2023

Strategies for Improving Supply Chain Management in United Nations Peacekeeping Missions

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Abstract

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MBA, University of Wales, 2015

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Abstract

Managers of the United Nation's humanitarian operations are under rigid pressure to deliver their programs efficiently due to 75% of supply chains experiencing disruptions, accounting for 60 to 80% of the expenses due to limited funding and increasing scrutiny by member states. Humanitarian operations are inextricably linked to the performance of a supply chain. Therefore, if the supply chain managers in the United Nations (UN) fail to understand and adopt dynamic capabilities, they can experience operational underperformance, affecting trust from financial supporters. Grounded on dynamic capability theory, the purpose of this qualitative multiple-case study was to explore strategies that executive supply chain managers of the UN use to leverage operational efficiencies in a peacekeeping program. The research participants comprised nine UN staff members in leadership positions who have successfully developed and implemented strategies resulting in operational efficiencies. Data were collected from semistructured interviews and relevant organizational public documents. Three themes emerged during the data analysis process, analytical, innovation, and knowledge management; effective supply chain leadership; and risk management, resulting in several strategies to be considered to operationalize humanitarian aid more efficiently. A key recommendation includes the application of analytical, innovative, technological capabilities and effective leadership that fosters accountability, change management, collaboration, knowledge sharing, and partnerships. Conclusively, an efficient supply chain can help the UN to meet its global sustainable goals, thus improving social well-being and achieving a sustainable future for everybody.

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Dedication

I dedicate my dissertation work to my family and friend. I am addressing a special feeling of gratitude to my loving parents: my mother, who always motivated me to consider education as a key priority in my life, and my late father, who firmly believed in my capabilities and whose expectations and pride I continue to live. Thanks to my sister, the great source of strength who never left my side.

I also dedicate this dissertation to my friend Prince who inspired the pursuance of the doctorate program and supported me throughout the process. His continuing convincing in the power of the doctoral program allowed me to live my dreams.

They all believed in me and wanted me to live a deserving good life. I am gratefully thankful for having faith in me. Last, God's support granted me the health and strength to walk through this challenging journey.

Acknowledgments

First and foremost, I would like to express my sincere gratitude to my Chair Dr. Kenneth Gossett for the continuous support, patience, motivation, knowledge, enthusiasm, and valuable advice. Thanks for keeping me on track. His guidance helped me in all the phases of the research process.

I want to thank the rest of my committee members: Dr. John Hannon for the insightful comments, which incented me to sharpen my research study. Similarly, my sincere thanks also go to participants who willingly accepted and participated in this research by sharing their knowledge and experiences. I want to offer special thanks to all Walden professors for their guidance through the doctoral programs. Today, you have made me the more competitive person in my industry.

Finally, I would like to express my sincere gratitude to my family: my parents and my sister for supporting me spiritually throughout this research process. Thank you for understanding why I couldn't dedicate you the time I wanted during this demanding doctoral program. I am equally extending my gratitude to a friend Prince for unwavering support and belief in me.

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Section 1: Foundation of the Study

In this study, I aimed to identify successful strategies that supply chain managers of the United Nations (UN) apply to leverage operational performance in peacekeeping programs. Some supply chain managers in the UN organization are not aware of supply chain dynamic capabilities to improve operational performance. Through their relief programs, humanitarian organizations, including the UN, are assisting affected populations, especially in fragile and unpredictable places with inadequate infrastructure, political instability, uncertainties, and challenging operational environments. Therefore, understanding the strategies for leveraging operational efficiencies in the UN peacekeeping missions resting on global partnerships can identify opportunities and allow supply chain managers to respond and proceed with actions in an ever-changing and disruptive environment (Teece, 2007). Additionally, understanding dynamic capabilities might ensure donors, regulators, lending institutions, and auditors to provide the financial contributions resulting in the operational continuity of humanitarian programs. Moreover, by understanding the dynamic capabilities, supply chain managers could enhance predictions for peacekeeping programmatic outcomes; improve strategic, tactical, and operational decision making; facilitate collaboration among supply chain stakeholders; and potentially improve disaster management logistics. However, Dubey et al. (2019) posited that humanitarian supply chain operations have historically been considerably behind compared to their commercial counterparts in operational efficiency and effectiveness due to the high bureaucracy, decreased recognition, and understanding of logistics functions.

Background of the Problem

Humanitarian organizations aim to establish international peace, security, and development. The UN plays a central role in this endeavor. Multiple humanitarian organizations, including the UN Peacekeeping organizations, UN agencies and programs, and Non-Governmental Organizations (NGO), get involved in large-scale humanitarian crises. The most intensive UN peacekeeping operations are in Africa and relate to political instability, military conflicts, civil warfare, famines, and natural disasters. Currently, there are 12 peacekeeping operations deployed on three continents led by the UN Department of Peace Operations, consuming the budget of $6.58 billion provided by the member states (UN, 2021). The UN member states providing financial support expect humanitarian and peacekeeping interventions to continuously improve the challenging situation in the UN host countries most effectively and efficiently.

The humanitarian community has been criticized for lacking coordination, collaboration, and operational efficiencies (Sacristán-Díaz et al., 2018). Moreover, donors' budget constraints intensify the pressure to improve the logistics of disaster management and find strategies for the efficient performance of humanitarian supply chains (Thiruchelvam et al., 2018). Although the supply chain concept has defined best practices intending to ensure efficiencies, the supply chain managers lack an entrepreneurial approach and understanding of dynamic capabilities to successfully address disruptions and instability in the business environment and meet ever-changing customers' needs (Aslam et al., 2020). Moreover, unforeseen humanitarian disasters such as the latest pandemic are causing significant shifts in supply chain systems, thus

requiring a proactive approach with solid efficient strategies to enhance responsiveness in humanitarian crises.

Problem Statement

The humanitarian operation's success is inextricably linked to the performance of a supply chain that accounts for 60 to 80% of the expenses (Agarwal et al., 2019). Almost 65% of supply chain expense pertains to procurement activities and 15% to transportation (Torabi et al., 2018). The general business problem is that some supply chain managers in the UN organization are not aware of supply chain dynamic capabilities and how they can improve operational performance. The specific business problem is that some executive supply chain managers of the UN lack strategies to leverage operational performance in peacekeeping programs.

Purpose Statement

The purpose of the qualitative multiple case study was to explore the strategies that some executive supply chain managers of the UN use to leverage operational efficiencies in peacekeeping programs. The target population comprised nine executive level supply chain managers of the UN organization who have successfully implemented strategies to leverage operational performance. The implications for positive social change include the potential to effectively respond to communities affected by humanitarian crises by supporting sustainability and peace, building dynamic capacity, and fostering economic development (Haavisto & Kovács, 2014). As a result, humanitarian agencies can remain operational and engage in political and conflict-reduction interventions integral to economic, social recovery, and sustainability.

Nature of the Study

Yin (2018) identified three types of research methods: qualitative, quantitative, and mixed. I used the qualitative method to explore supply chain management strategies that leverage operational performance in the UN because a qualitative method enables researchers to identify and understand a phenomenon, a process, a perspective, a worldview, and the values of the people involved (see Creswell & Creswell, 2017). Next, the qualitative methodology can contribute to a more profound understanding of the rich text and thick descriptions with enhanced awareness of cultural differences to capture vast possibilities, making it suitable for addressing the study purpose (see Tracy, 2019). In contrast, a quantitative researcher examines variables' characteristics or relationships with a range of statistical and graphical techniques (Saunders et al., 2019). A mixed-method study requires combining the qualitative and quantitative methods to substantiate research findings and overcome individual bias (Saunders et al., 2019). However, evaluating variables' characteristics or relationships was not needed to address the purpose of the study, which was to explore the strategies that some executive supply chain managers of the UN use to leverage operational efficiencies in a peacekeeping program. Therefore, neither the quantitative nor mixed-methods were appropriate for the study, and I instead selected the qualitative method.

In qualitative research, there are several research designs. I considered using phenomenology, ethnography, and case study designs. A phenomenological researcher describes the meanings of the lived experiences of participants' lives (Creswell & Creswell, 2017). Phenomenology was not an appropriate design for my research because

I did not intend to explore the meanings of people's life experiences. Ethnography is a research design for exploring people's feelings, beliefs, views, behavior, and actions of a cultural group in a natural setting (Creswell & Creswell, 2017; Fusch et al., 2017). I did not want to limit my research to a specific culture because the UN is a multicultural organization, so ethnography was not an adequate research design for the study. A case study researcher typically seeks to answer "what," "how," and "why" questions, exploring a phenomenon within the real-world context using multiple data sources in robust cross-case analysis (Yin, 2018). I interviewed different supply chain managers to understand the relevant phenomenon, which is relatively new and complex. Therefore, studying the contemporary set of events over which I had little control qualified a multiple case study design as the most appropriate design for my study.

Research Question

The research question was as follows: What strategies do executive supply chain managers of the UN use to leverage operational performance?

Interview Questions

1. What are the key supply chain strategies you developed and implemented to leverage operational efficiencies in the UN missions?
2. How did you select the strategies to improve operational performance?
3. How did you implement the supply chain strategies performance in your organization?
4. Based upon your experience, what are the key benefits of strategies you implemented on supply chain management in the peacekeeping mission?

5. What processes and tools do you have in your organization to implement effective supply chain management performance strategies?
6. How did supply chain stakeholders in your organization support your strategies?
7. What are the key challenges you experienced in achieving operational excellence in supply chain management?
8. How did you address the key challenges to implementing the strategies for leveraging operational performance in peacekeeping programs?
9. What other experiences in leveraging operation performance as a supply chain manager have you had that you would like to share with me and that I have not asked you about?

Conceptual Framework

I used the dynamic capability theory (DCT) as the conceptual framework for my study to explain the foundation for developing and implementing successful strategies for global humanitarian organizations exposed to numerous disruptions in rapidly changing and unpredictable environments. Teece et al. first articulated the DCT in 1997, suggesting that three core elements of dynamic capabilities are required in top management: coordination or integration, learning, and reconfiguration. The dynamic capability framework was built to address the critique of Porter's five forces model developed in in 1979 and the static approach of a resource-based view theory that was not able to explain how resources and traditional factors such as quality control, cost

monitoring, and adopting best practices develop, reconfigure, and integrate into the increasingly dynamic and uncertain environment (Teece, 2009).

Teece et al. (1997) further emphasized the importance of organizational management as crucial in recognizing problems and trends, redirecting resources, reshaping structures, realizing new opportunities, and addressing them. Therefore, the DCT highlights three processes. The first process is "sensing," which includes selecting new technologies, encouraging innovation, and identifying target market segments. The second process refers to seizing opportunities that embrace new business models, avoiding biases and setting organizational boundaries. The third process manages threats and reconfiguration of activities through the change of business structure and knowledge management.

By using DCT, managers can identify opportunities, formulate a response, and proceed with reconfiguration in ever-changing and disruptive times (Teece, 2007). The supply chain managers of the UN operate in fragile and unpredictable places. Moreover, the organization rests on a global partnership. Therefore, I expected that supply chain managers could use DCT to delineate their strategies by focusing on change management and contemporary knowledge-based management, resulting in a competitive advantage.

Operational Definitions

Big data: Big data has been defined as volume, velocity, variety, veracity, and value of real-time data requiring rigid management and analytical techniques to draw meaningful insights (Dubey et al., 2018b).

Disaster: Disasters are disruptions physically affecting the priorities and goals of the system. Disasters can be natural and man-made (Bealt et al., 2016; Lu et al., 2018).

Humanitarian logistics: Humanitarian logistics is the part of supply chain management that entails planning, controlling, and implementing the cost-effective storage and flow of materials and information from the point of origin to the point of beneficiary consumption. In a humanitarian context, the process includes mobilizing people, resources, and knowledge to assist people affected by disaster (Makepeace et al., 2017). While commercial logistics intend to minimize costs, humanitarian agencies aim to reduce human suffering (Bealt et al., 2016).

Humanitarian organization: Humanitarian organizations are institutions whose goal is to help beneficiaries in need without influencing the outcome of a conflict and without favoring one group over another. Humanitarian organizations live by the principles of humanity, neutrality, and impartiality (Lu et al., 2018).

Humanitarian supply chain: Humanitarian supply chain is a complex network of supply chain activities and multiple stakeholders involved in relief operation described as a two-way dialogue between humanitarian systems and affected communities to ensure efficiency, coordinate solution, and mitigate potential adverse effects (Azmat & Kummer, 2019; Makepeace et al., 2017).

Peacekeeping missions: Peacekeeping missions have been defined as active mediators between conflicting parties to implement a peace or ceasefire agreement. Peacekeepers may use the force for self-defense purposes (Jetschke & Schlipphak, 2020).

Supply chain management: Supply chain management has been defined as the end-to-end integration of key business processes supporting material, information, and financial flow between suppliers and end-users in a value chain (Makepeace et al., 2017).

Assumptions, Limitations, and Delimitations

Assumptions

An assumption entails research beliefs without factual knowledge formed based on personal experiences, expectations, or other influences, so research makes sense of what has not yet happened (Saunders et al., 2019; Yin, 2018). In my research, I made several assumptions. First, humanitarian organizations, including UN, are rational entities where rational explanation results in sound solutions to logical problems. The second assumption included believing that all participants would provide unbiased, honest, and truthful responses to the research questions on a voluntary basis. The third assumption was that participants would understand the principles of supply chain management in humanitarian operations. The fourth assumption was that each participant's strategies for improving supply chain management in UN peacekeeping missions would vary between participants serving in different UN peacekeeping missions due to mission operations and mandate specifics. The fifth assumption was that participants would provide responses that would allow me to identify the common themes. The last assumption was that research findings would provide constructive feedback on current business practices and result in developing effective and efficient humanitarian supply chains.

Limitations

Limitations are weaknesses in the study that are beyond the researcher's control, and the researcher is aware of them (Pyrczak & Bruce, 2017). The most significant limitation in the study was the small sample population that might have affected the generalizability, depth, and richness in findings because I selected the views and experiences of the sample population only. Although responses collected from the participants represent strategies that supply chain managers use in the UN peacekeeping missions, it could be that answers do not correspond to the experience of supply chain managers in UN peacekeeping missions located in different geographical locations. Similarly, although I selected subject matter experts, participants might still have had a different level of knowledge and experience, thus creating bias. The following limitation entailed interview time constraints, which may have limited additional data collection crucial for valid qualitative analysis. Last, supply chain managers may have changed peacekeeping missions, thus affecting the participant pool during the research study.

Delimitations

Delimitations refer to established boundaries or scope of the study (Pyrczak & Bruce, 2017; Saunders et al., 2019). Delimitations in the study related to the number and type of participants and their geographical location. Therefore, the delimitations of the study included nine supply chain managers who successfully implemented strategies in the UN peacekeeping missions. Due to the high volume of peacekeeping missions globally, it was not feasible to interview supply chain managers from each peacekeeping

mission. Similarly, the findings of the study may not apply to the UN's special political missions, UN agencies, and programs.

Significance of the Study

The study outcomes may provide valuable information and awareness about supply chain managers leveraging operational performance and efficiencies through adequate resources, effective leadership, technologies, innovation, and supply chain dynamic capabilities. Considering the complexity and insufficient empirical analysis of managing supply chain performance in non-for-profit organizations, the findings of the study can contribute significantly to both the business organizations and society because humanitarian supply chain management cohesively integrates people, performance, practices, and processes with primary responsibility to efficiently respond to those in need (see Sacristán-Díaz et al., 2018). Moreover, understanding the strategies for leveraging operational efficiencies in the UN peacekeeping missions might catalyze donors, regulators, lending institutions, and auditors to increase or sustain the financial contributions critical to operational continuity of interventions in the humanitarian crisis.

Contribution to Business Practice

Anecdotal evidence has found that the humanitarian supply chain could be unresponsive to the needs of victims of the humanitarian crisis (Thiruchelvam et al., 2018). In the study, I intend to identify the strategies that were used to ensure the efficient operation of the UN peacekeeping supply chain operating with restricted funding. The findings of the study could be beneficial to non-for-profit business organizations because of possible theoretical developments in defining strategies for the efficient performance

of humanitarian supply chains. As a result, supply chain managers could enhance predictions for peacekeeping programmatic outcomes, improve decision making at the strategic, tactical, and operational level, facilitate collaboration among supply chain stakeholders, potentially improve disaster management logistics, and reduce the costs of the operational performance of the supply chain system in fulfilling its mission in providing humanitarian services.

Implications for Social Change

Given the limitation of funds, frequency, and impact of humanitarian crises, UN peacekeeping missions and agencies strive to create an efficient supply chain, resulting in developing effective and sustainable aid relief programs and rapidly provide and deploy aid to beneficiaries (Singh et al., 2018). Moreover, program sponsors have high-performance expectations of humanitarian supply chains as implications for social change, including sustainability to a vulnerable population regarding saving lives, decreasing suffering, mitigating violence for contributing to environmental development, economic and educational empowerment, and enablement (Bealt et al., 2016). Indeed, efficient supply chain management can assure that peacekeeping organizations remain operational and engage in conflict resolution for catalyzing economic and social recovery.

A Review of the Professional and Academic Literature

The purpose of my literature review was to explore research articles about the dynamic capabilities in the humanitarian supply chain with a focus on the UN programs. Precisely, I intended to collect suggestions and views from other researchers that related

to my research topic. Therefore, in this section, I begin explaining the process of selecting relevant literature regarding my conceptual framework and strategies used by the supply chain managers to improve the quality of the supply chain response in the UN peacekeeping programs. I commenced the process by identifying the research gap guiding the development of my interview questions for the collection of empirical data. Next, I proceeded with the systematic literature review. I started by broadly searching about the supply chain concept. Because my specific research area is humanitarian and relief programs, I narrowed my research to humanitarian supply chain management. As my research is grounded on DCT, I further contracted my research process around elements defining the selected conceptual framework, that is, sensing, seizing, and transforming capabilities.

I outlined the literature review around dynamic capabilities contributing to a sustainable humanitarian supply chain in a dynamic and ever-changing environment. In this regard, the literature review starts with articles elaborating on the humanitarian supply chain concept, followed by the building blocks of the selected framework. I included two contrasting theories explaining their concepts and the reason why they were not selected as the principal framework for the research. Last, there were themes and strategies pertaining to the conceptual framework emerging during the literature review process, which contributed to the thickness of the findings.

Literature Selection Process, Databases and Reference Material

My objective was to provide a robust and substantiated literature review related to my research on the study of dynamic capabilities in the humanitarian supply chain,

focusing on UN programs. I primarily used the Walden University library and located databases related to my research topic. Through Thoreau, the multidatabase search tool, I accessed the majority of research articles. Specific databases I used to access my researched articles included Central ABI/INFORM Complete (ProQuest), EBSCO ebooks, Emerald Insights, Emerald Management, ERIC, Sage Journals, Google Books, Google Scholar, IEEE Xplore Digital Library, ProQuest Science Journals, ProQuest Central, ProQuest EbookSage Knowledge, SAGE Stats, ScholarWorks (Walden journals), UN Data, UNESCO Documents Database, UNICEF, United Nations Public Administration Network, and Walden Library Books.

I also used other sources that complemented my research. They were (a) printed books in my library related to supply chain, (b) websites related to humanitarian supply chain (c) and organizational documents on supply chain concepts in the UN. As a result, I access broader scope of resources relevant to the applicability and practicality of the researched topic.

The keywords and phrases I used while using the mentioned databases were *adaptive capabilities, big data analytics, collaboration, communication, disruptions in supply chain, dynamic capabilities, e-leadership, humanitarian logistics, humanitarian supply chain, information sharing, innovation in supply chain, integration, knowledge management, leadership, lean supply chain, multiculturalism, performance measurement, relational capabilities, relief programs, risk management capabilities, seizing capabilities, sensing capabilities, social capital, supply chain agility, supply chain enablers, supply chain flexibility, supply chain resilience, supply chain sustainability,*

technology in supply chain, transforming capabilities, trust building in relief operations, United Nations Sustainable Development Goals, and *United Nations,*

I ensured that as many of the sources were published after 2019. However, 21 of my references in my conceptual framework were older than 2019, but most important, 64 out of 85 (75.3%) were peer-reviewed within 5 years of my expected graduation date. The essential reason was to ensure that sources were peer-reviewed for the rigorous quality research process performed prior to article publishment. I used Ulrich's Periodical Directory to ensure the article was peer-reviewed. Initially, I did not include date restrictions to gather a broad idea of literature in the field. Afterward, I filtered articles within 5 years of the anticipated approval date of my doctoral program. However, literature related to the conceptual framework did not meet the filtered timeframe criteria, so I included some seminal sources with older dates because I found them relevant. I did not include the nonpeer-reviewed articles to avoid the risk of creating a problem with data reliability. Table 1 provides the breakdown of the resources I used for my research study.

Table 1

Frequency and Percentage of Literature Review and Sources

Type of literature	Literature review references published prior 2019	Literature review references blished on or after 2019	Total literature review references	References outside of the literature review	Total references
Peer-reviewed journals	21	64	85	32	117
Books	2	0	2	0	4
Nonpeer reviewed journals	0	0	0	0	0
Conference materials	1	1	2	0	2
Total references	24	65	89	36	123
Total % peer reviewed references published on or after 2019	-	75.3%	-		95.1%

Note. Number and percent of references published before and after 2019. All references originated from peer-reviewed journals, books, and conferences. The literature review accounted for 64 out of 85 peer-reviewed articles published after or during 2019 at 75.3%, and the 117 peer-reviewed references accounted for 95.1% of my total 123 references.

Conceptual Framework: DCT

DCT helps to understand how some organizations succeed in gaining a competitive advantage in an increasingly demanding and rapidly changing environment. The concept is grounded on the resource-based view theory taking into consideration the phenomenon of operating in turbulent environments. The DCT founders, Teece et al. (1997), explained that managers should start focusing on organization specifics and finding answers on how best to respond to shifts by continuously investigating internal business processes, assets positioning, and available paths to expand. The positioning includes intellectual property, technology, assets, and their relations with other business actors. Terminologically, dynamics entails competencies' renewal according to the business environment, while the term capability evokes strategies to match those changes. Some of the strategies include adapting, transforming, and integrating. Therefore, Teece et al. defined dynamic capabilities as the organizational ability to build, transform, and combine internal and external competencies to effectively address the changes and achieve sustainable competitive advantage.

Teece (2009) grouped dynamic capabilities into sensing capabilities, seizing capabilities, and reconfiguring capabilities. Breznik et al. (2019) and Aslam et al. (2020) presented some common practices related to each of these capabilities. First, sensing capabilities include scanning new markets; understanding supply chain members; learning about clients; and identifying new technologies, ideas, and threats to identify opportunities. Next, managers are seizing opportunities by selecting suitable technology, business models, policies, structures, or activities. Kurtmollaiev (2020) further added that

the combination of sensing and seizing capabilities that may result in possible new firms or new paths. As the environment changes, managers must reconfigure organizational tangible and intangible resources by encouraging innovation, deploying knowledge management, and managing adaptive strategies. Breznik et al. emphasized the complexity characterizing the reconfiguring capabilities because sometimes complete business model change is required. Nevertheless, Teece suggested continuous market monitoring and readiness to adopt new practices.

The dynamic capabilities framework is powerful. The concept integrates different perspectives and capabilities that can help recognize the need for ongoing actions of building, reconfiguring, and extending the organizational resource base (Kurtmollaiev, 2020). For example, Aslam et al. (2020) elaborated on cross-organizational activities as a potent pattern benefiting numerous supply chain members. Aslam et al. continued that for dynamic capabilities to live their full potential, supply chain managers should be intensively entrepreneurial. Similarly, Khalil and Belitski (2020) argued that flexible and agile organizations enabled by strong Information Technology (IT) overnance are highly dynamic and quickly adapt to changes. Conclusively, with dynamic capabilities, managers can compete in the unstable business environment and meet the changing customers' needs (Aslam et al., 2020). This helps to explain why DCT was selected as the conceptual framework for the study.

Humanitarian Supply Chain and DCT

To address emergencies effectively, humanitarian organizations act together with other stakeholders, such as commercial enterprises, host governments, donors, military

forces, local communities, logistics service providers, and international and local nongovernmental agencies. Each of them may have different motivations, modus operandi, culture, mandates, resources, and technical expertise, thus adding complexities in the humanitarian context (Lu et al., 2018; Prasanna & Haavisto, 2018). Prasanna and Haavisto (2018) highlighted the importance of culture in such a dynamic environment. They continued that lack of cultural sensitivity and incompatibility may result in inefficient coordination among humanitarian actors leading to failing aid delivery. According to Prasanna and Haavisto, organizational culture presents the foundation of a successful humanitarian supply chain, while Dubey et al. (2019) posited trust as the critical enabler of the coordinated humanitarian operation participative environment.

Numerous actors involved in humanitarian logistic response add to operational complexities and require clarity on achieving effectiveness. Therefore, Wilson et al. (2018) presented the framework reflecting cost, responsiveness, resilience, security, sustainability, and innovation as the key drivers and how appropriate balance between each element may result in desired expectations in emergency logistics. Although the supply chain's main pillar is to respond "faster, better, cheaper," inherent trade-offs require strategy-driven considerations (Shafiq & Soratana, 2019). For example, quick operations contribute to responsiveness but usually hurts the cost. More broadly, Wilson et al. linked said drivers to emergency logistics practices, collaboration, and outcomes, resulting in design for the more coordinated humanitarian supply chain management.

To assist the population in crisis, humanitarian supply chain managers should ensure seamless flow of the right material and services from the point of origin to the

right end-user. This activity encompasses series of aligned processes, namely demand planning, acquisition, transportation, track and trace, warehousing, and client satisfaction. Sherwat and Ebrashi (2017) developed a comprehensive framework highlighting operational stages for humanitarian services with well-designed associated activities, thus ensuring operational success and sustainability. In comparison to the commercial sector, humanitarian supply chains execute mentioned processes in a more challenging environment. The reasons are political volatility, demand, and supply uncertainty, hostility, high staff turnover, increased time pressure, fragmented technology, numerous uncoordinated stakeholders, politicized setting, rapidly changing priorities, thus criticized for lack of collaboration, lack of profit motive, and duplication of effort (Chen & Kitsis, 2017; Kwak et al., 2018). Therefore, Fadaki et al. (2020) added that a customized humanitarian supply chain approach is essential.

The terms *logistics* and *supply chain* appear throughout the study interchangeably. However, Christopher (2016) clarified that supply chain management is a broader concept than logistics. Precisely, logistics presents a framework for delivering products and information. At the same time, supply chain management is a concept detailing linkage between upstream and downstream delivery processes and relationships between suppliers and customers to achieve superior customer value. For example, supply chain managers may aim to reduce redundant inventory to deploy adequate measures such as initiate information sharing on demand and stock levels or coordination between organizations. Similarly, Lu et al. (2018) defined supply chain as a range of logistics activities and processes, namely procurement, transport, and warehousing. Christopher

(2016) argued that supply chain management is a network of multiple suppliers and customers seeking alignment and coordination in processes. Notably, Makepeace et al. (2017) conducted a qualitative study to determine the difference and relationship between logistics and supply chain but concluded that managers still demonstrated difficulties in differentiating the two terms.

The UN and DCT

Humanitarian organizations, including the UN, are applying the dynamic approach to deliver aid and fulfill their mandate efficiently. Therefore, Sherwat and Ebrashi (2017) explained that sensing capabilities include beneficiaries' assessment by collecting data on demographics in the humanitarian context. Azmat and Kummer (2019) added information on required needs and logistics too. The required needs entail the volume of the affected population, vulnerabilities, or damage level. The latter one usually includes information on infrastructure, transportation capacity, or distances between operational hubs. Availability of this information determines decision making and, eventually, overall supply chain performance.

Natural and human-made disasters are increasingly causing disruptions in people's lives beyond their ability to control and cope (Lu et al., 2018). Therefore, humanitarian organizations, including the UN, are engaging in relief programs to help affected populations, especially in developing countries with inadequate infrastructure, political instability, uncertainties, and challenging operational environment. Sherwat and Ebrashi (2017) identified four humanitarian operations steps: mitigation, preparedness, response, and recovery. The last step differentiates the shortterm transitional phase from

and long-term recovery phase. The long-term recovery phase often involves the UN programs for peace establishment, healthcare, education system development, and food aid to return the lives of victims to normality. In the humanitarian context, provision for supply chain planning and execution may suffice at recovery phase time. During the recovery phase time, it is costly, requiring significant resources (Sherwat & Ebrashi, 2017). While Jahre (2017) argued that planning appears at every stage, including preparedness involving network design and warehouse locations.

The UN humanitarian operation is increasingly under pressure and strict scrutiny from donors is requiring efficient overall performance. Fadaki et al. (2020) highlighted that some humanitarian organizations are still keeping a focus on fundraising instead of operational efficiencies and effectiveness. The latter humanitarian supply chain managers are becoming result-oriented, improving transparency, accountability, ensuring value for money, and developing a robust performance measurement system to ensure continuous funds flow from the donors (Azmat & Kummer, 2019). Nevertheless, Dubey et al. (2019) continued that historically, humanitarian supply chain operation has been considerably behind compared to its commercial counterpart in operational efficiency and effectiveness due to the high bureaucracy, decreased recognition, and understanding of humanitarian logistics functions. Consequently, the absent inclusion of logistics in budgetary processes did not allow to meet logistics requirements. Today, supply chain managers demonstrate that a successful supply chain is crucial in delivering the UN mandate. Moreover, humanitarian supply chain managers can have something to teach

their commercial colleagues and that includes ways to respond to changing and challenging environments quickly.

Contrasting Theories: Institutional Theory and Relational View Theory

There are two contrasting theories relevant to my conceptual framework. These theories include institutional theory and relational view theory. The focus of the institutional theory is laws, regulations, cultural, and normative pressure, thus appropriate to understand organizational strategies and behaviors of the UN, a large multinational humanitarian organization with a robust bureaucratic system and its position in the social structure of the host country. (Flynn & Walker, 2020; OrdonezPonce & Khare, 2021). In supply chain management, the supply chains are under pressure to implement integrated structures, practices, and policies to ensure collaborations among stakeholders (Flynn & Walker, 2020). Relationship building among dispersed customers, suppliers, and service providers is a critical capability in supply chain management and is extensively explored through relational view theory.

Institutional Theory in a Multinational Humanitarian Organization

According to institutional theory, organizations are open systems, and their structure and norms are controlled and pressured by environmental rules and regulations (Ordonez-Ponce & Khare, 2021). The environments may entail various stakeholders such as regulators, NGOs, media, end-users, private companies, and professional bodies who may apply one of the three pressures: coercive, normative, and mimetic. For example, regulators can coerce organizations to act in a certain way by imposing sanctions for poor compliance with regulations. Similarly, professional bodies may imply normative

pressure promoting values. So, environmental requirements may result in the implementation of a green supply chain. Last, mimic pressure usually arises from uncertainty, so one organization replicates the pattern of the other with a proven success record. Therefore, Flynn and Walker (2020) defined *institutions* as cognitive, normative, and mimetic structures complying with external requirements, thus providing order and stability through an expected social behavior that eventually makes them isomorphic.

Organizations exercise conformance to gain legitimacy. Legitimacy is essential for accessing resources and support from buyers, suppliers, government, or donors (Craighead et al., 2020; Flynn & Walker, 2020). The UN operation must be seen as valid, reasonable, and rational to ensure continued financial support from the donors. Therefore, often organization face challenges in balancing efficiency-oriented and legitimate practices and structures. So, Flynn and Walker (2020) claimed that institutional theory best investigates this strive.

Although conformance to external requirements results in the isomorphic organization on a national level, it may result in opposite from a global perspective. Ordonez-Ponce and Khare (2021) warned that different institutional environments across the nations where multinational organizations operate might cause the absence of common standards. What is legitimate in one field is not necessarily legitimate in another. Similarly, Lu et al. (2018) highlighted environmental uncertainties such as natural disasters, customers, suppliers, competitors, and technology affecting described pressures and strategic organizational decision making. Although the institutional framework effectively explains the institutional pressures, it fails to explain efficiency-

based factors and the impact of external pressures on organizational strategic choices, such as adjusting business models or relocating the resources.

Recent disruptions induced by pandemics affected compliance with external regulations. Craighead et al. (2020) found that during the pandemic, the organizations have been freed from expectations to allow them to respond to extreme shifts in supply and demand effectively. As a result, Craighead et al. (2020) suggested remodifying the concept of legitimacy, thus calling for supply chain process transformation. Otherwise, the institutions may exercise the old habits. In pandemic conditions, supply chains will likely mimic other transformations not because of their efficiencies but rather because it is safe to proceed until the crisis ends.

Relational View Theory in a Multinational Humanitarian Organization

Relational view theory could be helpful in explaining how relational competencies influence the patterns of supply chain management practice thus improving the organizational performance. This theory was first articulated by Dyer and Singh in 1998 to suggest that idiosyncratic inter-organizational linkage enabling a unique combination of cross-organizational complementary resources can result in a sustained competitive advantage (Dyer & Singh, 1998). Therefore, this framework is grounded on collaborative paradigm explaining the business world is composed of a network of interdependent relationships developed and fostered through strategic collaboration with the goal to derive mutual benefits (Chen & Kitsis, 2017). In brief, the relational view analyzes dyad/network instead of individual firms as a more coherent aspect of supply chain management. (Chen & Kitsis, 2017).

In conclusion, the relational view theory suggests extension beyond organization boundaries as a critical resource. UN peacekeeping rests on a global partnership. Therefore, joint contributions of peacekeeping missions and external alliance partners through shared knowledge and complementary resources will assure organizational competitive advantage.

Possible Themes Related to the Conceptual Framework and the Literature Review

Humanitarian logistics critically depends on communication strengths between stakeholders. However, Diedrichs et al. (2016) explained that relief responders should be coordinated and trained with enough information at their disposal. Despite well established networks, often information sharing is lacking. Therefore, Diedrichs et al. (2016) suggested lateral networks with central authority instead of hierarchical structures. To quantitatively determine the impact of communication and logistical coordination, Diedrichs et al. (2016) developed the dynamic model measuring expenditure and lives saved. The research showed that lack of communication, logistical coordination, disrupted information flow, unreliable and inconsistent data, disinterest to cooperate and share the knowledge as the principal reasons impeding efficient operations.

Innovation capabilities are essential in fortifying organizational risk management due to the high uncertainty in humanitarian supply chains. supply chain managers succeed in remaining robust and resilient against uncertainties by creating awareness of vulnerabilities (Shamout, 2019). Similarly, Sabahi and Parast (2020) found that organizations with innovative culture contribute to knowledge sharing, agility, and

flexibility, therefore, more resilient to disruptions. However, Kwak et al. (2018) admonished that innovation can augment the risk because of numerous activities facilitated by IT.

There is a growing amount of literature explaining how BDPA can predict natural disasters and guide the humanitarian response. Dubey et al. (2019) highlighted that both management and employees at all levels should understand the value of big data for the organization to draw the benefits. Analytics is knowledge-based. Shamout (2019) explained that supply chain analytics encompasses the data acquisition, storage, and transformation into meaningful insights resulting in innovation, meaning unveiling unknown knowledge that can help supply chain managers to plan, monitor, and forecast. Information sharing is essential for knowledge acquiring. In this context, Azmat and Kummer (2019), in their research, found that information sharing and innovation capabilities among NGO and UN Agencies is more intense than in the commercial sector.

Theme 1: Supply Chain Analytics, Innovation, and Knowledge Sharing

Innovation capabilities are closely related to supply chain analytics and knowledge sharing. Shamout (2019) found that supply chain analytics foster competitive advantage through innovation resulting in agile and robust business processes. For example, big data analytics supported by information technology (IT) and data science technique facilitate acquiring, storing, and transforming large volumes, velocity, variability, and varieties of data. As a result, supply chain managers will gain valuable insights and make data-driven decisions. Therefore, Shamout (2019) presented big data analytics as a principal determinant for supply chain innovative capability. At the same

time, Shamout (2019) added that supply chain analytics consider the needs of all stakeholders within the supply chain, thereby enhancing the innovation essential for organizational sustainability, resilience improvement, and risk reduction.

Use of Innovation Capabilities. Innovation capability is an essential factor in organizational success. Aslam et al. (2020) defined it as a willingness to introduce novelty through creative processes with an aim to develop new products and services. Sabahi and Parast (2020) described innovation as applying new ideas, skills, methods, and knowledge, thus creating distinctive advantages. Kwak et al. (2018) and Chege et al. (2020) posited that innovation occurs within processes, technologies, services, strategies, and organizational structures to improve the corporate value chain by eliminating obsolete operations. Parast (2020) posited that researchers' focus on innovation increased by 235% over 20 years and continued that innovation is venturing to unknown territory, searching for new opportunities and possibilities for growth, and bringing problem-solving ideas into use. Conclusively, researchers studied innovation in the supply chain through different perspectives. Invention through technology facilitates information sharing crucial for efficient coordination among logistics members and adequate resource deployment (Prasanna & Haavisto, 2018). Next, innovation is extensively evaluated and found necessary to allow organizations to respond rapidly to changes in customer demand (Kwak et al., 2018). Last, Sherwat and Ebrashi (2017) investigated how innovation may generate multiple funding sources in social entrepreneurship.

Dynamic capabilities are innovation-based. Therefore, it is most suitable to study innovation through the lenses of DCT. Parast (2020) explained that innovation is

regarded as a dynamic capability because it enhances response to disruptions and maintains competitive advantage. Similarly, Warner and Wäger (2019) explored how firms can build dynamic capabilities for digital transformation. Precisely, dynamic capability entails creating, extending, and modifying the organizational resource base leading to new business models. Khalil and Belitski (2020) added to dynamic capability the skills update to cope with rapidly changing environment. However, to embrace digital innovation, Warner and Wäger (2019) explained that the supply chain managers must balance four elements: building innovation capabilities, process innovation, the collaboration between supply chain actors, and ensure flexible organizational structures. Ghobakhloo (2020) and Chege et al. (2020) added perceived benefits, management support, and employee qualification as driver determinants in digital technologies adaption. Conversely, the maturity of operations technology and cybersecurity are found as dependent determinants. Undoubtedly, digital transformation is an ongoing process that changes the culture and how people collaborate internally and externally.

Supply chain performance is linked to IT innovative capabilities. Wajdi et al. (2020), and Chege et al. (2020) found a significant positive relationship and highlighted the importance of IT personnel required to use IT infrastructure, resulting in reduced cost-effectively, enhanced operational agility, improved transparency, reduced corruption, and green supply chain. Khalil and Belitski (2020) elaborated on technology standardization, alignment, and optimizing administrative and operational processes as additional benefits. Similarly, in his research, Aranda et al. (2019) confirmed that supply chain integration, in particular, enabled by IT, is crucial for operational and financial

performance. However, for the technology integration to reach its full potential, Kwak et al. (2018) explained the vital role of the supplier and customers through design, training, and assistance, resulting in improved economic, environmental, and social addition to financial performance. Najjar et al. (2019) added that supply chain performance must be customer-related, meaning customer satisfaction is the crucial criterion for assessing supply chain performance.

IT innovation can address many challenges in the supply chain. Some of these challenges include lack of data visibility, conflicting data, demand management, or process optimization. Aranda et al. (2019) and Wang et al. (2019) suggested implementation of the IoT (Internet of Things) and Blockchain as innovative mechanism allowing uninterrupted transmission of massive data, real-time tracking, alerts, self-reporting, auto-correction, interoperability, data security, smart contract, data accessibility, audit trail of activity, process digitalization, and data standards. Regardless of numerous benefits, Wang et al. (2019) elaborated on blockchain barriers, such as user reluctance, intellectual piracy, technical vulnerabilities, governance, or ethics. Nevertheless, Warner and Wäger (2019) added mobile, artificial intelligence, and cloud as similar digital technologies supporting the innovation. Bag et al. (2020) elaborated on novel Procurement 4.0 applications facilitating the purchasing transactions within the supply chain. As a result of IT innovative initiatives, the supply chain managers achieve greater control, augment customer experience, enhance data integration and data centralization, streamline operations, create new business models while minimizing risks and reducing costs (Aranda et al., 2019; Warner & Wäger, 2019).

Sabahi and Parast (2020) continued classifying innovation into radical and incremental innovation. The former pertains to the adaption of new technologies recommended for the higher level of risks and uncertainties. In comparison, the latter refers to minor changes in existing technologies suitable for the lower level of risks but provides fewer benefits. Fischer-Preßler et al. (2020) highlighted IT as the primary contributor to supply chain risk identification resulting in identified risk factors, severity levels, risk probabilities, and supply chain risk triggers. Conclusively, innovation capabilities reduce the likelihood of risk occurrence.

Use of Supply Chain Analytics. There are multiple definitions of supply chain analytics. Shamout (019) explained supply chain analytics as complex processing of past and present data through quantitative tools and techniques, therefore, a combination of IT-enabled resources, data management, and supply chain planning. As a result, firms create a resilience capability and strategies. Precisely, supply chain analytics includes data extraction, cleaning, integration, and transformation into meaningful patterns for decision-makers. Therefore, the proper control of logistics flow enabled by analytical capabilities is vital for substantial humanitarian and peacekeeping performance (Moshtari & Gonçalves, 2017). Gupta et al. (2018) posited that analytical capability is the critical organizational capability defined by managerial skills, technical skills, and organizational culture that results in competitiveness. The importance of supply chain analytics is as such that it is expected to grow from $4.8 bn in 2019 to $9.8 bn in 2025, therefore potentially increasing by 13.68% between 2017 and 2021 (Fosso & Akter, 2019).

Supply chain analytics brings multiple benefits to the business. Mikalef et al. (2020) posited those big data analytics could decrease the acquisition cost by 47% and enhance the revenue by 8%. Shamout (2019) explained that through analytics, supply chain managers gain valuable insights. Through analytics, supply chain managers can also identify errors and develop strategies to reduce these errors, reduce cost, reduce risks, improve responsiveness, resources allocation, process integration, reduce duplication of resources, enhance operational capability and efficiency (Dubey et al., 2019; Shamout, 2019). Fosso and Akter (2019) found that supply chain analytic capabilities improve supply chain agility by providing complete diagnostic information, sensing external factors, forecasting demand, controlling variability in demand and cycle times. Shamout (2019) highlighted that supply chain analytics enhance innovation, essential for organizational sustainability. Singh & Singh (2019) elaborated on visibility as vital in supply chain management because it directly impacts real-time consumer demand and adequate inventory planning. Moreover, in circumstances of high uncertainties, high visibility increases the willingness of humanitarian supply chain managers to share their resources. Conversely, unwillingness to share information or inability to integrate information systems among partners results in reduced visibility.

Analytics is mainly based on information and communication technology. Therefore, it is crucial to consider the related challenges. Zeraati et al. (2019) elaborated on three issues. First, the user privacy and security violations due to widespread usage of the internet require upfront implementation of secure systems. Second, internet attacks by viruses need appropriate system designs. Third, staff untrained to use complex analytical

systems add to underperformance and inefficiencies. Advanced supply chains are already focusing on machine learning and artificial intelligence (AI) to quickly extract data, prioritize decisions, and select the best possible ways to address disruptions (Oliveira & Handfield, 2019). Mikalef et al. (2020) added that the adaption of analytical capabilities, especially big data, depends on the organization's maturity. Similarly, Gupta et al. (2018) explained that big data alone is ubiquitous, but if used with predictive techniques, machine learning, artificial intelligence, and data mining, it will deliver the expected benefits.

In analytics, it is essential to have high data quality. According to Shamout (2019) quality of data and the ability to process them can reduce uncertainties and disruptions. Najjar et al. (2019) introduced several criteria for information quality: accuracy, adequacy, completeness, timeliness, and credibility of information shared between the supply chain actors. Data becomes of high quality if adequately filtered. Oliveira and Handfield (2019) added that the power of real-time data enabled by digitization, cloudbased computing, and mobile technology results in more agile supply chains. In this context, Fosso and Akter (2019) differentiated sensor data, RFID data, location data through mobile devices, click-stream data through the web, transaction data, video data, voice data, and consumer sentiments from social media. Moreover, data quality contributes to the trust factor meaning supply chain managers will trust data if they are reliable. Ultimately, poor data quality may lead to customer dissatisfaction, increased cost, and employee dissatisfaction.

Managers with analytical capabilities are essential for humanitarian supply chains. They can absorb data quickly and make more effective data-driven decisions (Oliveira & Handfield, 2019). Furthermore, managerial, analytical capabilities and rigorous data quality result in substantial supply chain performance. Therefore, Oliveira and Handfield (2019) posited that supply chain managers should develop an analytical culture to align decision making. Gupta et al. (2018) found that the adaption of big data analytical capabilities depends on the managerial capacity to engage employees, assemble the team, coordinate analytical activities, understand the business needs and outputs extracted from the big data.

Use of Big Data Predictive Analytics (BDPA) in Supply Chain. The objective of using big data analytics is to improve the supply chain analytic capability. Big data analytics is a holistic process that involves 5V (volume, velocity, variety, value, and veracity) in the context of the collection, analysis, use, and interpretation of data (Fosso & Akter, 2019). Dubey et al. (2019) defined big data predictive analytics (BDPA) as the combination of tangible resources encompassing physical and financial resources and intangible resources such as employee's skills, knowledge, IT tools, and process. Mikalef et al. (2020) defined big data analytics capability as the ability of the firm to capture and analyze data to create insights and evidence to support transformation. In their research, Dubey et al. (2019) found a significant influence of BDPA on visibility and coordination among humanitarian actors. Similarly, Mikalef et al. (2020) argued that BDPA could enhance dynamic capabilities and lead to innovation, data-driven decision-making culture, identification of new business opportunities, and eventually high performance.

Therefore, organizational learning is essential to implement the BDPA. Dubey et al. (2019) further found that BDPA has a significant influence on building trust among supply chain stakeholders, which is crucial in the humanitarian sector compared to commercial due to the high degree of uncertainties, language, cultural diversity, and complex organizational structures. Moreover, BDPA may bridge the gap between the civilian and military sectors in disaster relief operations because of the usual reluctance in information sharing between the two branches (Dubey et al., 2019).

Business Performance Management in Humanitarian Supply Chain. Analytics capabilities enable business performance assessment. Shamout (2019) argued that BDPA could improve supply chain performance by improving visibility, resilience, and robustness. Moreover, Agarwal et al. (2019) posited that a performance measurement system is becoming an essential requirement from donors because it provides the actual data to ensure resources, improve accountability and establish operational efficiencies and effectiveness. However, humanitarian operations still lack a robust measurement system and exclude beneficiaries' perspectives (Najjar et al., 2019). Dubey et al. (2019) emphasized the importance of metrics standardization for global assessment of the humanitarian organization. In this context, Agarwal et al. (2019) suggested the balanced scorecard for measuring the performance and the Supply Chain Operations Reference (SCOR) for evaluating the overall health of the humanitarian supply chain management. However, according to Moura et al. (2019), sometimes culture may hinder performance. Some of the performance metrics for measuring the humanitarian supply chain performance that Agarwal et al. (2019) and Moura et al. (2019) proposed, are: resources,

output, flexibility, reliability, responsiveness, cost, agility, customers service, a donation to delivery time, appeal coverage, utilization metric, social welfare, and innovation metric. Similarly, Najjar et al. (2019) suggested a demand-driven humanitarian supply chain, instead of the forecast, is driven to improve the value offered to the customers.

Use of Knowledge Management Capability. Supply change managers in organizations must promote knowledge management capabilities to survive a turbulent and ever-changing environment. Precisely, developing and sharing new practices can improve performance long-term and its survival, growth, stability, and competitiveness (Attia & Eldin, 2018). Therefore, Breznik et al. (2019) argued that organizations must build dynamic capabilities by adopting new, upgrading existing knowledge, and transforming it into solutions. This argument is in line with Lyra et al. (2017), arguing the importance of knowledge diversity as a decisive success factor. Aslam et al. (2020) emphasized a learning culture allowing rapid knowledge gathering and seizing new opportunities.

There are two types of knowledge: tacit and explicit. Tacit knowledge is ineffable and includes people beliefs, experiences, perspectives, paradigms, and values, while explicit knowledge is institutionalized through written materials such as manuals, blueprints, policies, and procedures (Lyra et al., 2017). Sikombe and Phiri (2019) continued that explicit knowledge is palpable and easy to communicate and transfer. On the contrary, tacit knowledge is subjective, can be ambiguous and it is challenging to transfer, especially if the supply chain is specific with unique settings. However, tacit knowledge has cognitive value, incorporated in peoples' skills as a learning result. Tacit

knowledge allows individuals to develop their mental models based on the acquired information, thus facilitating supply chain managers to address new challenges successfully. Sikombe and Phiri (2019) concluded that both tacit and explicit knowledge is positively associated with supply chain performance; whereas, tacit knowledge is more significant than explicit knowledge. However, both kinds of knowledge are essential for knowledge sharing and require holistic evaluation.

Knowledge sharing may bring considerable advantages to supply chains. Huo et al. (2021) articulated some benefits applied to the manufacturing sector. These benefits include inventory reduction, cost reduction, enhanced visibility, reduced uncertainties in demand and supply, rapid response to clients' needs, improved track and trace, reduced replenishment time, and optimized capacity utilization. To materialize the benefits, Sikombe and Phiri (2019) explained the need to create, share and disseminate knowledge. However, Sangari et al. (2015) further refined knowledge management processes into six steps. First, knowledge creation implies knowledge sourcing within and outside the organization. Second, knowledge capturing includes new knowledge development, and it should be a continuous process. Third, knowledge organization requires information filtering, its usefulness identification, and modeling. Next, knowledge storage includes data warehouses into the efficient format and data access security. Fifth, knowledge dissemination is the process of knowledge exchange. Last, through knowledge application managers' ideas gets into actions resulting in desired efficiencies.

Lack of knowledge in humanitarian logistics may have massive consequences. Some of those consequences include operational inefficiencies, delays, duplicated efforts,

monetary loss, enhanced suppliers' opportunism, uncertainties, or increased fatalities. In general, it disables risk mitigation and eventually leads to supply chain underperformance (Prasanna & Haavisto, 2018). Diedrichs et al. (2016) explained that some of the barriers causing such difficulties include political interests, donor requirements, different leadership styles, or administrative structures not promoting integrations. Aslam et al. (2020) highlighted unwillingness or inability to share knowledge as the primary barrier followed by the lack of interdependency and lack of common interest. Additionally, a lack of common understanding or common vocabulary is often another reason negatively affecting knowledge sharing (Lyra et al., 2017). Due to the complex operational environment, humanitarian supply chain managers should build an adequate knowledge management diffusion system through effective and sustainable relationships among stakeholders (Aslam et al., 2020).

There are ways to address knowledge sharing impediments successfully. One of the powerful methods is education, through staff training to build up knowledge (Azmat & Kummer, 2019). Lu et al. (2018) articulated several learning mechanisms used in humanitarian supply chains. First, hiring in humanitarian operations usually applies at the initial hiring stage when recruiters identify incumbents with supply chain knowledge, relief experience, and local networks. The advantage of this learning mechanism includes direct access to resources. However, the disadvantage would be the possible high cost. Second, learning mechanism by doing takes place during already established operation in the field. On the job learning substantiates staff lacking field experience, but training staff shortage may jeopardize the execution. Third, learning by observing in the humanitarian

program is a common practice applied when experienced staff enhances their knowledge from senior colleagues. The benefit of this kind of learning entails acquiring new knowledge at a lower risk. Last, learning by searching applies at the planning and reporting stage when staff is expected to codify and retain the knowledge.

Social capital is a critical factor for knowledge exchange in humanitarian supply chains. Literature often used information sharing interchangeably with knowledge sharing. Najjar et al. (2019) posited the social capital is crucial for information sharing in the buyer-supplier relationship because it improves information quality, lowers the cost, enhances service level and resource optimization. Sigala and Wakolbinger (2019) stated that humanitarian organizations could leverage preparedness by absorbing the private sector's knowledge because it possesses a higher technical expertise level. As a result, humanitarian logisticians will demonstrate a higher level of engagement, retention and develop skills that otherwise would not. Mofokeng and Chinomona (2019) stated that knowledge sharing occurs through supply chain integrations. They differentiated internal integrations between departments within the same organization and the other one with the external supply chain partners. According to Najjar et al. (2019) internal integrations enable external integrations because organizations must first develop the capability inside to integrate outside with external supply chain partners.

The Role of IT in Innovation, Analytics, and Knowledge Sharing in Supply Chain Management. IT has a vital role in the supply chain. IT is restructuring all aspects of businesses and making the world globalized (Wajdi et al., 2020). According to Yu et al. (2017), companies are making a significant investment in IT continuously to achieve

competitive advantage by applying cost-effectiveness and multifaceted approaches. Breznik et al. (2019) and Kwak et al. (2018) added that IT facilitates innovation and improves products, services, strategies, and processes, thus enabling dynamics in business activities, therefore acting as a critical factor in economic growth. Furthermore, according to Breznik et al. (2019), deploying dynamic capabilities, especially technological capability, is crucial for innovating the profitability and changing the organizational structure. Yu et al. (2017) investigated the impact of IT capabilities in supply chain integration. They found a significant positive relationship showing the immense value of IT capabilities in supply chain management. Khalil and Belitski (2020) further discussed the importance of the IT governance mechanism in integrating and reconfiguring internal and external resources in a dynamic digital environment. Internal resources encompass digital capabilities and skills within the firms, while external resources are acquired through information sharing using digital tools to enhance information and resource management. Zeraati et al. (2019) thoroughly elaborated on strategically important knowledge gained from the external resources and then translated it to the organizational needs.

Collaboration among humanitarian supply chain actors dramatically determines the success of the humanitarian operation. If supported by IT, the information sharing, coordination, and creation of digital networks become faster, and organizations achieve innovation (Aulkemeier et al., 2019; Prasanna & Haavisto, 2018). Therefore, investing in IT capabilities is a long-term approach and potentially enhancing information sharing, flexibility, agility, collaboration, and coordination among supply chain actors in

humanitarian organizations. Similarly, IT has the capability to measure, monitor, and evaluate, thus may convince donors to support and allocate funds. Therefore, Parast (2020) explained that investment in R&D results in improved communication and collaboration across the firm. For the innovation based on collaboration, Lee and Yoo (2019) used the term open innovation.

Antecedents of IT-based collaboration are crucial to understanding. The answer rests in collaboration between individual partners and the integrated digital platforms designed with a high level of interoperability, such as the Enterprise Resource Planning (ERP) systems, radio frequency identification (RFID), and electronic data interchange (EDI) (Aulkemeier et al., 2019). ERP is associated with numerous benefits such as massive storage and retrieval of data, increased level of cooperation, access to actual time-critical data, ongoing exchange of information, unique product identification, accurate information flow, collaborative forecasting, and scheduling, identifying hazards, and a better understanding of operational challenges (Fischer-Preßler et al., 2020). However, Aulkemeier et al. (2019) elaborated on some ERP limitations. First, a mass of service providers, service users, and their commitment must create value and justify the investment. Second, the architecture of the ERP should be based on cross-functional partnerships to maximize the output value. Third, the minimum set of mission-critical transaction processes is required. Last, only the strong interoperability capacity of the ERP system can realize the benefits. Therefore, Aulkemeier et al. (2019) concluded the extensive evaluation of ERP benefits' benefits before its implementation.

IT is a significant enabler of knowledge sharing. Wajdi et al. (2020) explained that technologies are connecting enterprises easily, but they can only do that much if there is no willingness to share the knowledge between stakeholders. Therefore, Attia and Eldin (2018) argued that social and technical aspects are an essential part of knowledge management infrastructure. Zeraati et al. (2019) developed a model to investigate the effect of knowledge sharing and different IT technologies on supply chain management's success and found a positive impact. Moreover, these IT technologies facilitate coherence and collaboration too. Zeraati et al. (2019) added that suppl chain management technology systems should be compatible with changes and employees trained to use them, thus building on dynamic capabilities stating that businesses must exist in highly innovative environments to leverage the knowledge (Teece, 2007)

Theme 2: Decision-Makers in Humanitarian Supply Chains

Managers are critical components in developing dynamic capabilities. Breznik et al. (2019) explored managerial abilities within a dynamic capability framework. Therefore, they grouped managerial capabilities into sensing, seizing, and reconfiguring capabilities and elaborated extensively on each managerial capability. For example, managers with effective communication skills can sense opportunities inside and outside the firm. Similarly, open-minded managers embracing diversity and building trustworthy long-term partnerships have seizing capabilities (Chen & Kitsis, 2017). Therefore, Breznik et al. (2019) suggested managers to take an active role in sensing, seizing, and reconfiguring dynamic capabilities and leading by example.

Use of Leadership in Humanitarian Supply Chain Management. The leadership role in the humanitarian supply chain is crucial. Moura et al. (2019) explained that in humanitarian organizations, leaders must manage the resources originating from donors considering the impact of political and economic circumstances. Furthermore, humanitarian organizations consist of regular employees and volunteers whose leaders should manage them differently. Volunteers' motivational components are weaker compering to employees. Therefore, leaders should know how to enhance motivation, manage their expectations, and maintain high efficiency and effectiveness. L'Hermitte et al. (2017) added that humanitarian supply chain managers manage the network of interconnected stakeholders. Therefore, leaders should manage the supply chain from a global perspective.

There is a difference in managing humanitarian and commercial supply chains. In business, the focus is on the final user who is the source of funds. Conversely, humanitarian supply chains focus on processes and activities because they need to respond rapidly and efficiently to unpredictable changes. In this context, Aslam et al. (2020) posited that entrepreneurially oriented humanitarian supply chain managers might close the gap by reconfiguring resources and seizing the opportunities as they arise. Moreover, entrepreneurial managers usually embrace innovative technologies quickly, thus creating value in a dynamic, complex, and uncertain competitive environment. Nevertheless, Chen and Kitsis (2017) demonstrated that morals affect the management's commitment to a sustainable supply chain.

Researchers are growingly exploring e-leadership. For example, Khalil and Belitski (2020) studied e-leadership in connection with dynamic capabilities. They concluded that e-leaders are ones adopting information technologies and developing digital dynamic capabilities. Furthermore, since technology supports big data harvesting, Mikalef et al. (2020) posited that manager nowadays are becoming more data-driven and less intuitive in their decision making. In this context, Gupta et al. (2018) continued that manager understanding the applicability and the output of big data can anticipate future business needs.

There are barriers associated with leadership. According to Bealt et al. (2016), these barriers include a structural, mandate, and behavioral barriers. Structural barriers include poor governance, accountability, and inadequate resources. However, mandate barriers emerge when members are not committed to tasks and activities. Similarly, Bealt et al. (2016) elaborated on lack of authority, competencies, and skills as behavioral barriers. Breznik et al. (2019) compared positive and negative managerial practices in different areas such as strategic orientation implementation, organizational structure, organizational culture, managerial capabilities and leadership, human resources, and continuous knowledge transfer and absorption. Managers may use it as guidance in realizing the implications of their managerial actions. Chen and Kitsis (2017) added that developing strategic capabilities take commitment from top management and requires time and respect for cultural diversity and natural systems.

Managers have a crucial role in supply chain performance. Chen and Kitsis (2017) found that managerial values mediate the effects of stakeholder pressure. On the contrary,

managers may engage in self-interest-seeking behavior. However, this depends on whether top managers perceive stakeholder pressure as an opportunity or threat. Chen and Kitsis (2017) continued that management commitment to sustainability defines relational capabilities and sustainable initiatives. Precisely, managers define employee behavior, organizational value, and culture. Managers are responsible to ensure collaborative mindset which motivates sustainable interactions.

Relational Capabilities as Dynamic Capability in Supply Chain. Relationship building is a critical capability in supply chain management because of increasing dispersity among customers, suppliers, and service providers. Prasanna and Haavisto (2018) described a relationship as a degree of closeness between and among the organizations. Fragmented relational practices such as communication, collaboration, information sharing, trust-building, process integration, collaborative performance system, and risk management combined create relational capabilities and resulted in uplifting performance, sustainable outcome, and competitive advantage (Friday et al., 2018; Chowdhury et al., 2019). To interconnect mentioned relational practices, the commitment of top management is imperative.

Relational capabilities have been extensively researched through the lens of relational view theory. The relational theorists argue that an organization can generate relational rents and gain higher performance against uncertainties if managers invest in relational capabilities. Precisely, collaborative capabilities are considered the most effective in deploying resources, developing competencies, processes, and structures addressing potential risks (Dyer & Singh, 1998). However, in their research, Fan and

Stevenson (2019) found that too much or too little relational capital with the supplier may bring negative consequences on supply-side resilience for buying organizations.

There are different dimensions of social capital. Najjar et al. (2019) grouped social capital around structural, relational, and cognitive dimensions. Structural capital includes formal and informal interactions between humanitarian supply chain stakeholders. Cognitive capital implies shared understanding, vision, and goals that keep members together. Conversely, relational capital entails interpersonal relationships based on mutual trust and reciprocity (Najjar et al., 2019). Therefore, factors that contribute to seamless relationships among supply chain partners are information sharing, trust, commitment, flexibility, transparency, and mutual respect (Prasanna & Haavisto, 2018). However, Adem et al. (2018) argued that political effects are primary drivers for collaborations.

Complexities surrounding relationship establishment are associated with different barriers. Bealt et al. (2016) elaborated on structural, mandate, and behavioral obstacles. Structural barriers include poor governance, accountability, and inadequate resources. Mandate barriers result from a lack of commitment to coordinated activities. Similarly, behavioral barriers encompass a lack of authority, competencies, and skill. Poor planning, weak teamwork, lack of training, lack of standardization, and internal bureaucracy are additional impediments to integrations and collaborations (Makepeace et al., 2017). Adem et al. (2018) elaborated on governmental policies, socioeconomic settings, and high staff turnover affecting the collaborations. In the humanitarian context, organizations often compete over resources, donors, and local networks, thus

discouraging them from investing in collaborations. Similarly, a high level of uncertainties additionally creates barriers to inter-organizational interactions (Moshtari & Gonçalves, 2017). Bealt et al. (2016) further explained that understanding the culture will help overcome those barriers while enhanced performance measurement will allow visibility, detect gaps, and identify adequate relational practices. In this context, Friday et al. (2018) analyzed collaborative risk management that includes the following capabilities to mitigate risks: risk information sharing, standardization of procedures, joint decision making, benefit-sharing, process integration, and collaborative performance systems.

Use of Coordination and Collaboration in Humanitarian Supply Chain Management. Relational capabilities entail collaborations and coordination among supply chain partners and act as the principal element of successful sustainability practices. Chen and Kitsis (2017) posited that relational capabilities developed through collaborations are difficult to imitate, thus presenting a key source of competitive advantage. Additionally, sustainability-based collaborations rooted in trust, commitment, shared values, and common vision are prerequisites and outcomes of collaborations (Chen & Kitsis, 2017). Collaborations have been extensively researched. The common findings is that collaborations are required at every stage within the supply chain: planning, procurement, and transportation. Prasanna and Haavisto (2018) explained collaborations through being relationships-focused and processed-focused. The former entails close and long-term relationships, while the latter is based on processes that supply chain actors take to achieve the common goal. Prasanna and Haavisto (2018)

elaborated on elements leading to collaborative behavior: trust, mutuality, information exchange, communication, and commitment. In a humanitarian context, stakeholders often fail to exercise effective coordination because of not placing beneficiaries in the program's center (Thiruchelvam et al., 2018).

In the context of humanitarian operations, collaborations are essential. Prasanna and Haavisto (2018) and Wilson et al. (2018) explained that collaboration results in emergency response efficiency. Lu et al. (2018) added that collaborations in humanitarian settings could vary, including local, regional, and international participants rapidly grouped. However, since rapidly formed, Lu et al. (2018) warned challenging to exercise the swift trust critical for the coordination effectiveness in relief programs. Additionally, relief logisticians often lack experience and knowledge in relief operations, thus adding to challenges. Adem et al. (2018) emphasized the complementarity of the capability of each stakeholder critical for a successful humanitarian relief program. However, since the humanitarian system is a combination of agencies with different missions, mandates, and priorities, it can become difficult to establish relationships. Therefore, Bealt et al. (2016) proposed utilizing the humanitarian cluster approach that facilitates information dissemination across multiple agencies responsible for ensuring predictable leadership, accountability, and relationships.

Complex relief programs require collaborations and coordination on all levels. A degree to which supply chain partners collaborate Torabi et al., (2018) called supply chain integration and further evaluated supplier integration, customer integration, external integration, and internal integration. Adem et al. (2018) elaborated on types of

partnerships in humanitarian organizations, including private businesses and contracts to host governments, the military, or NGOs. The former ones are described as fast-moving and action-oriented while the latter one very bureaucratic and slow. Najjar et al. (2019) further elaborated on relationships between employees and refugees as crucial for the propensity of the shared information. In this context, Moshtari and Gonçalves (2017) differentiated horizontal and vertical relationships. The vertical includes parallel collaboration with suppliers and customers, sharing responsibility, resources, and information. Conversely, horizontal relationships include collaborations with competitors to increase efficiency and reduce the cost. Similarly, Prasanna and Haavisto (2018) evaluated relationship-focused collaboration and process-focused collaborations.

Communication has critical significance in humanitarian logistics. Um and Kim (2019) explained that quickly exchanging the information among multiple supply chain stakeholders leads to an effective operational outcome. Similarly, Anh et al. (2019) added that lack of communication, coordination, and collaboration results in an inability to form relationships between partners. Turkulainen et al. (2017) emphasized the power of information communication across the organization through various means fostering relationship building. However, Diedrichs et al. (2016) elaborated on major barriers to efficient communication: political interests, military forces, donor requirements, geographical dispersion, and management styles.

Multiple benefits are deriving from collaborations. Prasanna and Haavisto (2018) elaborated on joint inventory management, increased inventory turnover, reduced operational cost, improved responsiveness, added economic value. Similarly, Mofokeng

and Chinomona (2019), and Um and Kim (2019) conceptualized supply chain collaborations through following inter-related elements: information sharing, goal congruence, decision synchronization, incentive alignment, resource sharing, collaborative communication, joint knowledge creation, achieved economies of scale, standardized supplies, increased speed and flexibility, leveraged purchasing power, enhanced value for money, and accountability to donors and beneficiaries. Anh et al. (2019) added increased customer satisfaction and cleared division of responsibilities among partners, while Adem et al. (2018) confirmed new knowledge creation and ability to solve complex problems as further benefits of collaboration. Turkulainen et al. (2017) added goal alignment, achievement of synergies, and management of interdependencies. Anh et al. (2019) found that relational capital leads to innovation through facilitating information sharing. However, Wilson et al. (2018) warned that if collaborative relationships pass beyond a certain level, it deteriorates operational performance due to opportunism, thus aligning with the findings of Fan and Stevenson (2019), confirming a relationship between relational capital and supply-side resilience is non-linear. Similarly, Anh et al. (2019) brought to attention that collaborations in 60 percent of cases fail mainly due to lack of relational capital. Therefore, collaborations are not a straightforward process.

Culture is an essential determinant of collaboration outcomes. Doering et al. (2019) found culture as a mediator in understanding the ways relational practices are used. Prasanna and Haavisto (2018) explained that cultural fit among humanitarian supply chain actors promotes healthy relationships and adds to the operational quality.

Conversely, differences in culture may negatively affect the relief response. Porter (2019) found that clan and adhocracy culture significantly positively correlate with supplying chain integrations and performance. Conversely, hierarchical culture was found with a negative influence. Azmat and Kummer (2019) explained that each actor within the supply chain brings its culture, mandate, and priorities, thus adding to coordination complexities. In their research, Prasanna and Haavisto (2018) emphasized the compatibility of corporate cultures as one of the fundamental facilitators enhancing partnership growth. However, this factor can differ significantly in humanitarian settings because larger humanitarian organizations often exert more influence.

Technology plays a vital role in humanitarian collaborations. Because suppliers are globally located, it is crucial to connect electronically and collaborate in a virtual enterprise (Khalil & Belitski, 2020). Aulkemeier et al. (2019) explained that utilizing the information systems and communications technologies contributes to inter-organizational compatibilities because digital systems allow open, flexible, agile, and demand-driven collaborations. As a result, interactive and collaborative relationships lead to developing partnerships and alliances, which helps to build dynamic capabilities and ensure superior performance (Chowdhury et al., 2019).

The Role of Trust Among Humanitarian Supply Chain Partners. Trust among supply chain partners is one of the essential resources. Trust motivates engagement in social interactions and is critical in long-term relationships (Chen & Kitsis, 2017). Prasanna and Haavisto (2018) posited that lack of trust might result in rivalry. Additionally, mutuality and reciprocity can help to build trust too. Wilson et al. (2018)

and Najjar et al. (2019) highlighted that trust and established social capital should enhance the reliability of information shared among partners and willingness to share. The capability to develop swift trust is essential in humanitarian and relief operations because swiftly formed global team members must work together towards the common goal (Lu et al., 2018). However, Bealt et al. (2016) argued that the humanitarian community does not necessarily trust the good intentions of the private sector while private organizations perceive humanitarian organizations as overly bureaucratic. Nevertheless, investing in inter-organizational trust and developing bonding skills lead to positive collaborative relationships (Lu et al., 2018).

Theme 3: Risk Management Capabilities Ensuring Sustainable, Resilient, and Agile Supply Chain

Supply chain risk management is essential for humanitarian logistics because humanitarian organizations experience risks when they prepare for and respond to disasters. Supply chain interruptions can lead to a humanitarian crisis. Therefore, Jahre (2017) evaluated supply chain strategies that mitigate risks and improve logistics preparedness in humanitarian organizations. Some of the evaluated strategies include centralization, collaboration, flexible supply base, flexible supply contracts, flexible transportation, make-and-buy, postponement, and strategic stock. Similarly, Sigala and Wakolbinger (2019) explored and summarized the main risks related to humanitarian organization and found that delivery delays, insufficient capacity, single sourcing, price, and market fluctuation are the most significant risks. To mitigate those risks,

humanitarian organizations often establish agreements with logistics service providers during the preparation phase.

Humanitarian organizations operate in an unstable and dynamic environment and have to address complex factors. Therefore, it is required to embrace the agile strategies to respond quickly to internal and external life-threatening risks and uncertainties (L'Hermitte et al., 2017). However, establishing agility requires time, and an efficient supply chain requires anticipated responsiveness (Shafiq & Soratana., 2019). The UN Office for the Coordination of Humanitarian Affairs (OCHA) identified agility as their priority and operationally focused (L'Hermitte et al., 2017). For example, rapid airlift transportation and swift deployment of an emergency team are related operational activities. Dubey et al. (2018a) also discussed the trade-off between adaptation and standardization and the level of planning requirements for the agile humanitarian supply chain to achieve the anticipated responsiveness.

Resilience to the supply chain is a multidisciplinary concept and essential in today's time of continuous disruptions. Every supply chain is subject to disruptions risks originating from supply, demand, control, processes, and environment (Parast, 2020). According to Scholten et al. (2019), there is 75 % supply chain that experienced disruptions. In this context, Sabahi and Parast (2020) stated that 80% of firms consider resilience to supply chain disruptions as a top priority. Therefore, in their literature review, Chowdhury et al. (2019) concluded that resilience is at the forefront in supply chain management research. Similarly, Zamanian et al. (2020) posited that supply chain resilience has the power to retain the primary structural supply chain. Kwak et al. (2018)

differentiated resilience from robustness, where robustness is the capability to resist and sustain while resilience is the ability to adapt and retain, thus addressing unforeseen events.

Use of Risk Management in Supply Chain. There are many definitions of risks. Aslam et al. (2020) described risks as phenomena preventing routines and decision-making patterns, therefore something to be managed and avoided. In the context of the supply chain, Friday et al. (2018) defined supply chain risk management as an inter-organizational collaborative effort to identify, evaluate, mitigate, and monitor unexpected conditions which might impact the supply chain. Fischer-Preßler et al. (2020) explained risk identification as the process of determining the potential threats. Risk analysis comprises understanding and extent of damages. Risk reduction includes measures reducing risks, while risk monitoring is a continuous audit function assessing the risk-reducing measures. In all phases of risk management, Fischer-Preßler et al. (2020) highlighted the contributing role of IT.

Supply chain risk management has been extensively researched. Friday et al. (2018) used the term collaborative risk management to jointly coordinate events prior, during, and after incidents in an attempt to prevent or mitigate adversities. Friday et al. (2018), furthermore, identified six related capabilities. They are risk information sharing, procedure standardization, joint decision making, risk and benefit-sharing, process integration, and collaborative performance systems. In the context of collaborative risk management in the supply chain, Fischer-Preßler et al. (2020) explored IT systems supporting preventive collaborative practices.

Researchers explored various methods for successful risk management. Friday et al. (2018) concluded that effective technology utilization, efficient leadership, teamwork, and communication would enhance visibility, establish risk management culture, and mitigate disruptions. Such a digital supply chain is driven by the Internet of Things, Big Data Analytics, Cloud computing, ERP systems, RFID technology, barcoding, and additive manufacturing solutions. Fischer-Preßler et al. (2020) explored the role of IT in risk reduction more profoundly and posited that organizations intensively invested in IT solutions in the last two decades. The research resulted in a two-dimensional approach to categorize IT.

The level of risk-taking varies among organizations. Aslam et al. (2020) explained that entrepreneurial organizations embrace the risks, innovations, and constantly reconfiguring their resources. Conversely, organizations avoiding risks are lacking agile supply chain processes and flexible responses to changing market conditions. Similarly, Shamout (2019) researched the dual effect of outsourcing risk strategy and found that outsourcing may result in benefits such as cost advantage or access to large markets. However, it can also result in challenges, namely exchange rate, transportation risks, political and environmental uncertainties. Friday et al. (2018) suggested collaborative risk management that streamline risk practices, perceptions, and risk assessments across the supply chain. Finally, Fischer-Preßler et al. (2020) differentiated direct risks on own operation and indirect risks affecting associated supply chain partners. The latter may cause a ripple effect, meaning disturbance at one point in the supply chain involves remaining partners.

Innovation relates to risk management capabilities. Kwak et al. (2018) investigated the impact of supply chain innovation on robustness and resilience as risk management capabilities. They found a significant positive relationship. However, innovation could be both a risk enhancer and a reducer. In this context, Kwak et al. (2018) explained that technology innovation facilitates numerous activities such as planning, forecasting, and purchasing, thus augmenting the risk. Conversely, technology innovation provides a solution, potentially improving operational capability and reducing risks. Conclusively, supply chain managers should take a balanced approach in new technology adoption and innovation implementation.

Use of Supply Chain Agility. There are many definitions of agility. L'Hermitte et al. (2017) explained agility as an organization's ability to respond to changes rapidly and effectively and continued that being agile means being purposeful, action-focused, collaborative, and learning-oriented. Shafiq and Soratana (2019) explained the agile supply chain as responding rapidly to changes, using advanced information systems, integrating processes, and supporting business networks. Nelan et al. (2018) defined agility as the ability to thrive and efficiently respond to customers in an environment of constant and unpredictable change.

Similarly, Shafiq and Soratana (2019) posited that supply chain agility is the organizational ability to respond promptly to uncertainty in customer demand. Dubey et al. (2018b) stated that agility is the property of the supply chain that enables the organization to sense changes, adjust tactics and operations internally to address opportunities successfully and threats, thus fitting to the DCT.

A humanitarian supply chain requires a trade-off between agile and lean supply chain too. Dubey et al. (2018b) explained agility is needed for the restoring stage and lean supply chain later at the reconstruction stage. In this context, Shafiq and Soratana (2019) presented a two-matrix model showing emergency humanitarian operations requiring a high level of agility while developmental scope requires a substantial lean process. Shafiq and Soratana (2019) used the term leagility management that combines lean and agile management and stated that 90% of humanitarian organizations participate in both emergency and developmental activities. Aslam et al. (2020) evaluated flexible and agile supply chains and found that adequate supply chain design entailing resources and infrastructure enables effective response to changes. Nelan et al. (2018) explained agility in humanitarian supply chains must address the unstable nature of funding from donors.

Agility is a business-wide capability. L'Hermitte et al. (2017) explained that agility involves organizational structure, information systems, processes, and mindset and continued with four characteristics of agile organizations. They are demand-driven, event-driven, process-oriented, and virtually integrated. As a result, supply chain managers will be able to respond to current issues and future uncertainties. Dubey et al. (2018b) found that too many standardizations in procedure and formalistic hierarchical authority result in inflexible supply chains. Therefore, Dubey et al. (2018b) suggested structural flexibility means flexible standard procedures defined for each situation, considering geography, infrastructure, and geopolitical context. L'Hermitte et al. (2017), in their research, explored strategic dimensions of agility. In addition to previously

mentioned purposefulness, action-focused, collaboration, and learning orientation, there are additional three dimensions discussed: leadership essential for quick decision making, availability of information for effective deployment of resources, and extensive field presence. In their research, Dubey et al. (2018b) complemented agility capability with adaptability and alignment as a powerful combination to achieve sustainable competitive advantage.

Agility was mainly studied through the lenses of the DCT. In this context, sensing environmental forces, seizing opportunities, and adapting resources to overcome threats make dynamic capabilities the most appropriate lens to study agility in the supply chain (L'Hermitte et al., 2017). In this context, Aslam et al. (2020) stated that agile supply chains are adaptable and reconfigurable to address the market alterations and gain a competitive advantage. Therefore, only agile and adaptive supply chains can seize new opportunities and transform the long-term supply chain to address changes in customer demand. The supply chain was studied extensively through the RBV perspective too. However, Dubey et al. (2018b) argued that supply chain capabilities are more complex and involve other components such as coordination among organizational members as the most critical to success. In this context, L'Hermitte et al. (2017) found eliminating silos essential and leading to collaborative relationships as the most significant agility capability.

Agility enablers allow the deployment of agile capabilities. Those enablers include people, processes, and technology. L'Hermitte et al. (2017) explained that the agile workforce is characterized by experienced, educated, multi-skilled, creative,

diverse, adaptable, proactive, team players, technology, and innovation-oriented staff. Moreover, such agile staff understands the organization's vision. L'Hermitte et al. (2017) explained that technology integrates and coordinates, thus leverage skills and knowledge. Similarly, technology has the capability to enhance market sensitivity. First, this means that the supply chain is becoming demand-driven and able to respond to actual demand. Second, instead of inventory-based supply chains are becoming virtual. Third, technology enhances relationships and integration across the supply chain. Aslam et al. (2020) explained that other enablers of the agile supply chain are organizational structure and having a managerial mindset that aligns customers and suppliers. Nelan et al. (2018) added integration as critical to the success of agile supply chains. Supply chain agility requires strong leadership. Precisely, leaders are expected to manage risks, uncertainties and take advantage of opportunities (L'Hermitte et al., 2017). For agility to yield more efficient results, supply chain managers must be prepared and take steps before an event occurs (Dubey et al., 2018b). External disruptions inevitably occur. So, Shafiq and Soratana (2019) stated that supply chain managers could address such events by preparing emergency plans, networking with suppliers, contingency inventory planning, and creating a stable network of third-party logistics services. Dubey et al. (2018b) added that top management is vital in establishing relationships between acquiring resources and developing capabilities.

Supply Chain Resilience Capabilities as Dynamic Capability in Humanitarian Supply Chain. Many researchers tried to articulate supply chain resilience through different definitions. Parast (2020) posited supply chain resilience as a

dynamic capability helping firms to respond to and recover from disruptions. A simple definition originated by Chowdhury and Quaddus (2017), saying that supply chain resilience is the organizational capability to survive in a turbulent environment. Chowdhury et al. (2019) explained resilience as the capability of the supply chain to develop readiness, response, and recovery to manage risks, thus ensuring the return to the original state or even better after disruptions. However, Mackay et al. (2020) explained resilience as the ability to prevent and resist events and return to an acceptable level of performance in an adequate time. Similarly, Jafarnejad et al. (2019) explained resilience as an attribute required to address various unpredictable disorders and survive in a turbulent time. Kwak et al. (2018) and Scholten et al. (2019) defined supply chain resilience as the adaptive capability of an organization to prepare for, respond to and recover from any supply chain disruptions. Sawyerr and Harrison (2019) defined resilience as the ability to plan and design the supply chain network proactively, anticipate unexpected disruptive events, respond effectively, maintain control over structure and function, and pass to a more robust state of operations favorable than a prior disruptive event.

Resilience is a multidisciplinary concept and has been researched through many conceptual frameworks and recent researchers mostly grounded in DCT because it postulates capabilities to address challenges in turbulent times. Chowdhury and Quaddus (2017) used the dynamic capability view (DCV) and explained that a triple-A supply chain could be achieved by managing supply chain resilience via DCV. This is because DVC focuses on unpredictable and rapidly changing markets, thus requiring resource

reconfiguration within firms. Zamanian et al. (2020) conceptualized how learning can enable the development of dynamic capabilities such as resilience, resulting in establishing refine perspectives of learning for supply chain resilience and allowing managers to understand how to transform disruptions from adverse events to opportunity. Singh and Singh (2019) evaluated the adoption of new technologies such as big data analytics as a dynamic capability theoretical paradigm because firms operate in a fast-changing environment where it is necessary to respond and adapt timely.

Recent studies demonstrate extensive research on the relationship between innovation and resilience. Sabahi and Parast (2020) found that innovative firms are more resilient to disruptions because innovation fortifies capabilities that positively affect risk management. Precisely, capabilities mediating the relationship between innovativeness and resilience are knowledge sharing, agility, and flexibility. Similarly, Golan et al. (2020) argued that innovation generates positive risk management capabilities and elaborated on smart solutions, blockchain, and artificial intelligence to maintain agility and increase resilience during the COVID-19 pandemic.

The efficiency in measuring resilience is essential for firms to improve performance and sustain competitive advantage. Therefore, Chowdhury and Quaddus (2017) developed and validated hierarchical and multidimensional scales for measuring supply chain resilience. Similarly, in their research, Zamanian et al. (2020) adopted value at risk and conditional value at risk as two main measuring criteria for a resilient supply chain that function by assigning the weight to future events and calculating the expected values of different disruptive scenarios. As a result, supply chain managers will make

protective decisions concerning suppliers, emergency inventory, or protection strategies against stoppages. Golan et al. (2020) developed tiered resilience quantifying model using a supply chain index metric to optimize efficiencies when addressing the emerging challenges and concluded that without modeling, advanced resilience analytics could not be achieved. Measuring resilience connects with big data analytics that can collect, mine, analyze and visualize data effectively, resulting in transformed business processes and improved visibility, robustness, and performance (Shamout, 2019).

Supply chain managers show growing interest in big data analytics and start realizing its impact on resilience capabilities. Singh and Singh (2019) examined the effect of big data analytics on business risk resilience. They found that if organizations adopt big data analytic capability, it will allow transparency, sound decision making, accountability, and innovation, enabling them to develop supply chain resilience effectively. Conclusively, big data capabilities act as dynamic capability that creates the capacity to manage disruptions and result in competitive and sustainable advantage (Singh & Singh, 2019).

Without resilience capability, supply chains will be affected by disruptive events and exposed to multiple risks. Chowdhury et al. (2019) elaborated on financial losses as one of such risks. Subsequent risk includes supply chain discontinuity affecting and revenues and cost (Chowdhury & Quaddus, 2017). Similarly, the absence of resilience capability will not allow the supply chain to move towards adverse conditions. Jafarnejad et al. (2019) discussed several risks in procuring and delivering medical equipment. They are delayed delivery, damaged goods, errors during the ordering process, incomplete

payments. Consequently, the inability to address risk adequately leads to an inefficient supply chain and decreased performance. Golan et al. (2020) explored the effect of COVID-19 on supply chains and argued that lack of resilience in the supply chain caused serious consequences continuing for years. Singh and Singh (2019) explained that supply chains are no longer exposed to traditional risk factors. Instead, they expanded to new risks such as quality, safety, product, leadership, labor, or environment, making it challenging to develop effective risk management strategies.

Use of Supply Chain Resilience. Resilience can be composed of different elements. According to Sabahi and Parast (2020), there are two elements defining resistance. The first element is resistance capacity, considered as the ability to reduce or avoid disruptions. The second element is the recovery capacity, defined as the ability of a system to return to the functioning state. Chowdhury et al. (2019) stated five core elements of supply chain resilience. They can anticipate, adapt, recover, learn phases of resilience, and discuss resilience strategies. While Mackay et al. (2020) explored only two dimensions of resilience, that is, agility as reactive and robustness as proactive, Chowdhury and Quaddus (2017) and Sawyerr and Harrison (2019) in their research investigated numerous proactive and reactive supply chain design elements. Proactive resilience is the capability to recognize, anticipate and defend against risks. However, reactive resilience includes response and recovery abilities in the shortest possible time with a minor potential impact (Chowdhury et al., 2019). The proactive aspect of resilience encompasses flexibility, visibility, redundancy, integration, financial strength, market capability, reserve capacity, robustness, adaptability, collaboration,

integration, diversity, velocity, and efficiency to measure resilience. Conversely, reactive capabilities include agility, recovery time, cost, and response effort. Both proactive and reactive capabilities are required to adapt, integrate, and reconfigure pre-disaster and post-disaster phases (Chowdhury & Quaddus, 2017).

There are different factors affecting supply chain resilience. Jafarnejad et al. (2019) researched factors influencing the supply chain of medical equipment. They found that trust among supply chain stakeholders, risk management culture, adaptability, organizational structure, funding, and environmental conditions dominate. In this context, Zamanian et al. (2020) highlighted the importance of adaptive capability enabling the supply chain to react and recover from non-routine events. Sawyerr and Harrison (2019) added managerial commitment as a vital formative factor to supply chain resilience.

Researchers explored various resilience strategies. Chowdhury et al. (2019) investigated the following approaches to achieve supply chain resilience. These approaches are flexibility, redundancy, visibility, and collaboration, concluding their positive relationship with supply chain performance. Precisely, for the organization to improve its resilient capabilities and performance, supply chain managers should strategize supply chain practices and network structure (Chowdhury et al., 2019). Similarly, developing disruption orientation, resources configuration, and risk management infrastructure is a strategy that Chowdhury and Quaddus (2017) elaborated on in their qualitative research. Mackay et al. (2020) highlighted information sharing as a prerequisite for both proactive and reactive resilience. However, integration can improve

resilience, but mutual dependencies and impaired flexibilities may neutralize the value of integration.

Firms are applying various methods to enhance resilience. Chowdhury et al. (2019) posited that increased trust, cooperation, and commitment increase adaptive capacity, reduce environmental uncertainties, and improve resilience capability. In this context, Mackay et al. (2020) investigated the effect of relational competencies on resilience. They found that cooperation and communication positively affect resilience while integration does not have a significant impact. Similarly, Chowdhury and Quaddus (2017) examined a triple-A supply chain meaning agile, adaptable, and aligned. Jafarnejad et al. (2019) explained that adaptive capability allows the chain to move forward and recover while agility and ability to change quickly. Scholten et al. (2019) explored how knowledge creation and knowledge transfer can result in solid organizational resilience. Precisely, they uncovered six learning mechanisms fostering supply chain resilience: processual, anticipative, situational, collaborative, experiential, and vicarious learning. Anticipative and processual learning is essential in the preparedness phase, while experimental and vicarious in the recovery phase. However, situational and collaborative learning was found crucial during the response phase.

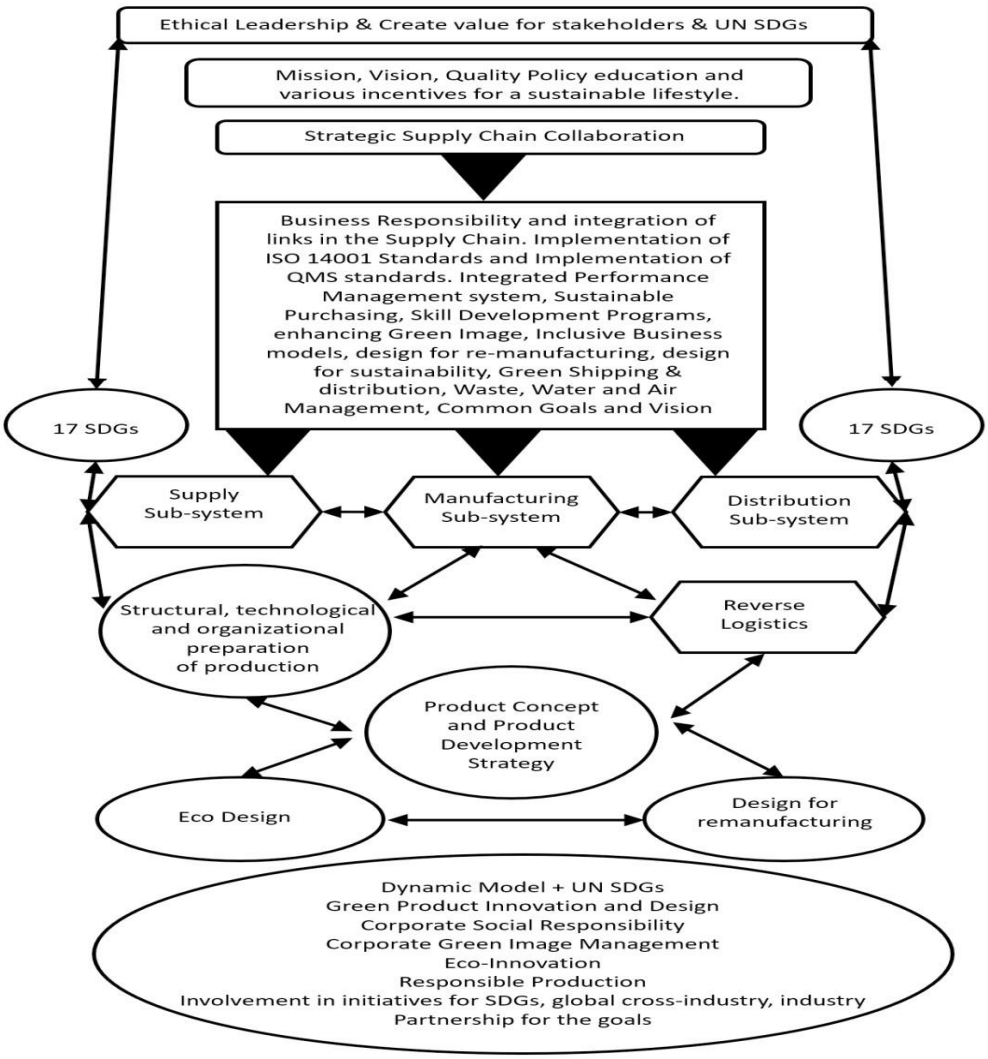
Use of Supply Chain Sustainability. Sustainable supply chain management is a vital phenomenon. Chen and Kitsis (2017) explained a sustainable supply chain as crucial for integrating business operations and sustainability, thus resulting in reduced risk and improved performance. Chen and Kitsis (2017) defined a sustainable supply chain as managing material, information, and capital flows through the chain intending to achieve

economic, environmental, and social goals. Similarly, Shan et al. (2020) defined sustainable supply chain management as the process of integrating and realizing the economic, environmental, and social objectives for the supply chain. Del Mar Alonso-Almeida et al. (2017) defined sustainability as a transformation of business model to achieve financial goals according to sustainable environmental and social criteria.

Understanding the goals of supply chain sustainability is essential for ongoing developments. Sherwat and Ebrashi (2017) elaborated on sustainability and scalability, creating a systematic social change. Chen and Kitsis (2017) explained the indirect outcome of sustainability management, which includes increased commitment when they perceive the firm as actively involved in sustainable programs. Russell et al. (2018) and Sudusinghe et al. (2018) researched the UN Sustainable Development Goals (SDG) framework to drive change towards sustainability in the global supply chain.
Russell et al. (2018) found two approaches embed sustainability in an industrial sector. First, the bottom-up ethical approach promotes the alignment of goals between supply chain stakeholders to benefit from the relationship. The second approach is top-down regulations. Nevertheless, Russell et al. (2018) criticized SDG for not providing practical decision-making concepts to companies. Conversely, Zimon et al. (2020) proposed guidance for managers and a three-phase approach including practices identification, alignment with SDG goals, and implementation model as shown in the Figure 1.

Figure 1

Sustainable Supply Chain Management Model Integration of the UN SDGs



Note. Adopted from "Drivers of sustainable supply chain management: Practices to alignment with UN sustainable development goals," by D. Zimon, J. Tyan, and R. Sroufe, 2020. *International Journal of Quality Research, 14*(1), p.230.

Researchers intensively explored ways to achieve sustainability in the supply chain. Chen and Kitsis (2017) developed the roadmap for a sustainable supply chain about antecedents of the sustainable supply chain, practices, and performance elements. They found that relational capabilities such as communication, collaboration, information sharing, and trust-building transform stakeholders' pressure, moral motives, mindset, corporate vision, and management commitment to a sustainable outcome. Furthermore, they found media as a powerful sustainability driver because the threat of media attention can force companies to act responsibly. Shan et al. (2020) emphasized supply chain collaborative innovation as the primary driver of dynamic capability for achieving a sustainable supply chain.

Understanding drivers for a sustainable supply chain is a growing interest of recent research. Zimon et al. (2020) grouped drivers of sustainable supply chain around company internal, customers or suppliers, and the sustainable supply chain management third parties. Inner drivers include management commitment, organizational involvement, supportive culture, productivity improvement, waste elimination, and competitive opportunity. Similarly, external pressure from customers or suppliers refers to social, environmental compliance, green production, reverse logistics requirements, and customer and supplier involvement. However, the supply chain third party encompass regulatory pressure, competitors, investors, and the general public, reputation, and social responsibility.

Measuring sustainability results is becoming a growing requirement for investors because they consider sustainability a vital indicator of overall business health. There are

three dimensions of performance in managing supply chains. They are economic, environmental, and social performance. According to Chen and Kitsis (2017), integrating all three dimensions differentiates traditional from the sustainable supply chain. Zamanian et al. (2020) explained that environmental responsibility is mainly measured through gas emissions, while social sustainability through damages to human health. However, Zamanian et al. (2020) highlighted the lack of a standardized reporting and measuring system for social sustainability, although Zimon et al. (2020) detailed performance metrics on social performance in addition to environmental and economic performance. Sudusinghe et al. (2018) explored the best practices and benchmarks to achieve a socially sustainable supply chain. Zimon et al. (2020) posited that efficient relations with suppliers would minimize environmental and social risks. Therefore, alignment between economic and environmental goals is crucial for a sustainable supply chain.

Implementing a sustainable solution can be challenging. The reasons are it is a time-consuming and complex process, thus possibly discouraging managers from continuing with their efforts (Zimon et al., 2020). In this context, leaders with dynamic managerial capabilities and social commitment will contribute to business sustainability (Del Mar Alonso-Almeida et al., 2017). Shan et al. (2020) explained that the inability to implement collaborative innovation directly negatively impacts supply chain dynamic capability and sustainable supply chain performance. Conclusively, alignment between individual dynamic capabilities and the relationship with key stakeholders leads to a sustainable supply chain.

Transition

Section 1 began with problem statement, purpose statement, and nature of study. Additionally, there are following elements included too (a) a central research question and interview questions, (b) a conceptual framework, (c) operational definitions, (d) assumptions, limitations, and delimitations, and (e) the significance of the study. I concluded with contributions to business practice and implications for social change, and review of professional and contemporary literature about the strategies of efficient humanitarian supply chain management in dynamic and disruptive business environment. Main purpose of Section 1 was to present the importance of my research topic that was worth exploring.

In Section 2, I elaborate on the role of the researcher, participants, research method, research design, population and sampling, ethical research, data collection instruments, data collection technique of the research study, data organization techniques, data analysis, reliability, and validity of the findings. During the data collection process of the research study, I ensured the participants' right to confidentiality and protection. In Section 3, I present data findings for the themes and strategies that emerged from the data analysis and how these findings relate to professional practice, implications for social change, the recommendation for practical application of findings, and further research opportunities, reflection, and conclusion.

Section 2: The Project

In this section, I solidify the purpose of my research and the processes I used, thus ensuring research quality. I will demonstrate how understanding and applying dynamic capabilities in supply chain management may result in operational efficiencies demanded by humanitarian program donors and UN member states. Precisely, Section 2 is organized around the following discussions: (a) the purpose statement, (b) the role of the researcher, (c) participant characteristics, (d) research method and research design, (e) description of the population and sampling choices (f) ethical research, (g) data collection instruments and technique, (h) data organization and analysis technique, and (i) approaches to ensure reliability and validity of the research. Some participants had changed their duty stations, so I needed to use the Microsoft Teams application as a primary method to collect data in addition to a face-to-face semistructured interview.

Purpose Statement

The purpose of my qualitative multiple case study was to explore the strategies that some executive supply chain managers of the UN use to leverage operational efficiencies in a peacekeeping program. The target population comprised nine executive levels of supply chain managers of the UN organization who have successfully implemented strategies to leverage operational performance. The implications for positive social change include the potential to effectively respond to communities affected by humanitarian crises by supporting sustainability and peace, building dynamic capacity, and fostering economic development (see Haavisto & Kovács, 2014). As a

result, humanitarian agencies can remain operational and engage in political and conflict-reduction interventions integral to economic, social recovery, and sustainability.

Role of the Researcher

To ensure high-quality research, I followed three principles. First, I thoroughly reviewed the literature because it helped determine the significance of the study and how much of this topic had been explored in the past. The second principle related to selecting a correct research design that best answers research questions (see Fusch & Ness, 2015; Fusch et al., 2017). This endeavor required familiarity with research strategies and demonstrating coherence throughout the research project (see Saunders et al., 2019). The third essential component included my skills to collect data through different sources and analyze them objectively to produce reliable, valid, and transferrable findings.

During the data collection phase, I used multiple sources of evidence such as archival records, documentation, direct observation, interviews, participant observations, and physical artifacts to achieve triangulation and mitigate bias (see Fusch et al., 2017). Furthermore, I maintained a chain of evidence that can go both ways: from hypothetical findings through identifying evidence that supports the finding until a clear definition of the research question (see Yin, 2018). I avoided collecting data from social media due to the risk that the immense amount of available data could have overwhelmed me and disturbed my research focus, exhausting valuable time contributing to data inaccuracy (see Saunders et al., 2019; Yin, 2018). Last, I followed Yin's (2018) advice to cross-check online materials with other sources.

Explained data collection principles helped me to address my research question successfully. For example, to confirm that supply chain managers lack strategies levering operational performance, I conducted semistructured interviews exploring participants' knowledge, beliefs, and understandings about successful supply chain strategies (see Yu et al., 2017). I extended my data collection to performance reports, administrative documents, and project proposals (see Baxter & Jack, 2008). Direct observation contributed to understanding participants' culture in an evaluated global organization (Fusch et al., 2017). Furthermore, maintaining a case study database helped me to keep evidence easily retrievable and organized manner. Similarly, maintaining the chain of evidence kept me on track during the research process.

Through interviews, I intended to access participants' life and collect views and experiences, thus contributing to the richness of the research study (see Elmir et al., 2011; Saunders et al., 2019). Moreover, various perspectives added to data saturation and to assure validity and reliability. Following basic ethical principles and Saunders et al.'s (2019) interviewing strategies, I ensured comfort, trust, confidence, fairness, protection of participants' well-being, and their feeling of respect. As a result, participants may have further disclosed information, promoting trustworthiness and reducing participants' bias. I was aware that interviewing some participants may have provided insights on complex and contradictory matters and brought research across the barriers (see Rubin & Rubin, 2012). For example, my I purposely included a "shaman" type of participant, that is, very knowledgeable, highly motivated, and expanding long about the topic. Reaching out on

their perspectives than other more ordinary participants allowed me to achieve a saturation point and accurately conclude findings.

Recognizing bias is crucial to achieving valid and reliable research results. Galdas (2017) defined bias as distortions in study results. Because qualitative research is subjective and reflexive, it is open to bias. Therefore, as a researcher, I was aware of mechanisms eliminating bias. Similarly, as a researcher, I was clear about my role in the research process so that my values, cultural difference, beliefs, prejudice did not affect the findings (see Fusch & Ness, 2015). Furthermore, the organization I researched is global and multicultural, thus there was a potential of bias because participants of different cultural backgrounds might have defined research problems differently. Although Yin's positivists argued that truth could overcome personal bias (as cited in Denzin & Lincoln, 2018), it is crucial to understand that involvement of the human element opens the opportunity to bias. However, mastering technics and following firmly structured Yin's guidelines helped address bias issues and ensure reliability.

I applied several techniques in preventing bias. One technique was an extensive literature review and diversified samples (see Daly & Lumley, 2002). However, I am aware that we might inherit other researchers' biased evidence through literature (see Toews et al., 2017). Second, selecting a design that best answers the research question and reaches data saturation prevents bias (Fusch et al., 2017). Third, as a researcher, I did not respond with my nonverbal communication or questions with suggestive answers or tone (see Saunders et al., 2019). Fourth, my systematic self-reflective process of bracketing by being vigilant of my beliefs, values, biases, emotions, assumptions, and

preconceptions about the phenomenon as an interviewer and aware of knowledge ensured objectivity (see Tufford & Newman, 2012). For example, I refrained from asking probing questions matching my preconceptions (see Galdas, 2017). Furthermore, I wrote memos and journals throughout the data collection and analysis phase (Tufford & Newman, 2012). Similarly, as I was researching activities that I was familiar with, this competence did not power shift during data collection and analysis (see Anyan, 2013). Next, I maintained a reflexivity diary or journaling to ensure self-awareness during the entire research process by noting feelings, challenges, thoughts, and experiences, thus enhancing transparency and clarifying researcher perspective and a threat of possible bias (see Houghton et al., 2013; Patton, 2015).

In conclusion, I strove to contribute with knowledge relevant to improving business practices and introducing positive social change. To achieve that, I, as a researcher, demonstrated critical thinking skills, interviewing skills, and the ability to make sense of collected data; connected theory and practice; conducted reflexivity through all stages; had an ethical approach; and exercised continuous learning (see Burkholder et al., 2016).

Participants

Participants are a crucial source of data for qualitative research. I attentively selected my participants by taking into consideration several attributes. First, I preferred to interview participants about a subject that I could understand with genuine interest (Saunders et al., 2019). As a supply chain professional with in-depth knowledge of the subject and as someone who has carried out that duty for 18 years, I confirm immense

comfort with the research topic and related subject matter experts I interviewed. Second, having my participants within an organization made the project feasible to conduct. As a result, it were fewer financial expenditures and timely project delivery. Even though some participants changed geographical location, using official communication tools made them easily accessible. The final rationale related to my future aspiration. Specifically, I am pursuing my career in supply chain business intelligence, which requires me to analyze and find solutions to various supply chain-related issues. Therefore, some participants were subject matter experts in that area.

The process by which I selected my participants was through field observation in my area of expertise (see Yin, 2018).Supply chain management is still a new discipline. Therefore, many managers in my global organization lack an understanding of supply chain management capabilities and their valuable contribution to operational performance (see Hove-Sibanda & Pooe, 2018). As a result, it incited my interest in detailed research.

I gained secure access to data. Although the researcher may identify a valuable problem statement, the disability to access participants may cause a severe issue during the research process (Saunders et al., 2019). As an organizational employee, I combined a face-to-face interview and via Microsoft Teams. As a result, I achieved continuity of the process and further access to data I expected participants to share (see Saunders et al., 2019). I considered the personal, professional reputation and the fact that my scope of duty was already extensively related to the research and development of the subject matter. I received access granted upon confirmation from the organizational Office of Ethics requiring that the research harm neither institution nor research participants.

Nevertheless, Saunders et al. (2019) warned of a possible issue, even when an internal researcher plans to access the data. I overcame this issue by clearly stating the reason why I was conducting my research.

I applied the purposive sampling method based on sound judgment on who would best answer my research questions. In my current interview practice, I included work related participants with whom I have been collaborating for many years. Therefore, I easily determined the level of knowledge, education, business experience, and motivation status explained by Peña (2002) as the required critical human capital of the manager. Furthermore, Saunders et al. (2019) asserted that purposive and judgmental sampling is appropriate for small samples.

I targeted heterogeneous groups with different characteristics to gain a broader perspective until I achieved saturation. I applied some of the methods Patton (2015) advised as adequate for a broader population, for example, snowball and chain sampling, where I asked informants for referrals. Asking the participants to recommend people who would be a good source of information is called respondent driven or network sampling (Patton, 2015).

I interviewed nine participants who were deemed the most appropriate for the research. Four participants were chief of supply chain management pillars of the peacekeeping missions with diverse experience of managing assets worth about 400 million dollars annually. Furthermore, they served in various peacekeeping missions throughout their careers with experience of over 20 years. They had a wealth of experience and knowledge in managing peacekeeping missions on a small and large scale

in all phases of the peacekeeping lifecycle. Last, they had diverse expertise in movement control, procurement, inventory management, acquisition, and demand planning. The fourth participant had extensive experience in both the private sector and humanitarian logistics. Also, he had master-level education in supply chain management, information systems, and data science. As a result, the UN organization is currently benefiting from efficient supply chain analytics and automated operation. In conclusion, I selected four research participants because of their expertise and accessibility.

Marshall and Rossman (2015) pointed out challenges related to "elite" people defined as "influential, prominent, and well informed" (p. 159). Therefore, I avoided selecting this category of participants during my selection process. Precisely, they are not readily available for the interview. Second, they may structure the conversation according to their terms. Third, they tend to have a strategic view of the topic lacking details. Last, they can shift the power during the interview.

Research Method and Design

Research philosophy is the first stage requiring clarification during the dissertation writing process. Research philosophy reflects a researcher's beliefs and assumptions pertaining knowledge development, thus serving as a base for the research strategy (Saunders et al., 2019). As a result, a methodological choice follows quantitative, qualitative, or mixed research methods. Nevertheless, as a novice researcher, I strove for a coherent research project with all elements in alignment. The selection of research methods is a crucial process because it influences later research decisions and results. The

ultimate determination is based on a thorough literature review on a specific topic and research question.

The research method includes the process of collecting data (Yin, 2018). There are three research methods that researchers may consider. They are quantitative, qualitative, and mixed-method. I used the qualitative multiple case study research method. The researcher may also consider using phenomenology, ethnography, and case study design (Yin, 2018). I did not undermine the importance of reflexivity, which clarifies the relationship between the researcher's philosophical position and research methodology.

Research Method

The selected qualitative study derives the research process from the data itself, thus seeking to discover and understand a phenomenon, a process, the perspectives, and worldviews of the people involved (Yin, 2018). Qualitative methods focus on observing, listening, and interpreting, which more intimately involve the researcher in the research process. Furthermore, in qualitative methodology, the researcher uses semistructured open-ended questions for interviewing a small sample of participants (Saunders et al., 2019). Therefore, the qualitative method allowed me to spend more time with participants, resulting in exploring more ground. These were the reasons for selecting qualitative research as a guiding research method.

I did not select the quantitative research method because examining variables' characteristics and relationships, would not have helped me to address my study purpose or my research question. Similarly, although mixed-method enables exploring

complicated aspects and relations of the human and social world, remaining limited to qualitative research allowed me to have a more analytical approach in exploring strategies applied by participants I interviewed (see Creswell & Creswell, 2017).

Research Design

I selected a multiple case study for my research. A case study is a research method used to investigate an individual, a group of people, or an event; thus, it broadened my understanding of the research subject and went beyond the surface (see Yin, 2018). Furthermore, a case study enabled me to answer how and why type questions. In particular, my case study was exploratory because it addressed situations lacking clarity. In my research, an exploratory case study revealed strategies that supply chain managers use for efficient supply chain operations in the UN peacekeeping missions.

In contrary to a single case study, the multiple case study will allow me to explore differences between cases to replicate findings across cases. My participants served in different UN peacekeeping missions. Therefore, multiple case studies will allow me to analyze within each setting and across settings (Baxter & Jack, 2008). Since I am interested in exploring the UN missions' specifics strategies of the efficient supply chain, I opted for this approach because multiple case studies will allow me to scrutinize the context of the case and facilitate understanding above and beyond a particular situation. Finally, Yin (2018) confirmed that a multiple-case study is preferred because the single case study is vulnerable and less substantial.

Conclusively, with multiple case study, I used multiple sources, such as interviews, observations, documents, and artifacts, to analyze data through a case description, thus developing an in-depth description and analysis of multiple cases. I studied an event, a program, an activity, or more than one individual. As a result, I achieved an in-depth understanding of a case.

Alternative qualitative research designs are phenomenology and ethnography. The phenomenology allows the researcher to explore the personal meanings of *lived experiences* that people produce and sustain, thus being subjective. A researcher in phenomenological research understands the essence of the experience by studying several individuals who have shared the experience to describe the reality of a lived phenomenon. (Creswell & Poth, 2017). In contrast to the case study, phenomenological findings explore what participants experience and the situations and conditions surrounding those experiences, thus resulting in a lengthy interview duration (Stake, 1995). However, I did not intend to analyze psychological aspects and particular sensitivities to the researched phenomenon (Giorgi, 2012).

Conversely, in the ethnographic study, the researcher describes and interprets cultural and social groups (Fusch et al., 2017). The organization I am exploring is multicultural, and participants are of different cultural backgrounds and ethnicities. However, my intention is not to explore the feelings, beliefs, and meanings of relationships between people as I interact within their culture. Therefore, the multiple case study still allows me to best answer to my research question.

Although lots of benefits related to the case study, Yin (2018) expressed some concerns. For example, the most significant concern is answering the question if case study methods are rigorous enough. Indeed, Yin (2018) claimed this is because researchers often do not follow systematic procedures. Therefore, to overcome this concern, I will use multiple sources of data and triangulation, thus resulting in richness and thickness of the data or saturation (Fusch & Ness, 2015; Heale & Twycross, 2015;). Precisely, triangulation increases the validity and reliability of data and eventually results in more comprehensive and complete findings. Baxter and Jack (2008) argued that investigating the case in-depth through multiple lenses will allow a better understanding of the phenomenon. Denzin is encouraging data cross-validation from different angles or viewpoints.

There are various types of triangulation. I used methodological triangulation, which combines data collection methods, direct observations, field notes, reflective journals, and semistructured interviews. I interviewed participants of different ages, ethnicity, professional experience, and gender (Fusch & Ness, 2015). However, semistructured interviews allow participants to expand their responses. I was aware that setting boundaries in the case study was crucial because it will more efficiently explore the case and answer the "why" question well in depth (Baxter & Jack, 2008).

There is a difference between methodological triangulation across the method vs. within the method. Denzin (1978) explained within-method triangulation combines multiple techniques within the same data collection method. I used the unorthodox method, that is, between-methods pertaining to the use of several different data collection

methods such as direct observations, interviews, performance documents, and reflective journals. Indeed, Denzin (1978) recommends between-method triangulation because the within-class method might bring variations.

Population and Sampling

Researcher should define the target population clearly. Saunders et al. (2019) described the target population as a population that is the focus of the research inquiry. Furthermore, the target population must be in alignment with the specific business problem. Therefore, a researcher needs to spend a considerable amount of time judging data representation correctly (Saunders et al., 2019). I decided that my target population would be five supply chain managers in different peacekeeping missions in the UN. My aim is that the selected population is as representative as possible. I will select those managers by knowledge, education, business experience, and level of motivation explained by Peña (2002) as the essential critical human capital of the manager.

Moreover, Saunders et al. (2019) argued that sampling makes possible a higher overall accuracy than a census. The smaller number of cases for which I need to collect data means that more time I can spend designing the means of collecting these data. Furthermore, I can obtain information that is more detailed or more difficult to reach from such data. Similarly, more time can be devoted to checking and testing the data for accuracy before analysis. Nevertheless, the sample must be able to answer my research question (Yin, 2018).

I applied the non-probability purposive sampling method based on sound judgment on who would answer my research questions best. I included knowledgeable

work-related participants who are willing to share their views and with whom I have been collaborating for many years and to whom I have easy access. Saunders et al. (2019) further posited that purposive and judgmental sampling is appropriate for small samples and informative cases that best answer the research question. That population will make the sample representative. Conversely, Patton (2015) claimed that snowball or chain sampling was adequate for a broader population, so I did not consider it. Similarly, because my participants are accessible and known to me through extended collaborative time, I did not need to consider respondent-driven or network sampling either.

I intended to interview one participant in the office during the lunch break and another in the restaurant to ensure comfort for the open conversation. The other two participants I interviewed virtually through Microsoft Teams. After a week, I intended to conduct a follow-up member checking interview to confirm the accuracy of information. I transcribed the interview manually to familiarize myself with the data further. I will triangulate the interview data with participant observation, reflective journals, fieldwork, and various organization documentation such as performance reports and administrative instructions (Baxter & Jack, 2008; Fusch et al., 2017). Therefore, I achieved data saturation through methodological triangulation combining multiple data sources (Fusch et al., 2017).

My sampling strategy consisted of the following steps. First, I had a general idea of what population to start with and how much considered population is accessible. Then successive sample selection followed what had already been selected. Next, in my discussion with the first informant, I will decide on subsequently selected members. Then

my sample selection was adjusted based on conceptualizing. Then the conceptualizing continued until saturation was achieved. Last, the sampling process continued until all sample members were confirmed (Denzin & Lincoln, 2018).

The sample size is an essential element of any research. Principles determining adequate sample size are different between quantitative and qualitative studies (Burmeister & Aitken, 2012). The sample size is statistically based in quantitative studies, while in qualitative studies until research reaches data saturation (Francis et al., 2010; Fusch & Ness, 2015). Therefore, no one size fits all method while pursuing validity. Therefore, in my qualitative research, I have continued with data collection until no new data, new ideas, and new codes are emerging (Fusch & Ness, 2015). Therefore, sample size is less referring to the number but instead to data thickness as appropriate criteria for validity in qualitative research. Data saturation can be achieved through well conducted semistructured or in-depth interviews followed by various strategies such as prolonged engagement and persistent observation, triangulation, and member checking (Houghton et al., 2013).

Target population impacts the research result mostly through the sample size. Therefore, large sample size will be more representative of the population and will limit extreme observations. Precisely, such approach broadens the range of possible data thus forming a better picture for analysis. Conversely, an oversized sample can result in a waste of resources. Consequently, I will strive for optimal size to avoid inconveniences without compromising research quality.

Ethical Research

Ethical considerations in research are critical. First, ethical standards prevent the misrepresentation of data and, therefore, promote the pursuit of knowledge and truth, which is the primary goal of research. Ethical behavior is also critical for collaborative work because it encourages an environment of trust, accountability, and mutual respect among researchers. Researchers must adhere to ethical standards for the public to support and believe in the research (Saunders et al., 2019). The public wants to be sure that researchers follow the appropriate guidelines for human rights, compliance with the law, conflicts of interest, and safety.

Essential is to adhere to the norms of conduct during academic research. Specific ethical considerations over granting access to data mainly include sensitivity and confidentiality. Although my problem statement could have negative implications, I will highlight a positive approach to the issue or outline the topic that does not appear sensitive to the organization. Similarly, the confidentiality of data and anonymity of research participants is an essential element that will require assurance to keep to my agreement (Saunders et al., 2019). Therefore, I used participants' pseudonyms in my researchers, such as P1, P2, P3, P4, and P5. Therefore, my obligation as researcher is to protect participants' human rights and dignity by following the guideline from the Belmont Report (Department of Health, Education, and Welfare, 1979).

My organization welcomes innovative initiatives but must ensure a proper balance between innovation and ethics. Furthermore, ethical considerations also include reporting findings truthfully, accurately, and completely. Moreover, providing authorship credit

and acknowledgments accurately reflect the contributions of others (Beisiegel, 2010). Similarly, as a researcher, I am obliged to avoid duplication of publications for different journals simultaneously. Saunders et al. (2019) offer suggestions that help to navigate related sensitive and challenging situations. First, the reference to the organization's code on research ethics will serve as a guide to design my research. Second, I will seek informed consent by openness and honesty rather than using deception. Third, I will avoid exaggeration of likely benefits to facilitate access to data. Finally, I will seek to avoid the invasive approach during interviews and observations.

Since research involves human subjects, it is required to obtain approval by an institutional review board (IRB) through a review process. The IRB committee requires compliance with research protocol to balance the risks and benefits of the proposed research. The Walden University's approval number for this study is 09-14-22-0782891. The impact on experimental results of ethical procedures includes informed consent, freedom to withdraw, and constraints upon the use of deception (Adair et al., 1985). Yin (2018) advised on the importance of the consent form. Therefore, I obtained written consent from participants to ensure research ethics. One of the roles of the IRB is to identify essential information as part of the consent process. This essential information includes the following: (a) the researcher's information, (b) the study procedure, (c) possible benefits and risk of the study, (d) nature of the study, (e) the researcher's commitment to safe documents retention for five years and privacy disclosure, (f) disclosure statement and (g) IRB approval.

Conclusively, organizations should direct attention to the ethical impact of their decisions, promoting ethical behavior by researchers promoting integrity in science has both individual and institutional components (Saunders et al., 2019). Precisely, it is crucial to encourage individuals to be intellectually honest in their work and to act responsibly while at the same time encouraging research institutions to provide an environment in which that behavior can thrive.

Data Collection Instruments

The primary data collection instrument is the researcher of the study. Therefore, in my research, I will be the data collection instrument. The researcher as the instrument in the semistructured qualitative interview who may influence empirical data collection should possess some crucial attributes. Collins and Cooper (2014) emphasized the importance of emotional maturity and interpersonal skills. As a result, the researcher will correctly hear the story and describe phenomena. Collins and Cooper (2014) defined emotional reflexivity as the process of critical self-awareness, self-regulation, empathy, motivation, and social skills that allow regulating own feelings and recognizing feelings of others. In brief, the researcher's competence and social competence are two dominant prerequisites for successful research. Personal competence comprises self-awareness, self-regulation, and motivation, while social competence includes the ability to respond to others and control relationships.

During data collection, there is a possibility that the researcher's emotion to emerge. Therefore, bracketing may assist the researcher in managing emotional reactions (Tufford & Newman, 2012). Bracketing is the process of the researcher's self-reflection

and has the potential to enrich data collection significantly. Alternatively, lack of selfreflection may lead to cognitive bias and distort data collection and analysis. Similarly, bracketing may foster insights during research process conceptualization. As a result, the researcher will engage more profound with the data and participants.

I am aware that qualitative researchers could be emotionally engaged during the data collection process. Similarly, researchers may not always seek collaborations. Therefore, I will maintain a balanced approach and mindfulness of research participants status differences, and strategies to minimize them are essential (Collins and Cooper, 2014). Furthermore, I will ensure conversational space where the interview will occur, meaning the place enabling rapport building with participants, such as the conference room of the office building. Precisely, this is the space enabling transparency, unconditional positive regard, and empathy (Pezalla et al., 2012).

Notably, being already very knowledgeable about the subject, I need to be careful that self-disclosure does not distance me from the participant. Similarly, controlling empathy will preserve objectivity during the interview process (Pezalla et al., 2012). I will ensure that collected responses remain confidential and follow Institutional Review Board standards. Furthermore, I will ensure that the participant is permitted to withdraw from the interview process at any time. I will keep the interview duration between 30 to 60 minutes.

Yin (2018) explained that the researcher would collect data through interviews, observations, and archival organizational documents for the case study. Pampoulou (2016) suggested the second interview to ensure clarity and data meaningfulness.

Similarly, Yin (2018) suggested the interview protocol as guidance through the interview process. Interview protocol is a subset of questions serving as a mental framework or guided conversation (See Appendix A). Yin (2018) further advised analyzing during the interview. This approach will help decide when to include probing questions for more detail or modify the original protocol. As a participant-observer, I will make observations on multiple occasions to avoid bias. I am also clear about what to observe, such as participants' interactions with other stakeholders in professional settings, their actions, and physical surroundings.

The main criteria for selecting my data collection methods are research validity, reliability, and transferability. The requirement is to engage multiple sources of evidence. As stated earlier, the semistructured interviews and evaluating company documents will be the primary data collecting method that will allow me to explore the topic in detail from thoughtfully selected participants. I am aware that a participant may try to avoid commenting on sensitive information asked through probing questions during the interview. The possibility is to get a "partial picture of the situation" (Saunders et al., p. 397). Consequently, I will cross-check obtained information with organizational performance reports, operational manuals, and administrative instructions. Furthermore, the participants' observation technique will allow me to validate data further and develop a more accurate understanding of the phenomenon. Saunders et al. (2019) highlighted that organizational access might present an issue if opting for participant observation techniques. Nevertheless, since I am already an organization employee and professionally

involved in the researched topic, this will ease acquiring data following organizational ethical regulations.

Data Collection Technique

The researcher should think about how to collect relevant data thoroughly. There are different ways to collect data, such as interviews, observations, diaries, other written documents, or a combination of methods (Barrett & Twycross, 2018; Elo et al., 2014). As a result, the researcher will obtain deep and rich insights. The researcher should choose the data collection method that best answers the research questions. Doll (2017) argued that interviews are one of the most used data collection techniques. Collected data through the interview could be structured and semistructured. I will conduct a semistructured interview. Elo et al. (2014) highlighted that it is crucial to avoid structured interviews. Similarly, in the case of semistructured interviews, not to control participants' answers to the extent that compromise is obtaining inductive data. Elo et al. (2014) further explained the importance of developing interview questions associated with the critical reference group.

The data collection method ensures the trustworthiness and credibility of the content. Therefore, the researcher must collect rich, appropriate, and well-saturated data (Elo et al., 2014). The researcher must prepare before the interview to ensure trustworthiness. Similarly, researcher requires advanced skills in data gathering and analysis. The researcher should provide precise sampling methods and participants descriptions to verify trustworthiness (Elo et al., 2014). member checking is a technique for ensuring the credibility and trustworthiness of qualitative results (Birt et al., 2016).

Precisely, member checking is a validation technique when the researcher actively involves participants to confirm collected data to reduce bias, enhance accuracy, and enhance rigor. However, the researcher should be aware that during member checking, participants may reconstruct statements fearing they negatively present them. Therefore, Birt et al. (2016) continued that the researcher should clarify the reasons for conducting the member checking, how it was undertaken, and how achieved credibility fits into the researcher's epistemological stance.

A multifaceted approach to data collection will provide rich and deep insights. Wardale et al. (2015) argued that interviews provide the most direct approach to collecting data. The researcher is an active participant in research interviews (Myers & Lampropoulou, 2016). Participants and researchers relocated to another UN mission, so I will use virtual communication tools such as Microsoft Teams to overcome geographical barriers. A well-designed semistructured interview will ensure I capture data in critical areas while still allowing flexibility for participants to present their perspectives to the discussion (Wardale et al., 2015). Moreover, Microsoft Teams has a recording feature, thus allowing me to capture meaning, reality, and knowledge (Nordstrom, 2015).

Interview as a data collection technique has several advantages. First, interviewing enables saturation by using extensive probing questions (Weller et al., 2018). Moreover, Weller et al. (2018) continued that small samples of participants, when asked intensive probing questions, may collect more salient ideas, thus proving more productive than the large samples without probing. Second, semistructured interviews allow in-depth conversation between participants and researchers. However, during the

semistructured interview, the researcher may risk guiding the conversation by introducing their perceptions, opinions, and experiences (Cridland et al., 2015).

The researcher should complement the interview process with additional considerations. Cridland et al. (2015) posited that it is critical to prepare for the interview accordingly. The preparation includes familiarizing with the interview process and developing the interview guide, including planning the appropriate interview time, pace, and method of recording the interview. I will use voice and video recording. Additionally, the researcher should exercise patience, empathy, listen attentively, and understand the researched phenomenon. Next, Wardale et al. (2015) added the importance of cultural sensitivity to ensure optimal research outcomes among culturally diverse participants that strongly apply to my circumstances in the UN environment. Another core element is trust between the researcher and the participants, anticipating misunderstanding and false assumptions (Wardale et al., 2015). Last, since I have a pre-existing professional relationship with the participants, I am aware of the importance of establishing boundaries and maintaining trust and confidentiality in dual roles.

There are some challenges related to the interviews. Mainly, the researcher records the interview, which requires transcribing before analyzing. This process can be time-consuming. Next, the researcher may introduce bias through leading questions or non-verbal communication that influences the responses (Barrett & Twycross, 2018). Furthermore, since the researcher cannot count qualitative data collection techniques, it is challenging to explore dimensions of magnitude (Landrum & Garza, 2015).

The researcher usually combines other data collection techniques with semistructured interviews to achieve saturation. One of these techniques includes the observation that I will use. Barrett and Twycross (2018) argued that observation is a powerful data collecting tool because it allows capturing a wide range of information such as verbal and non-verbal communication. Another advantage of observation is that researcher gets first-hand information. However, Barrett and Twycross (2018) explained further that observation might introduce methodological and ethical challenges. Methodologically, the participant may change behavior when aware she/he is observed, thus impacting the value of findings. Ethically, the researcher needs to be clear when and how to intervene when certain practices are observed to put other people at risk.

Data Organization Technique

After collecting the data, researchers must plan how to organize the data. As a result, the research will meet credibility and conformability requirements (Elo et al., 2014). Furthermore, the researcher will have easy access to massive information (Basurto & Speer, 2012). I was responsible for the data collection as the instrument of the study.

The qualitative researcher should understand data collecting techniques because of their essential role in reviewing, analyzing, and presenting interview data (Yin, 2018). There are different data collection techniques. Bishop and Kuula-Luumi (2017) discussed attaching labels to the interview audio recordings to preserve the originality of data. Next, I will ensure that each participant's file obtains the date and time of the interview conducted, signed consent form, and transcript. For each participant, I will use the pseudonyms such as P1, P2, P3, and P4. I will transcribe the interview questions on the

Word Document for the ease of highlighting the identified themes. Besides, I will use the information from the logbook where I drafted notes collected during the interview. Most importantly, I will store the data securely for five years.

There are computer-assisted qualitative data analysis software (CAQDAS) assisting tools to code and organize the themes. Miles et al. (2019) confirmed that for more extensive or multiple-case studies, CAQDAS is a necessity. However, much manual work is still required to prepare data for CAQDAS. Miles et al. (2019) warned that no software is an all-purpose package. They all come with their strength and weakness. Therefore, I will list all data categories on paper and create a mind map followed by critical analysis. However, I will use Atlas.ti software to evaluate relationships between codes and their occurrences. Moreover, Atlas.ti will assist me in compiling, disassembling, and reassembling data in the most efficient way (Yin, 2018). In conclusion, high-quality data analysis best-addressing research questions will contribute to the practical data organization and result in the reliability and validity of the findings.

Data Analysis

I applied Yin's five-step thematic analysis approach. This approach consists of the following steps: (a) compilation, (b) dissembling, (c) reassembling, (d) interpreting, and (e) reviewing data. The compilation includes organizing the data collected from multiple sources such as interview transcripts, documents, and observation notes. As a result, I will create a database and upload it into Atlas.ti software to facilitate coding, data organizing, and interpretation (Yin, 2018). Data dissembling the second step includes

data disintegration into narrative segments to create codes (Yin, 2018). Through the coding process the researcher matches and groups ideas into themes.

The analysis process in qualitative research continues with reassembling data. The researcher uses the identified themes to associate disintegrated pieces to the corresponding theme (Yin, 2018). Therefore, the researcher sorts the data from various sources and regroups during this phase. The researcher is grouping together similar ideas and themes and the strategies that go with themes. Grouping will help me to identify similarities and avoid possible conflicts.

The fourth step of data analysis is data interpretation. During this phase, the researcher builds the new narrative as a focus of the research analysis. The researcher may recompile the database differently (Yin, 2018). The last phase of data analysis involves reviewing the data to conclude. Precisely, the researcher concludes the study by answering the research question.

I opted for the inductive analysis system, which was very time-consuming, as Saunders et al. (2019) warned. With Atlas.ti, I will evaluate relationships between codes and their occurrences. First, I evaluated the transcript line by line. Second, I highlighted reoccurring keywords resulting in a long list of codes, so I merged those with close similar meaning and reduced the number to an optimal number of codes in total. Next, I organized codes into different arrays and reflected on matching themes (Yin, 2018). I will shift through codes during this process and search for relationships, similarities, and distinct differences (Miles et al., 2019). Reassembling codes resulted in different combinations of themes, so I eliminated those deviating from the research question

(Hycner, 1985; Yin, 2018). I then color-coded units of data against the theme. Although my approach was inductive, it contained deductive elements because, in the end, I compared my theory with existing ones.

My data analysis process will be thematic, meaning I will search for themes and patterns in my transcript. Saunders et al. (2019) suggested starting the analysis process with the data familiarization by manually transcribing the interview. As I re-read the transcript, I will carefully evaluate the data and develop the codes or labels attached to data units grouped around similar meaning or categories such as actions, conditions, ideas, policies, beliefs (Yin, 2018). Saunders et al. (2019) warned that coding for inductive research could be time intensive as it includes coding of all data followed by exploring its meaning.

As I progress with other analyses of interviews and comparisons, I may readjust codes and data categories. After data coding, the next step includes building the theme, patterns, and relationships and making sure they relate to my research question (Hycner, 1985). Further analysis may realize the necessity to merge themes or decompose them. The next step includes developing patterns and relationships, thus resulting in the proposition being tested against alternatives.

During data analysis, I will apply bracketing, the process of self-reflection. As a result, the researcher will mitigate the potential adverse effects of bias and preconception. A deeper level of reflection will enhance the analysis process by allowing multifaceted and more profound results.

Reliability and Validity

Serious researchers strive to produce high-quality research studies meaning reliable and valid. Different terminology distinguishes reliability and validity in quantitative research against reliability and validity in a qualitative study. Therefore, Houghton et al. (2013) used the following criteria for judging the quality of qualitative research: credibility, transferability, dependability, and confirmability. However, high quality and rigor can be attributed only to those studies reaching data saturation. Reliability in qualitative research is rooted in data adequacy, making it possible to show consistent support for one's analysis across participants. In contrary validity is related to data appropriateness, which makes it possible to provide an accurate account of participants' experiences within and beyond the immediate context (Spiers et al., 2018). Reliability and validity contribute to rigor in a qualitative research study.

Reliability

Reliability or dependability is the essential characteristic of qualitative research because it demonstrates data stability or the possibility to replicate data (Houghton et al., 2013; Saunders et al., 2019). Saunders et al. (2019) explained four factors affecting data reliability that I considered during my research process. First, participant error refers to the quality of participants' responses during the interview. For example, insufficient time or an uncomfortable place for the interview may cause the participant to rush with answers, thus jeopardizing data quality. Therefore, I will ensure participants are seated in a comfortable place, inside the office area. Second, if the participant feels a lack of data anonymity or loss of trust, he/she may become biased by purposefully providing an

incorrect response. To address this issue, I will clearly explain my ethical responsibilities as a researcher. The third threat affecting data reliability is researcher error and is often caused by researcher tiresome, lack of focus, or wrong data interpretation (Saunders et al., 2019). Therefore, I will ensure I am well rested and fresh before the interview to focus on dialogue with the participant. Last, researcher bias or subjective view may influence participants' responses or data interpretation. For illustration, as a researcher, I need to make sure that I do not influence responses with my nonverbal communication, suggestive questions, or tone during the interview. Similarly, I need to build trust and rapport with the participant. Otherwise, it will risk data validity or credibility.

Patton (2015) further explained that reliability or dependability ensures a logical and well-documented research process, thus allowing others to evaluate. Reliability also provides reduced errors and bias (Yin, 2018). I will follow Houghton et al. (2013) recommendation and conduct an audit trail to achieve reliability. This approach will allow me to repeat the study and hopefully bring the same findings. I will also apply Yin's (2018) recommendation of conducting study protocol, case study database, and the chain of evidence maintained during the data collection phase. Next, the reflexivity diary will allow me to maintain self-awareness during the entire research process by noting feelings, challenges, thoughts, experiences, thus enhancing transparency and clarifying the researcher's perspective (Houghton et al., 2013; Patton, 2015).

As the researcher, I will ensure I am clear about my role in the research process so that my values, cultural difference, beliefs, prejudice do not affect the findings (Fusch & Ness, 2015). Reliability or dependability is the essential characteristic of qualitative

research because it demonstrates data stability or the possibility to replicate data (Houghton et al., 2013; Saunders et al., 2019). I am aware that my research includes participants responsible for high-budgeted projects reviewed and audited by donors, regulators, and lending institutions. Therefore, participants may manipulate responses to avoid risking financial support from donors expecting effective and sustainable operations (Singh et al., 2018).

Validity

The validity of the study ensures that research is contributing to the existing body of knowledge. The essential is to differentiate external validity from internal validity. Andrade (2018) explained that internal validity confirms that the research is trustworthy and answers the research question without bias. However, external validity evaluates if the findings of the research can be transferred to other contexts. Researchers can ensure the study's validity through transferability, dependability, and credibility.

Transferability

With transferability, the reader determines if the methods used or the findings from one setting can be applied to another context. I aim to collect rich data and thick descriptions. Sometimes it is difficult to confirm if small samples can assure generalizability which explains why external validity does not apply to qualitative study (Fusch & Ness, 2015). Therefore, qualitative research instead uses the term transferability allowing the reader to decide if findings applicable to one setting can be transferred to another. Research must provide detailed descriptions to allow the researcher to do so (Saunders et al., 2019). Transferability provides detailed information to the reader

enabling him/her to decide a similarity between case studies. For example, my research study will explore strategies that supply chain managers use to achieve efficiencies in a non-profit organization. Nevertheless, my research literature includes case studies conducted on profit organizations too. I will then decide on transferability of findings to non-profit business environment subject to information provided in the case study, such as an explanation of research design, how data are collected, rationale on design, and methods choice.

Confirmability

Houghton et al. (2013) elaborated on strategies ensuring the trustworthiness of the research. They include prolonged engagement and persistent observation, triangulation, peer debriefing, member checking, audit trail, reflexivity, and thick description. Additionally, Saunders et al. (2019) suggested participant or member validation as another tactic to enhance credibility. Furthermore, Saunders et al. (2019) explained the importance of cultural reflexivity when exploring multicultural organizations as a powerful strategy to minimize bias. Similarly, Yin (2018) suggested using a case study protocol, study database, and maintenance of chain of evidence as critical for reliability. I would instead agree with Houghton et al. (2013), who argued that the trustworthiness of the phenomenon could be confirmed through evidence convergence by collecting perspectives from different sources using multiple strategies.

Credibility

Precisely, internal validity or credibility assures data saturation resulting in accurate, complete, consistent, and rich data achieved through triangulation (Fusch &

Ness, 2015; Houghton et al., 2013; Patton, 2015). Internal validity or credibility researcher can achieve through prolonged engagement and persistent observation (Houghton et al., 2013). Such approach requires extended time researchers spend in the field with participants. I will also use triangulation to achieve data saturation using more than one source of evidence, thus ensuring credibility (Fusch & Ness, 2015). Denzin (1978) explained four types of triangulations: data, investigator, theory, and methodology triangulation. I will conduct data and methodology triangulation. Houghton et al. (2013) suggested engaging peers cautiously in achieving rigor. Therefore, their involvement should be limited to an agreement over the coding or logical paths. Furthermore, I will apply member-checking as an effective way to achieve credibility until the participant decides to withdraw from the study.

Data Saturation

Credibility, transferability, and confirmability are all elements of quality qualitative research (Moon et al., 2016). Data saturation has been met when the researcher finds no new information or themes (Fusch & Ness, 2015). When the researcher has completed data saturation and the results were credible, transferable, and confirmable: they have met the criteria for a valid research study (Yin, 2018). While analyzing data, I will identify themes to ensure that no new information emerges, thus reaching the point of saturation (Shaw & Satalkar, 2018). I will achieve data saturation when no further emerging information exists to address the phenomenon (Yin, 2018). I also used methodological triangulation, such as in-depth semi structured interviews, and document analysis, to achieve data saturation.

Transition and Summary

The purpose of my study was to explore strategies for improving the supply chain management in the UN Peacekeeping missions by understanding the dynamics capabilities. I conducted multiple case studies and collected data from the relevant documents and participants thoughtfully selected for the interview to meet this goal.

In Section 2, I restated the purpose statement. Second, I defined the role of the researcher and then continued with justifying the selection criteria and eligibility of the participants. Next, I provided reasoning for the research method and design I selected. Then I explained the population selection process and sampling method. This section further contains ethical research, data collection instruments and techniques and data organization technique, and data analysis. Last, I rounded section 2 detailing methods to reach reliability and validity.

In the final third section of the study, I will introduce and restate the purpose statement. I will then continue with the following: (a) the findings of the study, (b) the study's application to business practices, (c) the study's implication on the social change, and (d) provide recommendations based on research findings. I concluded the study by offering considerations and suggestions for further research.

Section 3: Application of Professional Practice and Implications for Change

Introduction

The purpose of my qualitative multiple-case study was to explore the strategies that some executive supply chain managers of the UN use to leverage operational efficiencies in a peacekeeping program. I collected the data for the study by conducting semistructured interviews and by studying organizational performance reports, administrative documents, and project proposals, resulting in an in-depth understanding of the case study. I interviewed nine participants at senior and middle management levels who managed different areas of the supply chain. Therefore, it was important I ensured inclusivity to holistically collect data covering each area of the end-to-end supply chain. I validated and triangulated collected data through member checking. The research findings revealed several strategies that supply chain managers of the UN use to ensure operational efficiencies. These strategies are grouped around three identified themes: (a) analytical, innovation, and knowledge management strategies; (b) effective supply chain management leadership strategies; and (c) risk management strategies.

Presentation of Findings

The overarching research question for the study was as follows: What strategies do executive supply chain managers of the UN use to leverage operational performance? To reach the answer, I asked nine open-ended interview questions to nine participants who successfully implemented strategies. To protect their identities, I established codes for each participant: Participant 1 (P1), Participant 2 (P2), Participant 3 (P3), Participant 4, (P4), Participant 5 (P5), Participant 6 (P6), Participant 7 (P7), Participant 8 (P8), and

Participant 9 (P9). Analysis of participants' answers resulted in forming three themes, and each theme encompasses three strategies derived from 53 codes consolidated in 11 code groups (See Appendix B).

Theme 1: Analytical, Innovation, and Knowledge Management

The first theme that emerged from collected data analysis was analytical, innovation, and knowledge management strategies. Three strategies emerged in relation to Theme 1: (a) Supply chain analytics ensures visibility and evidence-based decision making through technology and data mining; (b) sensing operational environment will allow effective planning, demand forecasting, and optimizing resources; and (c) developing the best practices, reengineering processes, encouraging innovation, and sharing knowledge through training can bring solutions and improve competitiveness. Each strategy appeared as a result of the data analysis process, and they are aligned with the existing literature and the conceptual framework. In the following discussion, I provide evidence of claimed relations.

Strategy 1: Supply Chain Analytics Ensures Visibility and Evidence-Based Decision Making Through Technology and Data Mining

UN supply chain managers highlighted the importance of big data and technology that enables data-based decision making , in alignment with the literature and statement of Dubey et al. (2019), who posited that analytics are knowledge based and that both managers and employees should value the big data and benefits they make for the organization. Similarly, Shamout (2019) added that supply chain managers will gain valuable insights and make data-driven decisions. Therefore, the combination of

technology-enabled resources and data management leads to a competitive advantage. P7 stated,

> Excel spreadsheets with pivot tables, pie charts, graphs, bar graphs, all these sorts of things to illustrate how you know the cost savings, the time savings, the space-saving and the increase in operational availability and equipment. These are the kind of things that are used to illustrate the effectiveness of their strategy.

P6 added, “The plan would never move if you don't monitor the progress, and the progress can only be monitored through establishing milestones, performance expectations, performance metrics or key performance indicators.”

Big data analytics capability has immense potential. Mikalef et al. (2020) highlighted that this potential includes capturing and analyzing data, which in return creates insights and supports transformation. The same was validated by P2, the senior UN leader by saying,

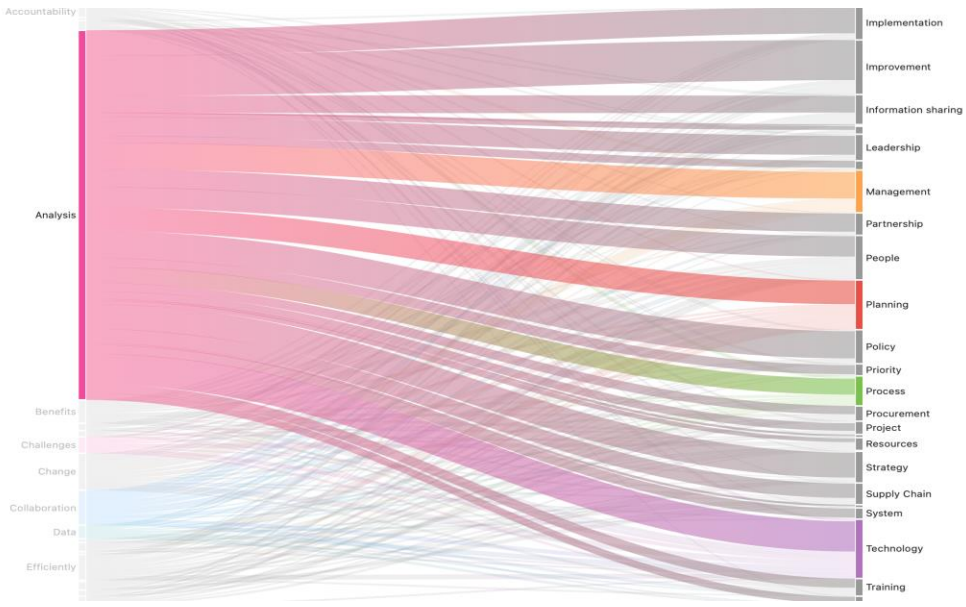
> Having systems that collect data and give you visibility, business intelligence over data, to my mind, are critical to monitoring and measuring your performance, seeing how you are doing, enabling you to change direction if you need to change direction in order to improve.

Business performance monitoring is not a choice in supply chain management. It is a requirement. Along those same lines, Agarwal et al. (2019) posited that a performance measurement system is the requirement from donors because it is quantifying resources that donors must provide. Similarly, the P4 confirmed, “Auditors are starting to see the benefits and now they're asking questions. How can you make

measure the efficiencies of this planning and if people are truly using the tool for its true benefits of it." As shown in Figure 2, analysis appeared as a significantly strong code and is related with multiple other codes at different proportional level.

Figure 2

Sankey Diagram: Proportions of Connections Between Analysis and Other Codes



Note. The width of the line is proportional to the number of connections found between the analysis and other codes that emerged during the interview. From Atlas Ti. The diagram was developed by myself, the researcher Mazar to display the research results of the study.

Technology is an important enabler of big data analytics. According to Breznik et al. (2019) and Aslam et al. (2020), seizing as the second group of dynamic capabilities embraces technology. Furthermore, Shamout (2019) elaborated that technology supports

big data analytics by acquiring, storing, and transforming large volumes and a variety of data at high velocity. Similarly, P2 posited,

> We need to invest in technology. We need to invest in RFID technology to be able to monitor where our goods and services are and we also need to look at things like for example, consolidation and working more closely with the, with private sector.

Similarly, P1 added,

> So, incorporating new technology, called solutions for monitoring our performance from the point of origin to the point of use of the resources or end to end supply chain monitoring enables the managers to make quicker and much more efficient and relevant decisions.

P7 described how she used technological advances in analyzing equipment and continued "obviously we can't do it without. The fact that now everything is done through the internet means things are a lot more joined up which does help." Several participants explained using Power Bi technology in their daily supply chain operation. P5 explained that they use Power Bi technology, "to identify the processes that we are doing outside of contracts, and it helps to visualize procurement processes from other missions and compared to ours and see if we are doing better or we can improve."

Technology may come with risks too. Supply chain managers should have a balanced approach to new technology (Kwak et al, 2018). By the same token P7 said, "Technology has a massive place in the supply chain and could be better used." Furthermore, P3 explained how implementing a supply chain planning tool was a

struggle. Although technology can provide a lot, P1 warned, “So we need to look into Uh, what the environment is supporting in terms of technology, does the involvement, does the infrastructure of the host country is able to support the technology that we intend to implement.” Similarly, P8 highlighted,

> So, we need to make sure that we are coming up with this technology, which is easier to use, which people are able to accept. So, you need to make sure you tick all the boxes, not only technology but also acceptability and change management, successful change management.

Strategy 2: Sensing the Operational Environment Allows Effective Planning, Demand Forecasting, and Optimizing Resources

> Dynamic capability conceptual framework promulgates three processes. Tecce et al. (1977) highlighted that managers should start with identifying opportunities or sensing the environment. The same has been articulated by P6 stating, “The first element of successful implementation is having a thorough assessment and that very detailed one.” P1 explained further:Always for me there is a need to reflect the political situation, economical global supply chain problems, security, situation on the ground and the geographical location. There is no one-size fit all approach because each mission based on its own particular location, geographical, political, and security requires different approaches and strategies which work for this particular mission.

Furthermore, P1 reconfirmed,

> We needed to take into consideration every aspect, the government aspect, the environment aspect, the social aspect in terms of acceptability by the staff because our organization is as such that we have people from all walks of life, all types of backgrounds and culture.

Supply chain management as a broader concept than just logistics includes more than just the ability to deliver products and services. Christopher (2016) added that supply chain managers must consider demand planning, forecasting, and inventory management. However, P6 highlighted, "The key deficiency in the current state is that we do demand planning, forecasting demand planning, which is not linked to the budget formulation." Therefore, "integration of demand planning with budget formulation, that's a big enabling step."

Figure 3 illustrates the frequency of words participants mentioned during the interview. It is evident that planning appears as one of the most frequently communicated.

Figure 3

Consolidated Frequency of Words Communicated by Participants During the Interview

Note. The size of the words indicates the frequency of words mentioned during the interview. Different colors are for the words differentiation purpose. figure

Strategy 3: Developing Best Practices, Reengineering Processes, Encouraging Innovation, and Sharing Knowledge Through Training Bring Solutions and Improve Competitiveness

Innovation is grounded in DCT. For illustration, Kurtmollaiev (2020) explained that the combination of sensing and seizing capabilities within a dynamic conceptual framework highlights the importance of innovation that enables the application of adaptive strategies as the environment is changing. P8 confirmed the same by saying, "Innovation is associated with change management." However, P1 warned that the UN system is highly regulated, thus "not leaving too much room for innovative decisions or approaches on mission level."

Dynamic capabilities are innovation-based, and innovation is linked to knowledge sharing. Moreover, Sabahi and Parast (2020) argued that organizations with innovative cultures contribute to knowledge sharing. P7 strongly stated that "knowledge sharing is critical for initiating change management and moving things forward" and further continued with the following example:

> I also engaged some equipment experts from my military who were deployed in the mission so they could give us their insights and their shared knowledge on how to tackle these kinds of issues because they didn't necessarily have the technical knowledge.

P3 added that creating knowledge by understanding the current events in the UN may prepare the organization for certain events potentially happening in the future by

"bringing that knowledge back to the UN." P1 explained how the knowledge he acquired from MBA "UNHQ already implemented through some of the approaches or views."

The potential of knowledge sharing through best practices is not always realized in the organization. For example, Aslam et al. (2020) argued that despite the supply chain concept having well-defined best practices, they will not be recognized or implemented if the supply chain managers lack and entrepreneurial approach. This statement is in alignment with the view of P7 who claimed that in the past "people were not sharing lessons learned," thus "keep repeating past mistakes." However, P7 continued that she started reaching out to the colleague from the commercial sector to obtain best practices that are "practical or practicable into what the UN does" because "these are both large logistics organizations with large supply chains." Similarly, P2 confirmed that "we also need to work with the private sector in terms of innovation" because there are "better goods and ways of doing business." Although Teece (2009) explained how best practices contribute to process reconfiguration, P1 explained that limited acceptance of commercial practices is because of "the organizational uniqueness of UN and international organization and the top-down approach" as believed due to "what the Member States also have imposed."

One of the powerful methods to build up knowledge is through training (Azmat & Kummer, 2019). Most of the interviewed participants highlighted the importance of training in the UN. Moreover, P3 observed and claimed, "I think that people at the UN, they are willing to learn. I mean training is very exciting for people." Additionally, P5

suggested having more training and demonstrating improvements and new ways of doing things. P8 clearly articulated:

> So training is an essential part of not only capacity building, but also in terms of managing the change successfully. You need to train the people. You need to train your staff. You need to train the stakeholders so that they get the maximum benefits out of that technology.

Training should be designed and exercised with cautious. In this light P1 warned,

> Giving an opportunity to everyone to take a training does not necessarily equal improved quality or better-trained personnel. If you don't train the correct person and you have five persons who have passed this training doesn't mean that you have the capability to do it. That's how I see it.

Additionally, P3 explained,

> The UN training also needs to be twofold. There's of course the soft skills training, every job the people need to be trained with, but then also they need to be trained with all the what they call related to their function and also in that space wherever they are operating."

The third step highlighted by the dynamic capability is the reconfiguration of activities. Teece (2009) argued that this capability is essential in the increasingly dynamic and uncertain environment. However, Participant 7 posited that the "system and UN processes that the UN has, is not as agile as in other organization it can be", thus continued she launched the project proposing the process reconfiguration. Similarly, Participant 4 deep-dived into process analysis to determine the level of value-added and

necessity for change by saying “We elaborated every single process that was one of the biggest efforts to develop and we looked at wherever possible at streamlining and simplifying the processes.” Through this effort the Participant 4 found too many manual processes and started “that’s our biggest hurdle” At the same token, Participant 5 called for more “robust processes”, to avoid duplications thus achieving economies of scale.

Process reengineering is linked to data analysis. the Participant 8 highlighted the importance of analyzing processes and stated,

> We were able to see the gaps we were able to see the areas for improvement. Data has a very big potential. You know when data starts talking and if a supply chain analytics person knows how to make the data talk, then you are able to find out the gaps in the processes, the bottlenecks which can be, you know, taken care of by the process owners.

Theme 2: Effective Supply Chain Management Leadership

The second theme that emerged from the collected data analysis was effective supply chain management leadership strategies. Three strategies emerged in relation to Theme 2: (a) Effective leadership should foster a culture of accountability, change management, and integrations through long-term partnerships, collaborations, and clear policies, (b) Leading with vision, setting priorities, leading projects effectively, and ensuring their full implementation bring expected benefits and improvement, (c) Managing by understanding and measuring the entire end-to-end supply chain system. Each strategy appeared as the result of the data analysis process, and they are aligned

with the existing literature and the conceptual framework. In the following discussion, I provide evidence of claimed relations.

Strategy 1: Effective Leadership Fosters a Culture of Accountability, Change Management, and Integration Through Long-Term Partnerships, Collaborations, and Clear Policies

Accountability is a critical factor for successful supply chain management. Azmat and Kummer (2019) argued that humanitarian supply chain managers are becoming result-oriented and insist on a robust performance management system to ensure accountable actions and decision making. Agarwal et al. (2019) continued that donors are increasingly seeking for data to ensure accountability improvement. Similarly, Participant 8 explained how the UN chose the ERP and Power Bi technologies to process and present transactions, thus enhancing accountability. All participants confirmed that transparency and accountability are important and high priorities. Participant 6 elaborated "In terms of supply chain transparency and accountability are on the top in terms of questions, which means validation, verification, prevention of losses, demonstration of the efforts for maximizing core, optimizing the proceeds and the reuse of assets."

Although participants agreed with accountability is a success criterion of very high importance and praised improvement achieved in this regard thanks to technology, there are still some critics. Participant 3 criticized the level of accountability and compared it with the private sector claiming the difference. Precisely, Participant 3 argued, "The process ownership is still lacking in the UN. You're not accountable for the process you do." Participant 7 offered an example of consequences due to lack of

accountability and said “you are operating in an environment where a failure to deliver could potentially cost lives.”

Supply chain managers should cultivate a culture of change management to ensure improvement. Reconfiguring a group of capabilities within DCT calls for the adoption of new practices, implying change management (Teece, 2009). Almost every participant emphasized the power of change management and interconnected it with other capabilities. For example, Participant 8 elaborated on how change management strategies should be in place as preparedness for embracing massive and expensive ERP and said,

> So in order to introduce the technology and to make it a success, you need to train people so that you achieve the mindset shift and once mindset shift is achieved, then I think acceptability improves and once acceptability improves, it also improves the efficiency and the usage of the technology.

Such leaders in high acceptance of new technologies Aslam et al. (2020) called entrepreneurial or innovative leaders.

Participants frequently mentioned change management with resistance. Moreover, Participant 8 said, “So every time you are introducing a change, there is always resistance.” Participant 9 continued that “change doesn’t come overnight so if you are going to impose change, you are going to create enemies” and continued that regardless the change is necessary in order to remain competitive. Participant 3 elaborated on the remedy and suggested, “change management needs to always be accompanied by a massive communication campaign.” Similarly, Participant 7 said that to embrace the

change, people need to be educated enough about the changes that leaders are trying to implement."

Standardization through well-defined policies is essential for global organizations. Participant 8 said "any organization which is running successfully their root is the framework." Friday et al. (2018) explained that standardization of procedures may serve as a risk mitigator, thus in alignment with contrasting institutional conceptual frameworks. For example, Flynn & Walker (2020) and Ordonez-Ponce & Khare (2021) elaborated on the pressure that multinational humanitarian organizational strategies endure to remain in compliance with internal and external regulations. Participant 7 confirmed the same and said that implementing supply chain strategies can be challenging because "you feel quite constrained by the UN policies because of the fact that UN is answerable to the Member States." Nevertheless, participants 1, 4, 5, and 8 strongly argued that having internal SOPs and blueprints "definitively helps" as operating guidance or framework clarifying how to correctly exercise certain processes, thus avoiding confusion and remaining "aligned with the aspirations and vision of the organization."

However, Dubey et al. (2018a) warned of the trade-off between adaptation and standardization to achieve anticipated responsiveness. For example, too many standardizations in procedures and formalities may result in inflexible supply chains (Dubey et al., 2018b). In this regard Participant 1 posited, "the rigidness of our rules and regulations on many occasions become the obstacle for more efficient and effective support", thus explaining that the substantive side of the UN should understand these

constraints and accordingly manage expectations on responsiveness from supply chain side of the UN.

Collaboration appeared as very intensively discussed code during the interview. According to Wilson et al. (2018) supply chain based on collaboration results in coordinated humanitarian supply chain management. All participants emphasized the importance of "close collaboration." Participant 5 posited that more collaboration leads to improvement and explained repeatedly that interactions, collaboration, and teamwork are paramount. Therefore, managers should promote teamwork. Similarly, Participant 1 highlighted that "collaboration and early involvement allows you to plan properly" and understand the need of the customer. Similarly, Participant 8 said that collaborations allowed to close identified gaps and bottlenecks timely.

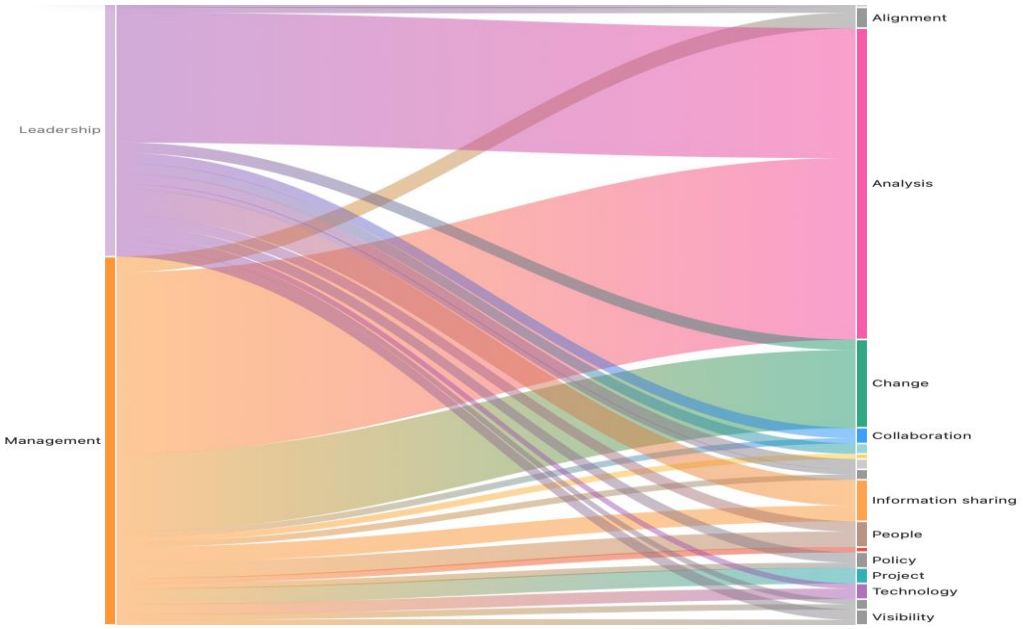
Managers may facilitate collaboration in many ways. Participants 1, 4, and 8 presented the example of Integrated Business Performance (IBP) meetings, the communication tool that enables business partners to get together to collaborate. Aulkemeier et al. (2019), Prasanna & Haavisto (2018), and Parast (2020) explained that collaboration supported by IT systems or digital networks allows collaboration to become more efficient. Therefore, managers should not hesitate in investing in adequate IT capabilities as a long-term approach to enabling collaboration. Participant, 8 said, "We bring all stakeholders together under one roof so people started talking to each other." As an illustration, figure 4 through the Sankey diagram is showing leadership and management related to codes of collaboration, information sharing, and people.

Collaborations are not that easy to establish. They come with numerous impediments (Makepeace et al., 2017). In this regard, Adem et al. (2018) mentioned governmental policies, socioeconomic settings being some of them. Chen & Kitsis (2017) and Kwak et al. (2018) extended to supply uncertainty, hostility, time pressure, changing priorities, and different understandings. Therefore, these impediments were found in alignment with a statement of Participant 2 saying, “The bureaucracy being very, very heavy and the oversight being very, very heavy.” Similarly, Participant 2 added,

> I think we need to work together as a joint team to be able to implement the solution. You can work together as a joint team without compromising your integrity or the process. And I think this is still something that people don't yet understand.

Figure 4

Sankey Diagram: Proportions of Connections Between Leadership, Management, and Other Codes



Note. The width of the line is proportional to the number of connections found between the analysis and other codes that emerged during the interview. From Atlas Ti. The diagram was developed by myself, the researcher Mazar to display the research results of the study.

The humanitarian supply chain often gets compared to the private sector. Sacristán-Díaz et al. (2018) elaborated that the humanitarian community has been criticized for lacking collaboration. In this light Participant, 2 explained, "We need to work more closely with the private sector." Additionally, Participant 1 related cost with collaboration and said, "For me, this is the main driver behind the collaboration because early collaboration may bring the cost down."

Relational capabilities entail collaboration through partnership, among supply chain stakeholders. Moreover, the UN rests on global partnerships. Therefore, collaboration has a ground in contrasting relational view theory founded by Dyer and Singh in 1998 explaining that the business world is composed of a network of interdependent relationships developed and fostered through strategic collaborations to derive mutual benefits (Chen & Kitsis, 2017). In this regard, Participant 1 said "Breaking the silos and establishing working relationships" should be the focus and highlighted the importance of internal collaborations, especially between four offices: Office of the Chief of Staff, Force Commander, Police Commissioner, and Mission Support. Additionally, Participant 1 further explained that horizontal or cross-functional collaborations are equally essential to ensure efficient operation because "It is demolishing the silo mentality" and allows understanding of how other offices work. Participant 1 continued "These cross-cutting exchanges proved to be quite productive", therefore in alignment with Najjar et al. (2019) argument that well-established internal partnerships are precedents for successful external partnerships.

Establishing long-term partnerships is a crucial consideration for supply chain managers. Participant 5 explained the benefits of long-term partnerships by saying "get better pricing, better conditions, and also more collaborations, avoid doing repetitive procurement processes" and continued "the longer the partnership, the better and more benefits."

Strategy 2: Leading With Vision, Setting Priorities, Leading Projects Effectively, and Ensuring Their Full Implementation Bring Expected Benefits and Improvement

Managers lead the supply chains different ways. Participant 3 elaborated on different types of leaders who championed their projects and said, "There some good ones who supported" their initiatives and others who "were not very future visionary thinking." Furthermore, Participant 2 explained that he was leading the supply chain in alignment with SG's vision, meaning "focus more on results and people." Furthermore, Participant 2 elaborated on the leading supply chain of the UN within the SDG framework, that is, creating a positive "legacy" in the countries where the UN operates. Sudusinghe et al. (2018) in their research called it driving change toward sustainability. Similarly, Participant 9 explained that he was exercising change management by translating the SG vision of "well-managed, effective, and efficient client support in the mission." The vision was frequently presented in relationship with training, efficiency, and policies, Therefore, Participant 8 said policies and framework help you to remain aligned with "the aspiration and vision of the organization."

Project implementation could be an indicator of efficient leadership. Moreover, supply chain management in a humanitarian organization is under constant pressure to

implement integrated structures, practices, and policies (Flynn & Walker, 2020). The majority of participants during the interview expressed their awareness of challenges related to implementations and they are in alignment with Zimon et al. (2020) saying the reasons are mainly time-consuming and complex processes. Participant 8 said the inability to find consensus among project stakeholders is a challenge. In this token, Participant 4 said "Implementation part is a bit of a challenge" while Participant 8 expressed "There are disruptions in every project. Disruptions are part of project management." Participant 3 highlighted "old timers in the UN who are sort of hindering the implementation", thus implying non-innovative leaders. Shan et al. (2020) explained that the inability to implement collaborative innovation directly negatively impacts supply chain dynamic capability and sustainable supply chain performance. Conclusively, alignment between individual dynamic capabilities and the innovative or entrepreneurial leadership style leads to a sustainable supply chain.

Project implementation under effective leadership relates to reconfiguration, the third stage of DCT (Teece, 2007). Reconfiguration usually includes several processes and activities seeking realignment. In this light Participant 8 said, "Part of successful project management, you know, so you need to realign priorities. You need to readjust your priorities in order to ensure that you stay on track."

Strategy 3: Managing by Understanding and Measuring the Entire End-to-End Supply Chain System Provide Timely Feedback to Participants

Humanitarian supply chain managers are shifting from intuitional to data-driven leadership. Teece et al. (1997) in their DCT highlighted the importance of reconfiguration

that brings changes, hence improvement. However, there should be a way of measuring the level of improvement. Therefore, Agarwal et al. (2019) suggested a balanced scorecard for measuring the performance and the Supply Chain Operations Reference (SCOR) for evaluating the overall health of the humanitarian supply chain management. Several participants expressed a deep understanding of the SCOR model. Participant 4 said "we follow the SCOR-P model plan, and we developed a SCOR-based plan feature called SCOG guidance", the framework that has been disseminated to all missions. Similarly, Participant 9 confirmed the implementation of different scorecards and dashboards for improved visibility.

The operating system that the UN uses is integrative. Participant 6 elaborated "There is a system integration, process integration, measures for managing capacity and workload. Having stable ERP is important." Shamout (2019) detailed processes of creating a measuring system, that is, collect, mine, analyze, and visualize data, therefore creating KPIs as performance indicators. The same Participant 2 confirmed and said: Having systems that collect data and give you visibility, business intelligence over data, to my mind, are critical to monitoring and measuring your performance, seeing how you are doing, enabling you to change direction if you need to change direction in order to improve. So it's a real system.

Managers with analytical capabilities are essential. They can absorb data quickly and make more effective data-driven decisions (Oliveira & Handfield, 2019). Furthermore, such managers initiate the establishment of end-to-end supply chain systems to gain overall visibility. Gupta et al. (2018) confirmed that big data analytical

potentials depend on the managerial capacity to understand business needs and outputs extracted from big data. Mikalef et al. (2020) added that the adaption of analytical systems, especially big data, also depends on the organization's maturity, therefore in alignment with Participant 8 who stated:

> Senior leadership decided that we need to introduce supply chain analytics in the mission and that we need to manage the performance of every supply chain entity. We have been using this ERP for managing our end-to-end supply chain and it's also helping us to streamline our operations.

Theme 3: Risk Management Strategies

The third theme that emerged from the collected data analysis was effective supply chain management leadership strategies. Three strategies emerged in relation to Theme 3: (a) Supply chain risk management mitigates disruptions and encounters resistance to change, (b) Agile strategies will allow responding effectively to emergencies and uncertainties, (c) Strategies should drive change toward sustainability and consider environmental impact. Each strategy appeared as a result of the data analysis process, and they are aligned with the existing literature and the conceptual framework. In the following discussion, I provide evidence of claimed relations.

Strategy 1: Supply Chain Risk Management Mitigates Disruptions and Encounters Resistance to Change

Global humanitarian organizations are exposed to numerous disruptions in rapidly changing and unpredictable environments. Therefore, Teece et al. (1997) with their DCT the most adequately explains approaches to address these challenges. Participants 5 and 6

explained challenges with vendors' performance and elaborated on strategies. One of the risk management strategies they both explained is to establish long-term partnerships because of expected benefits related to pricing, contract conditions, and improved understanding. Participant 3 explained risk related to lack of accountability and continued, "With all the audit and risk governance controls that they've introduced, I think they're trying to bring up that process ownership and governance." Fischer-Preßler et al. (2020) highlighted the necessity of risk monitoring as a continuous audit function assessing the risk-reducing measures.

End-to-end supply chain measuring systems enhance visibility and allow effectively manage disruptions, thus resulting in sustainability, competitiveness, and resilience (Singh & Singh, 2019). As disruption potentially leads to financial losses, Participant 6 expressed concern by saying, "So all the costs that are directly attributable to the supply chain are not systematically measured." Similarly, Participant 4 voiced concern over the functionality of the ERP system that covers end-to-end supply chain processes and said, "While a supply chain planning tool has a concept of the rolling plan, but a lot of functionality is not developed the way it should because of the ERP has sometimes a restriction to change your approach." Nevertheless, Fischer-Preßler et al. (2020) highlighted IT as the primary contributor to supply chain risk identification resulting in identified risk factors.

Resistance to change emerges as a risk factor. To introduce change, reconfiguration is required according to the dynamic capability conceptual framework (Teece, et al., 1997). Participant 9 explained how the inability to manage resistance to

change is already a risk. Participant 8 continued, "So every time you are introducing a change, there is always resistance. People are not ready to accept it. They will be more critics to it than you know, people who will subscribe to that change."

Strategy 2: Agile Strategies Will Allow Responding Effectively to Emergencies and Uncertainties

The code agile emerged during the interview with all participants, thus showing an understanding of how the operational environment constantly changes and seeks agility. Aslam et al. (2020) explained that organizations must be able to embrace the risks, become agile, and constantly reconfigure their resources. Similarly, Participant 3 said, "We have to adapt constantly to the ever-changing environment. Adopt and also be agile as well, constantly coming up with the different ways of you know doing things and trying to achieve that same ultimate goal." Participant 4 explained that he does not support a "one size fit all approach" because "each mission based on its particular "location, geographical, political, security" circumstances require adaptability. These managers demonstrated resilience by creating awareness of vulnerabilities (Shamout, 2019). Moreover, this approach is in alignment with the dynamic capability conceptual framework calling for sensing the environment before establishing an adequate strategy.

Although literature emphasized innovation and technology as agility facilitators, thus risk mitigators, Kwak et al. (2018) argued that innovation can augment the risk because of numerous activities facilitated by IT. The latter has been echoed by Participant 7 who claimed that the ERP system that the UN embraced "is not the best system. It is not as responsive or as agile as perhaps it ought to be." However, Participant 6 said, "it is

good to have ERP", Similarly, Participant 5 explained that the ERP system helped them to get visibility, thus, to act timely with changes.

The UN Office for the Coordination of Humanitarian Affairs (OCHA) identified agility as their priority capability especially relevant for goods transportation activities and rapid deployment of emergency teams (L'Hermitte et al., 2017). Participant 2 stated, "So in terms of the supply chain, to my mind, I was always available 24 hours, seven days a week. And I think that's critical, particularly critical in the UN environment where you have peacekeeping and humanitarian operations." Furthermore, Shafiq and Soratana (2019) argued that supply chain managers should always have an emergency plan prepared. This statement is in alignment with Participant 7 who said that procurement regulation caters to emergencies, thus allowing to address uncertainties rapidly.

Strategy 3: Strategies Should Drive Change Toward Sustainability and Consider the Environmental Impact

Half of the interview participants elaborated on the environmental impact of supply chain strategies in the UN. Some important statements include the one from participant 6 who said:

> Supply chain strategy needs to have environmentally responsible actions and plan. Now over, the years, environmental responsibility has been prioritized very highly. I see that for example our colleagues in Environment have good progress in terms of the environmental score.

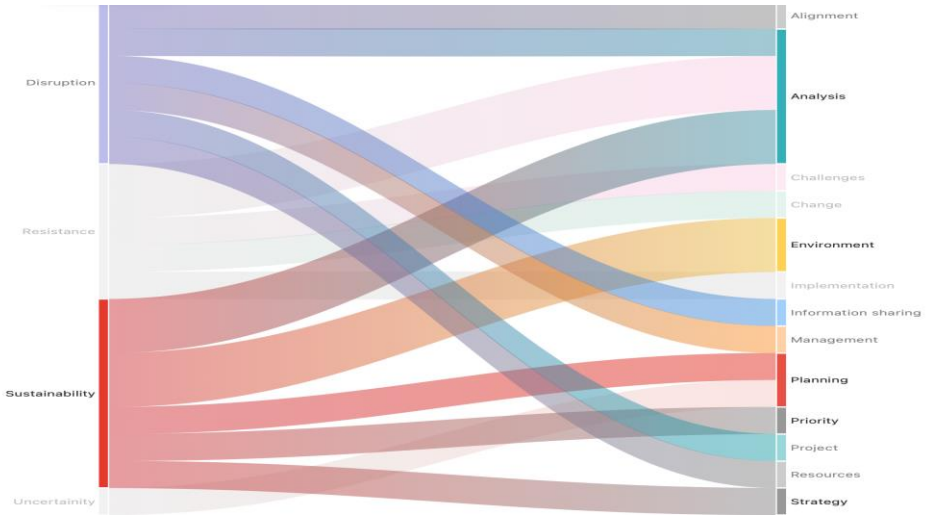
Similarly, Participant 2 and 5 explained how important it is to onboard procurement officers with expertise in environmental engineering. Similarly, Participant

6 continued, “it is not just retrieving, selling, transferring, and reusing materials but also completely overhauling and conducting environmental restoration” therefore in alignment with Zimon et al. (2020) elaborating on environmental compliance, green production, and reverse logistics.

The sustainable supply chain is increasingly gaining attention and is subject to external pressure from customers, suppliers, regulators, and investors (Zimon et al., 2020). Participant 8 explained that leaders should manage the supply chain holistically, that is, considering “the government aspect, the environment aspect, the social aspect.” However, although research studies extensively elaborate on measuring sustainability as a growing requirement from investors, or developing the sustainability road map, participants did not elaborate on ways to determine the level of sustainability achieved. Therefore, in alignment with Russell et al. (2018) critics that SDG should provide practical guidance. However, Participant 2 provided a very strategic overview as well as examples of how supply chain strategies can be in service of SDG. Figure 5 demonstrates all risk management related codes with other discussed under theme 3 that resulted in discussed strategies.

Figure 5

Sankey Diagram: Proportions of Connections Between Risk Management Related Codes and Other



Note. The width of the line is proportional to the number of connections found between the analysis and other codes that emerged during the interview. From Atlas Ti. The diagram was developed by myself, the researcher Mazar to display the research results of the study.

Applications to Professional Practice

In my study, I explored the strategies that executive supply chain managers of the UN used to leverage operational performance. The eligibility criteria for selecting the participants for the multiple-case study include nine supply chain managers who have successfully implemented supply chain strategies in the UN. The three themes that emerged from data collection were (a) analytical, innovation, and knowledge management, (b) effective supply chain management leadership, and (c) risk management strategies. In the study, participants discussed how establishing successful supply chain

strategies could improve operational performance and ensure efficiencies.

The results of my study could help leaders in the UN Peacekeeping organizations, UN agencies, and NGOs who operate in the vulnerable environment and under strict scrutiny from Member States and donors to deliver their aid programs most efficiently by understanding dynamic capabilities. Professional practice leaders might use these three themes to understand the strategies that will allow them to plan proactively, anticipate unexpected disruptive events, build collaborative networks, respond effectively in a crisis, and remain resilient with a high level of sustainability in increasingly challenging operational circumstances. The overview of the themes and strategies are presented in a Feedback Model developed by myself and Dr. Kenneth Gossett (see the model in the Appendix D).

Implications for Social Change

The results of the study can positively impact social change by helping supply chain managers to apply the strategies needed to remain efficient in a humanitarian crisis. Delivering effective and sustainable aid programs to vulnerable populations will gain donors' trust to continue with their support or attract new funds, thus ensuring peacekeeping organizations remain operational in conflict resolution, economic and social recovery.

The efficient humanitarian supply chain can also help the UN to meet its sustainable development goals (SDG), thus enhancing social well-being globally. There are 17 SDGs, and they include the following: no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water, and sanitation, affordable and

clean energy, decent work and economic growth, industry innovation and infrastructure, reduce inequality, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace, and justice strong institutions, and partnerships to achieve a goal.

Given the increase in aid demand and environmental threats, an effective supply chain is crucial to attend to emergencies and apply the mission mandate rapidly. Additionally, the humanitarian supply chain is intensively reaching out to best practices from the private sector, thus enhancing the knowledge of science-based methodologies. Similarly, increasing requirements to deliver relief programs that account for CSR results in a green and circular supply chain that includes low-carbon operation, recycling, and refurbishing, thus decreasing the environmental impact.

Recommendations for Action

In the research study, I explored the strategies supply chain managers in the UN used to improve operational efficiencies. First, supply chain managers should have an analytical approach to sensing the operational environment, measuring supply chain activities, and using data visualization for quick insights and data-based decision making. Embracing the best practices and empowering knowledge sharing across the organization is paramount. Similarly, managers should update their supply chain through scalable innovation and optimized technologies. Next, adequate, effective leadership that fosters accountability, change management, collaboration, and partnerships is an essential success driver. Last, having an adequate risk management program will timely mitigate disruptions in an ever-changing and vulnerable environment and drive change toward

sustainability and resilience.

Supply chain managers of the UN peacekeeping missions, UN special political missions, UN agencies, UN programs, and NGOs could benefit from the study by understanding the dynamic capabilities and benefits they bring to the organization. Additionally, suppliers could benefit too by understanding the requirements of the humanitarian supply chains, thus providing customized products and services that best meet demand. Similarly, academics and research institutes can benefit by developing knowledge and building innovative solutions, thus facilitating humanitarian operations to become more efficient.

Following the research study publishment, I will disseminate findings to senior supply chain managers in the UN who seek improvement. The results can also be discussed during supply chain management conferences. The research finding can benefit future researchers interested in efficiency improvement in humanitarian logistics. I will also disseminate results in scholarly supply chain journals.

Recommendations for Future Research

The purpose of the qualitative multiple-case study is to explore the strategies that some executive supply chain managers of the UN use to leverage operational efficiencies in a peacekeeping program. In the study, I interviewed nine supply chain managers from the UN that served in different peacekeeping missions and who have successfully developed strategies that improved their business practices and resulted in operational efficiencies. My sample size included nine participants who work for the UN in different missions. Therefore, I recommend that future study researchers include participants from

other UN agencies, programs, and NGOs delivering humanitarian aid. Furthermore, the study is qualitative, so future research may apply quantitative methods to collect and analyze data regarding dynamic capabilities. Quantitative research may include the following critical variables: supply chain analytics, collaborations, resilience, sustainability, and technological and environmental enablers in humanitarian supply chains. Moreover, quantitative research will allow researchers to reach a larger population. Next, since humanitarian supply chains are increasingly expected to deliver more assistance with limited resources available, further insights into the supply chain cost-saving enablers are recommended to identify further saving potentials. Last, since the UN 2030 Agenda for Sustainable Development has immense potential to create a more sustainable future, I recommend exploring which extended dynamic capabilities in the humanitarian supply chains contribute the most to achieving the SDG.

Reflections

The journey of accomplishing a doctorate in supply chain management was intensive and challenging but rewarding in the end. I needed to keep focused continuously and with my highest potential to reach the final goal. Although I tried to include more senior executive supply chain leaders, it was impossible due to their busy schedules for an extended period. Some participants were changing duty stations, thus creating waiting time until they reached their new peacekeeping mission. I was glad to see how interested and supportive the supply chain leaders of the UN were when approached to share their experiences and views.

Being a team member and project leader in the different supply chain offices and

locations in the UN allowed me to acquire extensive experience and understanding of the end-to-end humanitarian supply chain. Therefore, it was essential to be aware of my potential personal bias that could occur during the data collection process. Furthermore, I ensured I mitigated the bias I could create with my preconceived views and understanding of supply chain dynamic capabilities in the UN. The essential was to comply with Walden University's standards and ensure I did not include personal bias in my research process. In order to ensure that, I prepared a list of all my personal biases that may arise before conducting my interview. In addition to my personal bias, I also include the list of foreseen participant biases.

Conclusion

The purpose of my qualitative multiple-case study was to explore the strategies that supply chain managers use to leverage operational performance in the UN peacekeeping missions. Humanitarian organizations are critical for assisting the population in crisis in an ever-changing and disruptive environment. There are 75% of supply chains experiencing disruptions (Scholten et al., 2019). Therefore, to remain operational and continue delivering relief programs, the UN must ensure efficiencies as required by donors whose financial support follows rigid scrutiny.

Supply chain managers of the UN should adopt and align dynamic capabilities. For illustration, innovation capabilities are essential in humanitarian supply chains to fortify organizational risk management and enable awareness of vulnerabilities. Furthermore, the dynamic capability of knowledge sharing, agility, and flexibility allows resilience. Sabahi and Parast (2020) stated that 80% of firms consider resilience to supply

chain disruptions as a top priority because resilient capability allows the organization to address growing uncertainties. Since analytics is knowledge-based, analytical capabilities can predict natural disasters and guide the humanitarian response (Dubey et al., 2019). Similarly, relational capabilities are critical for humanitarian aid as it enables communication, collaboration, integration, and trust-building between multiple stakeholders who contribute to uplifted performance and competitive advantage. To interconnect and implement dynamic capabilities, adequate leadership is imperative.

I identified three themes in the study. They are (a) analytical, innovation, and knowledge management, (b) effective supply chain management leadership, and (c) risk management. The identified themes are aligned with the conceptual framework and review of the professional and academic literature. The findings of my research study can positively influence professional practice by informing leaders in the UN Peacekeeping organizations, UN Special Political Missions, UN agencies, programs, and NGOs who operate in the vulnerable environment and under strict scrutiny from Member States and donors to deliver their aid programs most efficiently by understanding dynamic capabilities. Similarly, the research study can positively influence social change. For example, the efficient humanitarian supply chain can help the UN to meet its 17 global sustainable development goals, thus enhancing social well-being and achieving a more sustainable future for all.

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Appendix A: Interview Protocol

Interview Protocol
Specific Business Problem The humanitarian operation's success is inextricably linked to the performance of a supply chain that accounts for 60-80% of the expenses (Agarwal et al., 2019, p. 1749). Almost 65% of supply chain expense pertains to procurement activities and 15% to transportation (Torabi et al., 2018, p. 124). The general business problem is that some supply chain managers in the United Nations organization are not aware of supply chain dynamic capabilities and how they can improve operational performance. **The specific business problem is that some executive supply chain managers of the United Nations lack strategies to leverage operational performance in peacekeeping programs.**
Research Question Research question is: "What strategies do executive supply chain managers of the United Nations use to leverage operational performance?" This question will explore what strategies supply chain managers should apply in peacekeeping setting to effectively respond to communities affected by humanitarian crisis, establish sustainability, build capacity and promote equitable economic development (Haavisto & Kovács, 2014).

Participant Criteria
I selected five supply chain managers who have successful strategies that they are using to leverage operational performance. They are full-time employees of United Nations Missions, The eligibility criteria include knowledge, education, business experience and level of

motivation explained by Peña (2002) as the most important critical human capital of the manager. I applied purposive sampling suggested by Saunders, Lewis, and Thornhill (2015) as the best fit for small samples and informative cases that intends to best answer the research question.	
What you will do	**What you will say—script**
This column contains what the researcher will be doing in addition to asking the interview questions.	This column contains what you will say to the participant as you proceed through the interview. Note—that one will add probing questions as appropriate.

This interview follows the initial meeting discussing requests thus establishing credibility.	Hi, and how are you doing today? Nice to see you after our telephone conversation. Thank you for agreeing to this meeting. As explained earlier, the purpose of this study is to explore value-added strategies that supply chain managers use to leverage operational performance. The interview is for research purposes and all I really want to know is your opinion and experiences. The interview should not take more than 15-20 minutes. There are no wrong answers. Take your time to respond. If at any time during the interview you want to take a break or no longer want to proceed just let me know and we will stop. This interview will be audio recorded to make sure your inputs correctly represent what you said. I will be also noting down during the interview. I want to let you know that the collected information is anonymous and confidential. After the study is completed, the video records will be destroyed, and I will happily provide you with the summary of the findings. If I may ask you to sign the informed consent form for being audio-recorded and for being in the study. If you are ready, we can start.

	What are the key supply chain strategies you developed and implemented to leverage operational efficiencies in the United Nations missions?
I appear attentive in the interview by nodding to the participant as he is answering, slightly inclined towards him. I am avoiding folded arms. The tone of my voice is projecting interest and enthusiasm. I am dressed semi-formal.	How did you select the strategies to improve operational performance?
	How did you implement the supply chain strategies performance in your organization?
	Based upon your experience, what are the key benefits of strategies you implemented on supply chain management in the peacekeeping mission?
	What processes and tools do you have in your organization to implement effective supply chain management performance strategies?
	How did supply chain stakeholders in your organization support your strategies?
	What are the key challenges you experienced in achieving operational excellence in supply chain management?

	How did you address the key challenges to implementing the strategies for leveraging operational performance in peacekeeping programs?
	What other experiences in leveraging operation performance as a supply chain manager have you had that you would like to share with me and that I have not asked you about?

Wrap up the interview by thanking the participant showing gratefulness and enthusiasm for participation	That's all I have for you today. Do you have any questions for me? If you think of anything, you are free to call me. Thank you so much for your time and the information you shared with me.
Schedule follow-up member-checking interviews with a positive and encouraging tone.	I will be meeting you again in 1-week time to verify everything you said If I have any additional questions for you? I hope that is okay with you. Thanks.

Appendix B: Themes and Applicable Codes

Themes and strategies	Codes
Theme 1: Analytical, innovation, and knowledge management Strategy 1: Ensure visibility and evidence-based decision making, supply chain managers should enhance Supply chain analytics through technology and data mining. Strategy 2: Sensing operational environment will allow effective planning, demand forecasting and optimizing resources. Strategy 3: Developing best practices, reengineering processes, encouraging innovation and sharing knowledge through trainings can bring solutions and improve competitiveness.	Analysis, Data, Demand, Alignment, Technology, Transparency, Visibility Forecast, Planning, Resources, Identification, Specifics Best Practices, Process, Consolidation, Capacity, Procurement, Expertise, Innovation, Knowledge, People, Cost, Training, Competition, Solution
Theme 2: Effective supply chain management leadership	

Strategy 1: Effective leadership should foster culture of accountability, change management and integration through long-term partnerships, collaborations, and clear policies.	Change management, Collaboration, Partnership, Accountability, Leadership, Long-term, Policy
Strategy 2: Leading with vision, setting priorities, leading projects effectively, and ensuring their full implementation bring expected benefits and improvement.	Benefits, Efficiency, Priority, Project, Vision, Implementation, Improvement
Strategy 3: Managing by understanding and measuring the entire end-to-end supply chain system.	System, Strategy, Delivery

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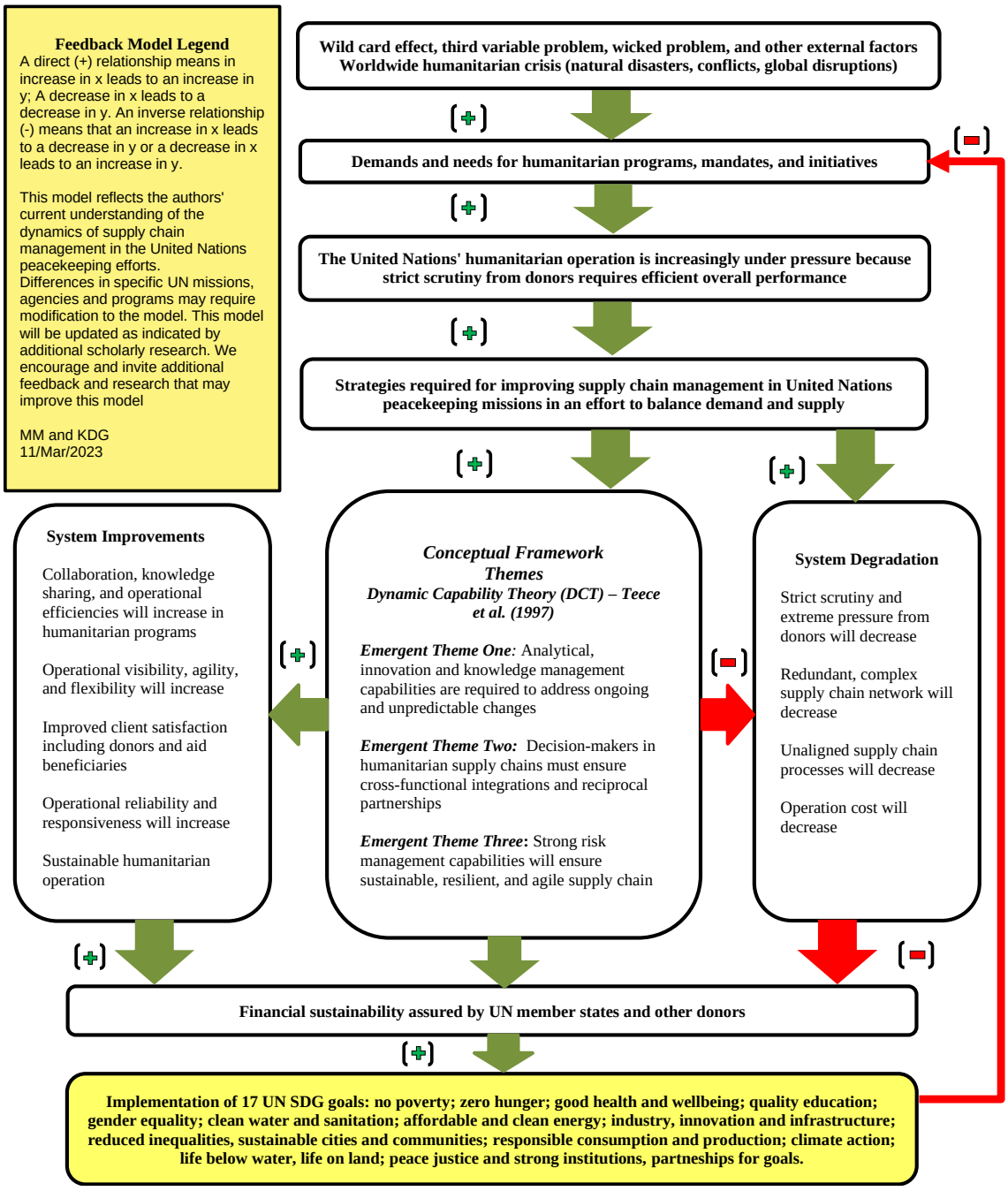
Theme 3: Risk management strategies

Strategy 1: Supply chain risk management mitigates disruptions and encounters resistance to change.	Challenges, Disruption, Resistance, Risk
Strategy 2: Agile strategies allow responding effectively to emergencies and uncertainties.	Uncertainty, Agile, Emergency
Strategy 3: Strategies drive change towards sustainability and considering environmental impact.	Environment, Sustainability

Appendix C: Strategies for Improving Supply Chain Management in the UN

Mirjana Mazar, DBA, Kenneth D. Gossett, Ph.D.



Note. Feedback loop in the complex United Nations system presents overview of the themes and strategies developed by myself and Dr. Kenneth Gossett.