine Corps Doctrinal Publication (MCDP) 4, Logistics is defined in ways that industry now defines Supply Chain Management:

Logistics can also be described as the bridge, which connects a nation's economy to its warfighting forces. *Logistics provides the means, which translates national resources into combat power.* Logistics transforms manpower, natural resources, and industrial capacity into units, weapons, equipment, and supplies. It delivers these elements to the theater of operations at the time and place dictated by operational requirements….." The term logistics is also used to describe activities in the civilian or commercial world. In this usage, logistics describes the processes of procurement, maintenance, distribution, and replacement of resources conducted by corporations, firms, or industries.

MCDP 4 shows logistics as the bridge between the acquisition and distribution of National Resources to sustain the fighting forces and the reverse logistics chain as "disposition."

In 'Contemporary Logistics' Paul R. Murphy, Jr 11th edition 2015 defines logistics as:

This book adopts the current definition promulgated by the Council of Supply Chain Management Professionals (CSCMP), one of the world's most prominent organizations for logistics professionals. According to the CSCMP, 'Logistics management is that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers' requirements.' Let's analyze this definition in closer detail. First, logistics is part of supply chain management. We'll talk about supply chains and supply chain management in greater detail in Chapter 5, but the key point for now is that **logistics is part of a bigger picture in the sense that the supply chain focuses on coordination among business functions (such as marketing, production, and finance)**

within and across organizations. The fact that logistics is explicitly recognized as part of supply chain management means that logistics can affect how well (or how poorly) an individual firm—and its associated supply chain(s)—can achieve goals and objectives. CSCMP's Definition of Supply Chain Management is (https://cscmp.org):

> Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies."

Commercial industry has moved to the concept of supply chain management to describe what the DOD and the Marine Corps describes as Logistics. The Marine Corps describes Supply as a function of logistics. So, what does a Ground Supply Officer do in this system that sees Logistics as the umbrella the supply chain functions under? According to the Marine Corps' Training and Readiness Manuel that defines the events that are required to be mastered by every Military Occupational Specialty the Ground Supply Officer must be an expert at several individual tasks that are required to complete Mission Essential Tasks. These are referenced below from the NAVMC 3500.64C Ground Supply Training and Readiness (T&R) manual:

- Develop a Supply Support Plan
- Develop fiscal year budget
- Manage fiscal year spending plan
- Manage cash collection
- Manage Supply MOS sustainment training

- Execute formal account turnover
- Manage organizational property
- Manage small arms/light weapons accountability
- Manage consumable items
- Manage personal effects
- Manage the unit's requisition process
- Conduct Ground Supply Operations
- Perform and organize contracting support and contractor management
- Support Amphibious Operations

The tasks of a Supply Officer revolve around the management of property, weapons, budgeting, financial management, and procurement. These are functions of the Supply Chain and when these functions are housed under Logistics, they are looked at as individual functions rather than an intertwined Supply Chain. These functions are even evaluated separately disregarding the idea of a Supply Chain.

Identifying how the supply chain is evaluated is a key piece of information to understanding how the USMC and DOD view the supply chain and the expectations that a Commander puts on their Supply Officers. How a Supply Chain is evaluated gives the casual observer an understanding of what the internal and external customer deem important indicators of proper supply chain management.

The Battalion (and higher commands) are inspected every other year by a Field Supply and Maintenance Analysis Office (FSMAO) team, whose role is to determine if the unit is managing the supply and maintenance actions of the unit correctly. The Supply Officer is responsible to the Unit Commander for ensuring the supply account is prepared for a successful

inspection. The inspection checklist covers all aspects of records keeping, property accountability, warehousing, and the processing of requisitions related to maintaining the force. Failures found during the inspection are identified as mission and non-mission critical. The results are reported to Head Quarters Marine Corps. The inspection results reflect a snapshot in time of the property management and budgeting for the unit. A successful inspection does not mean that the supply chain is responsive to the internal customer's needs, but it does satisfy the external customer's desire to ensure the service organization is adhering to internal control procedures. In fact, there could be cases where the supply chain is most responsive to the customer's needs could fail the FSMAO inspection because of poor record keeping, but still have excellent customer service.

A second method of satisfying the external customer's desire to see if a Commander is keeping their unit fully ready for the unit's stated mission is the Defense Readiness Reporting System (DRRS). Input to DRRS comes from every Battalion and above from any unit and every service. It is viewed up the chain to the Secretary of Defense level.

DRRS determines the readiness of a unit along supply and maintenance readiness as well as training by Mission Essential Tasks. The report has percentages of training, maintenance, and supply readiness. However, Commanders are allowed to manipulate the report if they feel the percentages don't accurately describe their unit. Once again, DRRS does not reflect the health of the supply chain or if the internal customer is satisfied with the supply chains supporting them. It merely reflects readiness percentages based on readiness data and opinion. A percentage could be low for many reasons, some of which are completely out of the hands of the Battalion Commander or Supply Officer. External Customer satisfaction with the DRRS report does not mean the Supply Chain is working well or is integrated.

Despite the uniqueness of the Marine Corps outlined above, it does have a ground supply chain. It's not called a supply chain, though, it's called Logistics. It is really a logistics officer and a supply officer working through a series of known government policies, orders, and informational networks to bring goods and services to the internal customer so the external customer's requirements can be met. The Ground Supply Officer has the ability to manipulate the supply chain, but only within the mission essential tasks typically tied to purchasing, budgeting, and property accountability as a function to a Logistics process. In this supply chain, the internal customer's satisfaction matters very little until the needs of the internal customer jeopardizes the requirements of the external customer. Additionally, the idea of value doesn't fit within a commercial supply chain. This difference is a sharp contrast to commercial supply chains and effects the philosophy of how the Marine Corps manages its supply chain.

Value in a typical supply chain is exacting the most profit out of the chain by gaining efficiencies throughout the entire chain or as stated in the article by Visha Patel on Supply Management's Website (https://www.cips.org/supply-management/opinion/2015/october/three-ways-to-communicate-the-value-of-supply-chain-management-to-the-board/), 'Three ways to communicate the value of supply chain management to the board,'

> An objective of any supply chain professional is to keep that cycle as brief as possible. Employing strategies like just-in-time manufacturing minimizes the time that precious company assets are tied up in materials before becoming revenue. Similarly, dynamic discounting is a solution that incentivizes clients with deep discounts to pay early, and therefore reduces the average time an account receivable is outstanding. (Retrieved from www.procurement-academy.com)

The external customer sets the budget for the entire DOD, and there is no profit in the commercial sense. In fact, for years the external customer has poorly funded the DOD by passing intermittent spending bills or passing funding bills well after the traditional deadlines. This erratic funding stream (completely impractical for commercial industry) further complicates purchasing and management within the supply chain. Despite this erratic funding process, there is a demand by the external customer that the budget be used to its fullest amount each year. Therefore, reductions in costs within the supply chain are not really encouraged and value is not defined by money saved or capital created. Value is only defined by the priority at the time as it relates to the external customer's desires AND if there is great enough command influence behind the desire for the chain to respond to the internal customer.

Last year the Marine Corps put six Cargo Trucks and a platoon of infantry Marines on a French Naval Ship. One vehicle experienced mechanical problems which was identified as a broken starter. The starter was sky lined as a needed part by the Platoon’s higher command and the part was sourced from Kuwait to be delivered to Djibouti, Africa where the French ship was in port. However, the distribution network failed to get the part to Djibouti. The ship became a moving target for the supply chain. Eventually, the part was going to be shipped to the UAE and meet the ship at its next port via the Defense Logistics Agency distribution network. However, while coding the part for delivery, it was coded to be shipped to the Platoon's Battalion in Hawaii. Fixing the vehicle was necessary to offload the truck 60 days from the day the part was identified as needed. Options of getting the repair part to ship and vehicle became limited as the time before offload wound down. Eventually, an entire contact team of mechanics and parts was

flown out to the ship with the mission to either repair the vehicle or get it off the ship "somehow" (despite the vehicle not physically able to move from its location below deck). Over $30,000 was spent in temporary duty allowances, air fees, air fuel fees, parts, and expenses to repair a vehicle on short notice. This met mission. However, the inefficiencies repairing the truck and finally offloading it were not cost effective. The value of this repair to the internal customer was acceptable despite the missteps manipulating the supply chain because it satisfied a desire of the external customer. What was the value? From a strategic standpoint, interoperability of U.S. Marines deploying and supporting its force on a French Amphibious Platform was achieved in a limited manner and French/U.S. relations were maintained and perhaps increased slightly. The truck was never used for training so the internal customer never benefitted from the expense. The external customer was satisfied with the overall success of the mission. Logistics happened. Supply Chain management did not. The Marine Corps did not keep "the cycle as brief as possible" or manage the Supply Chain well.

Value in the supply chain rarely effects the operational or tactical level unless it is driven by the strategic level with a unified effort across all services and government. Value is secondary to mission accomplishment in the Marine Ground Supply Chain so the importance of creating value is not as high as in commercial industry.

This example of value in the Marine Corps' supply chain is an example of the differences between commercial industry and the military Supply Chain Strategy. The fundamental differences in the supply chain based on the uniqueness of the USMC's mission, structure, and internal customer set it apart from the two most recognized Supply Chain Management models which are the Supply Chain Council's Supply Chain Operations Reference Model (SCOR) and

the Supply Chain Management Institute's Global Supply Chain Forum Model (GSCFM). A contrast of the Marine Corps Ground Supply Chain to these models will clearly define these differences, allow a better understanding of limitations within the USMC Ground Supply Chain and determine if there are opportunities to align it to a commercial Supply Chain Framework to evaluate if the internal customer is benefitting from the chain.

The two prominent Supply Chain Management Frameworks were designed to identify business processes in a way that the process can be implemented and evaluated by organizations that use them. The key difference of the two models is the degree of cross-functional involvement prescribed by each. The Global Supply Chain Forum (GSCF) model involves all business functions. The Supply Chain Operations Reference (SCOR) model is focused on the logistics, operations, and procurement functions. Each framework has a means of evaluation that can assist a business in determining where to improve pieces of the supply chain.

The SCOR model is comprised of six processes, which are Plan, Source, Make, Deliver, Return, and Enable. The common thread throughout the SCOR process is logistics (Knemeyer M.P., 2015).

"The GSCF model comprises eight processes, customer relationship management, supplier relationship management, customer service management, demand management, order fulfillment, manufacturing flow management, product development and commercialization, and returns management. Unlike the SCOR model, the GSCF model includes the involvement of all business functions. However, as was the case with the SCOR model, logistics plays an important role in the processes associated with the GSCF model." Much like the SCOR model, logistics is an enabler of the GSCF sub processes.

The Marine Corps Ground Supply Chain is not defined as a SCOR or GSCF model, however it shares similarities with both and logistics is also key throughout the system. Like the SCOR and GSCF models, there is a means to assess the Supply Chain across its functions through Field Supply and Maintenance Analysis Office inspections that inspect the functional portions of supply requisition, distribution, inventory, and warehousing. There are some unique aspects of the Marine Corps that must be considered when discussing a Supply Chain framework, which sets its supply chain apart from a commercial supply chain. The Marine Corps Ground Supply Chain can define its external customer as Congress and its internal customer as the Marines that make up a unit and are designed to accomplish specific tasks. That unit exists within a hierarchical chain that is managed (led) by a Commander who's focused on employing the unit to achieve an objective. The relevancy of a unit's supply chain is only in relation to being able to accomplish that objective. Many functions of the supply chain are determined by law. The Supply Chain is not viewed as a means to a profit. The Supply Chain is most collaborative at the tactical level and collaboration quickly decreases the further away from the tactical level the chain is, unless there is advocacy for a particular item by the right individual. Managers of the supply chain at the unit level and throughout the chain routinely rotate in and out of different parts of the supply chain every other year or sometimes leave the supply chain for years at a time.

Defining the Marine Corps' Supply Chain framework is the first step in shifting from the paradigm of Logistics to Supply Chain. In the article 'Time to Remodel' the author states, "Supply chain management is not something *apart from* existing functionality, *instead it is something that modifies existing functionality*. Supply chain management encompasses the *planning and management* of all activities involved in sourcing and procurement, conversion,

and all logistics management activities. Importantly, it also includes *coordination and collaboration* with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, *supply chain management integrates supply and demand management within and across companies.*" Additionally, the author points out that a Supply Chain Management Framework would have the following identifiable traits:

- *Support a standard definition of SCM;*
- ***Establish a common language that allows supply chain professionals to communicate;***
- ***Provide standard definitions for key supply chain processes, allowing for the documentation of processes;***
- ***Promote supply chain excellence by linking a common set of metrics to the framework, which allows the metrics to be measured in a standard manner that avoids ambiguity;***
- *Support continuous improvement by providing benchmarking data that is aligned to the framework, for the comparison of measured performance with best-practice performance targets;*
- *Provide an end-to-end supply chain model that can be applied to multiple industries;*
- ***Provide a format that is easy to understand, implement, and practice as a supply chain modeling and improvement tool;***
- ***Provide supply chain transparency by supporting global supply chain mapping through the description of the flows of materials and information****;*
- *Facilitate a cross-functional/cross-enterprise view of the organization and its supply chain partners for process-focused measurement and continuous improvement in the end-to-end supply chain*

- *Allow theories and practices to be presented to a facilitating or governing authority, which can share them with its membership using a common point of reference*
- ***Allow the development of training and education programs to further supply chain knowledge***
- *Allow the supply chain profession to expand the awareness of the significance of supply chains to businesses and to the economy.*

The identifiable traits that are in bold, are traits common with what could be defined as used in the Marine Corps Ground Supply Chain Framework.

A table comparison of the SCOR and GSCF frameworks create an opportunity to pick the process from each framework that are common in the Marine Ground Supply Chain. The common processes can be captured in a third column. A comparison is seen below in Figure 1.

Figure 1.

SCOR PROCESS	DEFINITION	GSCF PROCESS	DEFINITION	USMC SCM PROCESS	DEFINITION
Plan	Processes that balance aggregate demand and supply to develop a course of action which best meets sourcing, production, and delivery requirements.	Customer Relationship Management	Provides the structure for how relationships with customers will be developed and maintained.	Plan	MCPP Tactical and Operational Planning
Source	Processes that procure goods and services to meet planned or actual demand.	Supplier Relationship Management	Provides the structure for how relationships with suppliers will be developed and maintained.	Budget	Function of the Supply Chain merged with SCM at the Tactical Level
Make	Processes that transform product to a finished state to meet planned or actual demand.	Customer Service Management	Deals with the administration of the PSAs developed by customer teams as part of the Customer Relationship Management process.	Source	Open Purchase Process, GCSS, Reverse Logistics, DLA, Contract Request
Deliver	Processes that provide finished goods and services to meet planned or actual demand, typically including order management, transportation management, and distribution management.	Demand Management	Balances the customers' demand with the capabilities of the supply chain. Process includes forecasting, synchronizing supply and demand, reducing variability and increasing flexibility.	Deliver	3PL, Internal Deliver, TRANSCOM, SDDC, Functional Coordination with SMO
Return	Processes associated with returning or receiving returned products for any reason. These processes extend to post delivery customer support.	Order Fulfillment	Involves filling orders as well as all activities necessary to design a network and enable a firm to meet customer requests while maximizing its profitability.	Return	SECREP, WIR, DRMO, Vendor Return Process
Enable	Processes that manage relationships, performance, and information for a supply chain. These processes interact with all other internal and external processes associated with supply chain.	Manufacturing Flow Management	Deals with all activities necessary to obtain, implement and manage manufacturing flexibility as well as product movement into, through and out of plants.	Enable	Relationship Management across the supply office, performance dependent on trainng and knowledge, ability to use supply systems.
		Product Development and Commercialization	Provides the structure for developing and bringing to market products jointly with customers and suppliers.	Demand Management	Balances the customers' demand with the capabilities of the supply chain. Process includes forecasting, synchronizing supply and demand, reducing variability and increasing flexibility.
		Returns Management	Involves activities associated with returns, reverse logistics, gatekeeping, and avoidance.	Returns Management	Involves activities associated with returns, reverse logistics, gatekeeping, and avoidance.

A comparison of the SCOR and GSCF Processes followed by choosing which are applicable to the MCGSC determine that there is a framework that the Marine Corps can identify with when discussing its supply chain. However, the processes are illustrated a bit differently in the USMC GSC.

Plan: Throughout the Marine Corps, planning is conducted by the Marine Corps Planning Process (MCPP) and follows six steps. The result of the planning process is an Operational or Tactical level plan coordinating all functions of a unit's staff. Supply is included within Annex D and Appendix 7 of that Operational Order. This is where the Supply Chain Managers can best define sourcing and delivery requirements. Following the broad outline of a supply plan, detailed

planning is conducted to determine a timeline for sub functions of supply purchasing, requisition, delivery, etc.

Budget: Although budgeting does not fall under the commercial processes, it is unique to the supply chain at the tactical level in the Marine Corps. The supply chain manager will also maintain the unit budget directly influencing how purchases are made and what supply chains are used to support the unit.

Source: There are many ways to source products in the Marine Corps. The sources range the from government contracted vendors, open purchase, system purchases from internal distribution chains, to sourcing products within the Department of Defense reverse logistics chain, and Defense Logistics Agency Disposition Services. A constraint is that certain sources and priorities are mandated by law as opposed to internal customer needs.

Deliver: Delivery of sourced items is accomplished through internal, external, and 3PL agencies.

Return: Defense Logistics Agency Disposition Services, commercial return programs, warranty programs, etc.

Enable: Relationship management across the supply chain is primarily accomplished through building personnel relationships between individuals for the brief time period the Marine works within a particular supply chain.

Demand Management: Demand management is dictated by the directed sources of supply within the supply chain balanced by the unit supply officer. Flexibility is limited within the supply chain due to regulations dictating sources of supply. Variability is largely out of the hands of the unit supply chain managers.

Return Management: see “Return” process above.

Based on the results of comparison, and defining the processes within the MCGSC that are similar to commercial industry, there is an un-named Ground Supply Chain framework that can be defined within the Marine Corps. However, the processes in this framework have different definitions and purposes than the SCOR and GSCF frameworks due to the unique nature of the Marine Corps' business model and mission (constraints associated with law, organization, and culture).

The most applicable framework is the SCOR model, which can be summed up as follows, "…the model's framework of plan, source, make, deliver, and return focuses on improving the efficiency of internal processes. Because of that, it seems to be limited to transaction based or internally focused environments and is not supportive of organizations that are extending their view to include strategic partnerships and extended supply chain efficiency."

The least applicable framework is the GSCF, which can be summed up as follows, "Overall, the GSCF model is most applicable for advanced and efficient supply chains as an enhancement to already established internal frameworks and measurement by other means. The model would seem to be effective in organizations that have already rationalized their supply base to a few key suppliers or channel partners, where relationships between stakeholders are well developed and strong. In addition, it would appear to work better where demand variability is low and customer demand is visible." (Retrieved from www.supplychainquarterly.com)

Is the Marine Corps Ground Supply Chain Fact or Fiction? Fact, the Marine Corps has a Ground Supply Chain framework that is definable and has similarities between two of the most recognized Commercial Supply Chain Frameworks. Fiction, the Supply Chain is not discussed as a supply chain, but rather as logistics with a purchasing and property management function

defined as “Supply.” Supply Chain Management is not an identified training objective for Ground Supply Officers or Logisticians.

The unique nature of the Marine Corps Ground Supply Chain dictates that a Ground Supply Officer (a supply chain manager) should have a skill set more aligned to their supply chain counter parts in commercial industry.

The Marine Ground Supply Officer reaches their military occupational school well versed in the leadership, history, doctrine, and tactical level knowledge expected of a basic officer at the rank of second Lieutenant. The Marine officer then receives an education on the tactical level functions of the Marine Corps Supply system which is an exercise in requisitions, an understanding of the DLA supply Chain, budgeting, purchasing, inspectable items, warehouse management, and shop management.

Starting with defining the Marine Corps' Ground Supply Framework compared to the SCOR system, the Ground Supply Officer Course (GSOC) should incorporate a masters level class in supply chain management aligned to the curriculum. The students must leave the school able to calculate Estimated Order Quantities, Order Cycles, Inventory stock levels, etc. They should be able to articulate the DOD distribution networks and understand the constraints of customs when shipping in commercial industry as well as in the DOD and learn how to align these distribution and mobility networks. Practicing this will begin to change the paradigm of what a supply officer is and begin to evolve the Logistics heavy thinking in the Marine Corps into Supply Chain thinking.

CONCLUSIONS

Making smarter Supply Officers and changing paradigms in the Marine Corps to be more relevant with commercial industry is important and is progress. However, what does the Marine Corps get out of it? The Marine Corps is a hierarchical service organization with a fixation on logistics. It has a supply chain, albeit it's not called a supply chain roughly aligned to the SCOR model. It has external and internal customers and it has a budget. It's unique in the fact that the external customer constrains its supply chain in ways that commercial industry does not. Also, it thinks of value in a different way. Developing Supply Officers into Supply Chain Management experts would allow our operationally savvy junior officer corps to add to the capacity of the Marine Corps by implementing basic supply chain management knowledge and practices. Improving the supply chain knowledge within the Supply Officer community will allow that Officer community to better articulate and solve supply chain bottlenecks and friction points, creating policies and procedures, and leveraging the national industry to develop higher percentages of equipment readiness, maintain a high response to customer demand, and create efficiencies in a system that doesn't crave efficiency or need to profit. It will allow a more equipped and ready force to project national power as directed by the external customer. It will better support the Corps' mission and allow it to win the nation's battles.

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