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Green Supply Chain Management for Competitive Advantage

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This is to certify that the doctoral study by

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Walden University
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Abstract

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MS, Saint Joseph University, 2009

BS, Saint Joseph University, 2007

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

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Abstract

Some industrial company leaders fail to implement green supply chain management (GSCM) as a viable strategy to increase organizational profitability. Business owners who fail to implement green supply chain management practices are at a competitive disadvantage. Grounded in the corporate sustainability model, the purpose of this qualitative, single-case study was to explore GSCM strategies that supply chain managers need to improve organizational competitive advantage. The participants comprised four enterprise leaders and four supply chain operation employees with a minimum of 5 years' experience each and the responsibility for daily GSCM operations at a Lebanese manufacturing company. Data were collected using semistructured interviews and a review of organizational archival documents. Thematic analysis was used to analyze the data. Three main themes emerged: (1) the need for green practices engagement across the supply chain, (2) the importance of acquiring certifications, and (3) the requirement to use a balanced scorecard as a monitoring model to translate competitive strategies into key performance indicators. Enterprise leaders should implement green purchasing, green manufacturing, green distribution, green packaging, green marketing, environmental education, internal environmental management, and investment recovery. The implication for positive social change includes providing GSCM strategies to acquire a competitive advantage and informing business managers on strategies that maximize environmental conservation and minimize adverse environmental impacts, such as global warming.

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Dedication

I am so thankful that I could accomplish my dream. The doctoral study was not easy; it was full of obstacles and experiences, yet going through this journey shaped my personality. I am stronger, more mature, and so determined to succeed in life. I would like to thank my dad and husband, to whom I dedicate my study, for supporting me in achieving this dream. You stood by me during the tough times, encouraged me to stay motivated, and held me close when I cried with frustration. You are my source of motivation and support system. I couldn't have done it without you. I would also like to dedicate my achievement to my son Dani. Without your words "My mom is a Doctor" and "When I grow up I want to be a doctor like my mom," I would not have achieved this goal. I hope to have set an inspirational model for you and that you always aspire to push yourself beyond your comfort zones for achievements higher than our expectations for you. I would also like to thank my family and friends for the support and love to stay focused on the goal.

Acknowledgments

To Dr. Jill Murray, my chair, my mentor, and my savior, earning this title would not have been possible without your guidance, sustenance, and motivation. Thank you for talking me out of giving up, making me see the light at the end of the tunnel, and patiently waiting for me to pick myself back up again to resume my journey. To all my fellow peers, present and future doctors, your comments, feedback, continuous support, and celebrations of every milestone made this journey a reality. Stay strong, motivated, and determined. You can do it!

I would also like to acknowledge and thank Dr. James Glenn, second committee member, and Dr. Judith Blando, URR, for your guidance during the process. Your comments and feedback added to my knowledge and to the value of the study.

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Section 1: Foundation of the Study

To meet high sustainability criteria in the globally competitive market, organizational leaders are interested in the proficiency of the entire green supply chain management (GSCM) and not the individual abilities of partners in the chain (Dubey et al., 2015). Some company leaders incorporate an environment friendly mentality to their products and operations (Abdul-Rashid et al., 2017), whereas most supply chain management innovations target economic benefits rather than profits (Vanpoucke et al., 2016). Regardless, supply chain managers often lack information on the importance of GSCM to improve the competitive advantage (Govindan et al., 2014). Through information acquisition, supply chain managers could gain a lasting competitive advantage in a dynamic and ever-changing competitive business environment (Su et al., 2014). According to Holsapple et al. (2015), information is a vital source of sustainable competitive advantage. Thus, the acquisition of information on GSCM strategies is essential for supply chain managers.

Background of the Problem

To compete in the global market, business managers are pressured by governments and customers to integrate GSCM practices, with an emphasis on coordination with external suppliers (Yan et al., 2016). Economic globalization and deterioration have caused GSCM to become a vital competitive approach for organizations involved in international trade (Gandhi et al., 2015). Martín-de Castro et al. (2016) confirmed a positive relationship between proactive ecological practices and firms' achievements. Past researchers have focused on supply chain performance

measures such as cost, time, and accuracy; however, customers and governments are demanding enterprises' compliance with environmental and social responsibility due to environmental corrosion (Mathiyazhagan et al., 2014). Governmental regulations and customers' awareness have pushed enterprises to minimize their ecological footprint (Zhu et al., 2016). However, business managers have struggled to identify barriers to GSCM implementation (Govindan et al., 2014). Business managers can apply GSCM strategies to improve environmental performance, reduce waste, save costs, and improve their competitive advantage (Daddi et al., 2016). In this study, I aimed to explore GSCM strategies that business managers need to improve their competitive advantage.

Problem Statement

Some leaders of industrial companies are failing to implement GSCM as a viable strategy to increase organizational profitability (Čater et al., 2018). Although industrial leaders have increased awareness regarding GSCM in emerging markets, 70% of business executives reported that they do not implement GSCM strategies into their operational initiatives (Geng et al., 2017). Through the implementation of GCSM strategy, business managers can improve the enterprise's competitive advantage, save costs, and gain new customers and suppliers (Daddi et al., 2016; Rahim et al., 2016). The general business problem is that some business owners lack knowledge regarding GSCM. The specific business problem is that some supply chain managers need GSCM strategies to improve organizational competitive advantage.

Purpose Statement

The purpose of this qualitative single case study was to explore GSCM strategies that supply chain managers need to improve organizational competitive advantage. The specific population was enterprise leaders and supply chain operation employees who use GSCM strategies in North Lebanon. Enterprises produce a high level of pollution, and pollution affects people's health. Furthermore, Nejat et al. (2015) affirmed that 40% of global carbon emissions are from supply chain activities. The implementation of GSCM may improve an enterprise's environmental performance, resulting in a decrease in air emissions, effluent and solid waste, and the use of toxic materials. Communities might have healthier natural environments once enterprises implement green strategies in the traditional supply chain. The study findings could help business managers discover some GSCM strategies to improve organizational competitive advantage.

Nature of the Study

Researchers use a qualitative research method to explore a phenomenon from the participants' point of view (Berger, 2015). The qualitative method was appropriate for my study because I explored a phenomenon from the participants' perspective. Quantitative researchers use numerical data to test hypotheses (Westerman, 2014). Because I did not use numerical data to test a hypothesis, the quantitative method was not applicable. Mixed method research is complicated, combining both characteristics of qualitative and quantitative methods (Green et al., 2015). I did not choose the mixed-methods research methodology for my study because I am not an expert with gathering

numerical data, and the mixed-methods research methodology requires a high level of expertise.

Case study, ethnography, and phenomenological are some of the research designs used when conducting qualitative research (Marshall & Rossman, 2016). Researchers use the case study design to explore participants' perceptions, knowledge, and experiences (Hyett et al., 2014). I used a case study design to explore participants' opinions, acquaintance, and experiences on GSCM. Researchers use an ethnographic design to study the culture or beliefs of a group by observing and listening to participants over a prolonged period (Cincotta, 2015). The ethnographic design was not an option for my study because I was not immersing myself in a culture to understand a phenomenon. Researchers use a phenomenological research design to describe participants' lived experiences (Dowden et al., 2014). The phenomenological design was not appropriate because the aim of the study was not to describe lived experiences.

Research Question

What GSCM strategies do supply chain managers need to improve organizational competitive advantage?

Interview Questions

The interview questions were as follows:

1. What GSCM strategies are you implementing to improve organizational competitive advantage?
2. How do you use GSCM strategies as a tool for improving competitive advantage?

3. How do you use GSCM strategies to balance between social responsibility, environmental welfare, and economic progress?
4. How do you reduce your industry group percentile (IGP) based on waste productivity?
5. What GSCM strategies help reduce your IGP based on energy productivity?
6. What GSCM strategies help improve your IGP based on sustainability cost?
7. How does the adoption of GSCM affect the enterprise?
8. What additional information can you add that would be valuable to this study?

Conceptual Framework

I used the corporate sustainability model (CSM) as the conceptual framework for my study. Epstein (2008) developed the CSM to aid managers integrating green practices at strategic levels and daily operations (as cited in Varsei et al., 2014). The CSM implies the concept that managers must find strategies to improve corporate social performance as well as financial performance (Epstein, 2008). Balance is necessary between social responsibility, environmental welfare, and economic progress while using CSM (Epstein, 2008). Key constructs underlying CSM are (a) IGP based on waste productivity, (b) IGP based on energy productivity, (c) sustainability cost, and (d) sustainability reward (Epstein, 2008).

Through CSM, business managers can explore green strategies that may improve an enterprise's competitive advantage (Epstein, 2008). Firm managers enhance competitive advantage through proactive environmental strategies (Daddi et al., 2016; Molina-Azorín et al., 2015; Pereira-Moliner et al., 2015). I analyzed the study findings through the lens of CSM.

Operational Definitions

Ecological sustainability: Ecological sustainability is the capacity of an enterprise to meet the needs of the present generation, without hindering future generations from being able to meet their needs (Borland et al., 2016).

Environmental footprint: An environmental footprint is the collective effect of an organization, community, or society on the natural environment (Hoekstra & Wiedmann, 2014).

Environmental management system (EMS): An environmental management system is the alignment of strategic practices within an organization to identify and manage environmental risks (Daddi et al., 2016).

Green supply chain management (GSCM): GSCM is the integration of environmental thinking into traditional supply-chain management that includes reducing, recycling, reusing, and substituting materials (Yan et al., 2016).

ISO 14001: ISO 14001 is a certification specialized in environment standards. The International Organization of Standardization (ISO) approved ISO 14001 officially in 1996 (Arimura et al., 2016).

ISO 50001: ISO 50001 is a combination of ISO 9001, the quality system specialization, and ISO 14001, the environmental specialization (De Sousa Jabbour et al., 2017).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are ideas that researchers accept as accurate without further investigation or interrogation (Cunliffe & Scaratti, 2017; Grant, 2014). The first assumption was that GSCM strategies are essential for supply chain managers to improve organizational competitive advantage. Next was the assumption that participants can accurately reflect their experiences regarding the phenomena under study. Finally, I assumed that all participants would answer the interview questions honestly.

Limitations

Limitations are possible weaknesses in a study that are generally out of the researcher's control (Eskandarpour et al., 2015). The first limitation was that the sample size was small; therefore, findings may not apply to a larger population. Next, the study was limited to collecting data from interviews and archival documents only, limiting the overall research breadth.

Delimitations

Delimitations are characteristics that limit the scope and define the boundaries of a study (Eskandarpour et al., 2015). The study's first delimitation was that data were only collected from GSCM personnel in one company and within one industry, located in North Lebanon. This limitation may also reduce the findings of the sole perspectives of

the selected participants. Last, a delimitation was the use of CSM as the only conceptual framework to analyze the results.

Significance of the Study

Contribution to Business Study

GSCM is an essential requirement of ecological operations within the manufacturing sector (Genovese et al., 2017). Securing a sustainable competitive advantage is the primary motivation that pushes business managers toward implementing a GSCM strategy (Raut et al., 2017). Governments' involvement via green legislation and green taxation, the power of nongovernmental organizations (NGO), and the customers' demand for products and services that are eco-friendly obligate organizational managers to implement GSCM strategies (Luo et al., 2016). Aggressive competition in global markets and the introduction of new technologies lead enterprise managers to be more involved in greening their supply chain (Yan et al., 2016). Business managers can apply GSCM to improve environmental performance, reduce waste, and accomplish cost savings (Daddi et al., 2016).

As environmental sustainability evolves and stakeholders' needs change, managers will have to improve the social and economic performance of organizations and projects (Poveda & Young, 2015). Supply chain managers need information on GSCM strategies to improve organizational competitive advantage (Lloret, 2016). The purpose of my qualitative single case study was to explore GSCM strategies that supply chain managers need to enhance corporate competitive advantage.

Implications for Social Change

Enterprises produce a high level of pollution (Jiang et al., 2016), affecting the health of the community (Cesur et al., 2017). Nejat et al. (2015) affirmed that 40% of global carbon emissions are due to the industrial supply chain. Furthermore, air pollution leads to 3.3 million premature deaths per year worldwide (Lelieveld et al., 2015). My research may contribute to social change by informing business managers on processes that maximize environment conservation and minimize negative ecological impacts like air pollution in response to society's needs for a healthier population. The reduction of air emissions, effluent waste, solid waste, and the consumption of toxic materials are some of the expected results of the implementation of GSCM (Nishitani et al., 2016).

A Review of the Professional and Academic Literature

Introduction

The objective of this literature review is to explore the elements and practices of compliance with GSCM, the guidelines and standards, and the effect on enterprise operations. The aim of my study is to provide business managers with information on GSCM strategies to improve the competitive advantage. GSCM considers the potential impact of economic growth and integrates the progress in ways that enhance the company's performance, the environment, and the consumer's quality of life (Santibanez-Gonzalez et al., 2016). Exploring various facets of environmental sustainability, regulation, and industry operations could increase insight into the factors and practices that promote compliance with GSCM rules and standards in the enterprises. GSCM requires collaborative work between main stakeholders such as governments, industry,

suppliers, and civil societies. To ensure business viability, leaders need to identify and replicate the best green business policies and operations that drive compliance with ISO regulations and standards.

The literature review includes various themes presented in the following order: conceptual framework, environmental profit maximization, competitive advantage improvement, influence on costs, economic outcomes from GSCM, suppliers' role in the success of GSCM programs, government and customer, corporate green goals acquisition, and ISO. Keywords used in the literature search included *ecological sustainability*, *environmental footprint*, *environmental management system (EMS),* and *green supply chain management (GSCM).* Resources for the literature review included books, journals, and dissertations retrieved from the Walden University online library, internet searches, Google Scholar, and ProQuest. The literature review contains 90 references, of which 90 (100%) are peer-reviewed, and 76 (85%) have a publication date within 5 years from my expected completion date.

The Conceptual Framework

After reviewing business theories related to environmental sustainability, three theories emerged as possible foundations for the conceptual framework related to the current study— the triple bottom line (TBL), the ecological modernization theory (EMT), and the CSM. These three theories may contribute to a better understanding of the research question and may provide the appropriate lens through which to explore the problem. Govindan et al. (2013) developed the TBL. Leaders use the TBL in the integration of green practices. The TBL consists of the combination of three ideas

encompassing economic, social, and environmental spheres (Alhaddi, 2015). I did not apply the TBL for my study because the CSM incorporates TBL principles, emphasizing the notion that a balance exists between social responsibility, environmental welfare, and economic progress (see Epstein, 2008). The EMT is a useful theory to explore how to motivate environmental management performance, such as GSCM (Bonds & Downey, 2015). I did not use the EMT because the EMT does not mention the economic benefit related to the green supply chain implementation. The developer of the CSM was Epstein (2008). The CSM refers to company leaders aiming to increase positive impacts on the environment, society, and economy. Business leaders are experts at evaluating any investment's financial costs and benefits yet need assistance in moving beyond the traditional cost-benefit analysis. Incorporating environmental sustainability in the conventional cost-benefit study requires leaders to state the environmental sustainability outcomes of the investment, involve stakeholders, satisfy stakeholder's sustainability requirements, and evaluate the cost and benefits of environmental sustainability implementation (Pryshlakivsky & Searcy, 2015). The CSM is an important guideline for leaders to know which strategies are suitable to develop and implement a sustainable plan to improve cost-effectiveness and financial status for the enterprise (Epstein & Buhovac, 2014).

Some managers do not understand sustainable development based on their lack of training in environmental sustainability. Managers who want to apply environmental sustainability must learn how to innovate in new ways. Epstein (2008) presented numerous tools and approaches to help managers achieve social and environmental goals.

Epstein mentioned that managers should put effort in implementing a business strategy that focuses on building social and economic values. The CSM assists managers in the integration of green practices at strategic levels and daily operations. Epstein proposed four drivers of corporate sustainability performance in the CSM: inputs, processes, outputs, and outcomes. Managers can apply the four drivers of the CSM to affect the environmental sustainability performance and financial benefit for the organization (Epstein & Buhovac, 2014). Using the CSM, managers can uncover the possible economic and social results of their decisions without the need of being experts in environmental sustainability models or methods (Pryshlakivsky & Searcy, 2015). The CSM includes the drivers of corporate sustainability performance that managers need to improve organization performance (Epstein, 2008). Managers can also apply the ISO 14001 environmental norms to adhere to the international rules regarding the decreasing of discharges, waste, use of resources, and overall environment protection (Cherrafi et al., 2016). Implementing ISO 14001 and acquiring the certification have led to environmental, economic, and managerial advantages (Arimura et al., 2016). Although the sustainability concept is not new, many organizations still do not know how to implement or measure their outputs (Kalender & Vayvay, 2016).

Adopting the CSM, managers must find a way to improve corporate social performance as well as financial performance. The structure addresses systems, performance measurements, rewards, and structure alignment. Managers who use the GSCM model can address three sets of effects: (a) corporate, (b) financial, and (c) social (Chan, Lee et al., 2013). The CSM comprises the notion that a balance between social

responsibility, environmental welfare, and economic progress is necessary (Epstein, 2008). The CSM framework addresses environmental, social, and economic imperatives with an implied goal of reducing the effects on the natural environment (Mazzi et al., 2016). Key constructs and propositions underlying the theory are the social performance, financial performance, green performance measurements, rewards such as ISO, and structure alignment (Pryshlakivsky & Searcy, 2015).

Company managers should always have information on how the company may lose or generate value (Chuang & Huang, 2018). Enterprise resource planning (ERP) systems is an information system that aims to increase organizations' operational performance by integrating information and accelerating the distribution of data across functions and departments of an enterprise (Shen et al., 2016). An ERP evaluation framework that integrates the balanced scorecard dimensions provides an objective approach to assessing both the performance level of the ERP system and its contribution to the strategic objectives (Tarhini et al., 2015). ERP is one example of the other Enterprise Systems (ES), such as the SCM system, which manages raw materials and products supply (Costa et al., 2016).

The current practices of sustainably are about innovation and opportunity (Varadarajan, 2017). The company's competitiveness indicates the managers' level of professionalism and relation with stakeholders (Lloret, 2016). Hence, by building environmental sustainability plans, managers can establish positive long-term functioning. Therefore, sustainable actions are important for an organization's business model because a strategy of targeted and permanent activities offers the company a

competitive advantage (Dayan et al., 2017). According to Lloret (2016), some leading managers know the importance of preparing a strategy that contains corporate social responsibility; however, they struggle in strategy implementation.

Managers can also use the balanced scorecard (BSC) to implement green initiatives and monitor environmental performance. The BSC is a performance measurement and management system aiming to help managers assess the environmental performance of a supply chain (Hansen & Schaltegger, 2016). The BSC has become a popular concept for performance measurement (Kalender & Vayvay, 2016). The BSC model is also useful as a decision support tool to define actions that managers need to take to improve the global environment performance of the supply chain (Ferreira et al., 2016).

Managers must decide whether the implementation of green strategies should be soft or hard. Soft leadership skills are managing and motivating employees to create a passion and commitment to environmental sustainability. Hard leadership skills are performance measurement, evaluation, compensation, and incentives. Decision makers who have approaches based on corporate governance produce sustainable business models that include stakeholder expectations (Lloret, 2016). Managers can implement a sustainability balanced scorecards (SBSCs) to implement green strategies. An SBSC is a modification to the original BSC, which considers environmental, social, and ethical issues (Hansen & Schaltegger, 2016). An SBSC can be designed to relate performance dimensions and strategic objectives of an enterprise to achieve the corporate sustainability strategy (Kalender & Vayvay, 2016). A factor that determines the success

of corporate sustainability management is the ability to incorporate environmental sustainability into the organization's vision and activities (Dayan et al., 2017). A clear and well-established business strategy is the key for a company's manager to gain a competitive advantage and achieve better performance (Daddi et al., 2016).

The CSM addresses environmental, social, and economic imperatives with an implied goal of reducing the effects on the natural environment and creating permanent value for stakeholders (Mazzi et al., 2016). Managers have to lead and decide the degree of environmental sustainability implementation, what concerns should be covered, and how to implement a strategy that is consistent with the mission, culture, and stakeholder requirements. Identifying the environmental impacts of an industry can aid managers in the development and implementation of the right environmental sustainability strategy. CSM concepts may help me explore GSCM strategies that supply chain leaders use to improve the competitive advantage. Reviewing business practice and policies related to recycling, telecommuting, and operating vehicle fleets can indicate how company managers might minimize negative environmental effects. An investigation into these actions can also assist business managers and researchers in developing policies and programs conducive to achieving related company goals. One of the main challenges to successful environmental sustainability implementation is to fit this new strategy into existing organizational structures simultaneously to improve social, environmental, economic, and financial performance. According to Daddi et al. (2016), firm managers enhance competitive advantage through a stronger CSM that consists of financial, social, and environmental outcomes. Managers' obligations to social, environmental, and

economic changes must translate into words and actions. In his book, Epstein (2008) presented a framework to aid managers in recognizing, measuring, and incorporating social, environmental, and economic impacts while taking the right management decisions towards profitability.

Green Supply Chain Management

Competitive markets and the introduction of new technologies changed business-to-business connectivity into supply chain management. Rapid communication in all junctures of the supply chain speeds up the delivery of the desired products to customers (MacCarthy et al., 2016). Uncontrolled consumption behavior puts natural resources in danger and produces waste that harms the environment (Montabon et al., 2016). Many tools can help a manager implement the right strategies and lead a successful GSCM. The ISO 14001 certification offers significant economic benefits to multinational organizations, such as operational efficiency, worldwide recognition of product/brand, marketing advantages, enhanced competitiveness, and better waste management resulting in cost reduction (Cherrafi et al., 2016). The most important motivating factors in adopting ISO 14001 vary according to the type of industry and the country of the company (Treacy et al., 2018). Implementing ISO 14001 and acquiring the certification leads to environmental, economic, and managerial advantages (Iatridis & Kesidou, 2018). The BSC is a model that can help managers assess the environmental performance of a supply chain (Ferreira et al., 2016). The BSC model is useful as a decision support tool to define actions to be taken to improve the global environment performance of the supply chain (Hansen & Schaltegger, 2016). ERP systems in another tool that can

help managers integrating information and accelerating information distribution across the supply chain to increase organizations' operational performance (Shen et al., 2016).

The significance and importance of sustainability criteria to measure and report supply chain performance have improved (Kim & Davis, 2016). According to Montabon et al. (2016), supply chain implementation measurement has received improved consideration due to the changing competitive nature of enterprises from organizational bases to supply chain bases. Using GSCM, leaders have reduced nonrenewable resources usage and waste generation and increased afterlife recovery options (Nasir et al., 2017). GSCM aims to maximize environmental profit by adopting a life-cycle approach through product creation, material assortment, manufacturing, sales, and recovery (Sajid et al., 2016). Through GSCM usage, managers can develop and implement sustainable development techniques and significantly improve operations. (Kirchoff et al., 2016). According to Yildiz Çankaya and Sezen (2019), there are eight dimensions of GSCM that affect the economic, environmental, and social performance with the firm. The eight dimensions covered by Yildiz Çankaya and Sezen (2019) are: green purchasing, green manufacturing, green distribution, green packaging, green marketing, environmental education, internal environmental management, and investment recovery. Thus, companies' leaders should adopt a holistic approach to sustainability throughout the supply chain, evaluating each link, with collaboration among all stakeholders.

The green supply chain is an extension of the conventional supply chain. The GSCM is the integration of environmental ideas into traditional supply-chain management (Yan et al., 2016). The green supply chain aims to reduce the ecological

effects of a product during its whole lifecycle by increasing resource-saving, reducing dangerous material, and using product recycling protocols (Sezen & Çankaya, 2016). According to Mirghafoori et al. (2017), the use of effective GSCM practices helps enterprises' managers boost organizations' eco-friendly acts and decrease hazardous waste. However, business managers did not yet comprehend the influences of GSCM practices on organizational performance. According to Zhuo and Wei (2017), the execution of GSCM can accomplish a win-win situation of economic and environmental benefits. Using GSCM could enhance the core competitiveness of enterprises and promote sustainable economic development (Zhuo & Wei, 2017).

In a study, Zhu, Geng, et al. (2013) distinguished between two GSCM practices, internal and external. Internal GSCM performances are practices that individual manufacturers can implement and manage individually. External GSCM performances usually need a certain level of collaboration with external stakeholders or partners, such as suppliers, and customers (Zhu, Geng, et al., 2013). Many factors may encourage enterprises' managers to adopt GSCM like regulations, markets, stakeholders and suppliers. However, an enterprises vision and mission statements detailing managerial commitment toward environmental sustainability is the most crucial aspect of developing and maintaining an ecological strategy (Agarwal et al., 2018).

The purpose of the supply chain is to provide customers with the desired products and services without delay, at the right time, and at a competitive price, at the correct place (Daugherty et al., 2019). A supply chain is a set of interdependent functional units whose managers collaborate to manage and develop the movement of supplies, products,

services, and information through the entire chain (Flynn et al., 2016). The supply chain aims to fulfill customer needs at the cheapest cost while also meeting customers' quality expectations. (Flynn et al., 2016). The increased pressure from customers and NGO has caused brutal environmental regulations. Organizational leaders are showing interest in green production because of stringent environmental protocols and regulations worldwide (Li, Huang et al., 2016). Longoni and Cagliano (2018) suggested discussing with stakeholders the ways to improve environmental performance to enhance the firm's reputation and financial performance is essential.

Zhu et al. (2012a) distinguished three types of industrial companies, based on the implementation of GSCM practices, early adopters, followers, and laggards. The early adopters of green innovations will gain several advantages such as a good corporate reputation and image, new customers and market shares, and competitive advantage (Carvalho et al., 2017). Several internal and environmental issues affect the engagement of firm leaders to innovate. According to Mirghafoori et al., 2017, companies' leaders are the most influential in technological innovation.

International Organization of Standardization

Officially approved in 1996 by the ISO 14001 is a voluntary international environmental norm (Arimura et al., 2016). All industries, of any size and working in any sector, can apply ISO 14001. Leaders at the ISO have developed standards focused on the environment through the ISO 14000 series. Standards elaborated by the ISO/TC 207 Committee for Environmental Management (EMS) detail the opportunity for company managers to apply an EMS and gain an accreditation (Mazzi et al., 2016). The

organizational structure allows business managers first to ensure the company's effects adhere to national regulations and international rules. Second, the organizational structure helps companies' managers decrease discharges, waste, utilization of resources, and environmental footprint (Cherrafi et al., 2016) and introduces a continuous improvement system to cope with the technological development (Holsapple et al., 2015). Third, the organizational structure proposes a simplified approach to environmental management to all levels of the organization (Chowdhury et al., 2018). The Six Sigma is a problem-solving methodology to help managers enhance the effectiveness of lean green initiatives in an enterprise (Garza-Reyes, 2015). Managers can adopt the Six Sigma methodology to meet environmental regulations, save costs and, meet quality management standards (Hakimi et al., 2018). Six Sigma can be considered an effective method to support the conservation of resources and energy-saving (Chugani et al., 2017). The organizational structure assists managers in managing the supply chain with the same values and internal instruments. Top management commitment plays an essential role in ISO 14001 implementation (Chowdhuryet al., 2018). There are two motives for a company to implement ISO 14001. External motivation guided by the pressure from the government of the enterprise base country and the enterprise' customers. Weak external pressures might push leaders to symbolically implement ISO 14001 (Treacy et al., 2018). Internal motivation leads company leaders to implement ISO 14001 to improve competitiveness, market share, and positioning on the international market (Iatridis & Kesidou, 2018). Despite the stimulating factors to apply the ISO 14001, several barriers and obstacles hinder

organization managers from acquiring the certification in Lebanon (Saade et al., 2019).The high cost of implementation and maintenance of the ISO 14001and the lack of governmental support and incentives are the main reasons obstructing Lebanese organizations from adopting ISO 14001 (Saade et al., 2019). Even though ISO 14001 certification is becoming so popular, the implementation of the standard does not always result in enhanced environmental routine by certified firms. Recent research by Iatridis and Kesidou (2018) shows the reason behind the failure of ISO 14001 firms often symbolic implement the standard and do not incorporate the standards in the business performance metrics and goals. Unfortunately, in Lebanon, there is a lack of political support and incentives regarding the implementation of ISO 14001 (Saade et al., 2019). The ISO 14001 certified Lebanese industries comply with the Lebanese environmental regulations, especially Law 444-2002 and Decision 8/1-2001 of the Ministry of Environment (MoE) (Saade et al., 2019). The law sets the fundamental principles that would manage the use of the environment. Decision 8/1, published in 2001 by the MoE on the National Standards for Environmental Quality (NSEQ), covers air and liquid emissions limits of all sectors (Djoundourian, 2007).

Arimura et al. (2011) claimed that managers of more than 40% of ISO 14001 qualified corporations assist their suppliers' environmental functioning, and more than 50% urge their suppliers to respect environmental regulations. De Vries et al. (2012) discussed how to leverage ISO 14001 across the supply chain into a competitive advantage. Stakeholder and institutional pressures motivate enterprises' leaders to implement GSCM activities. By December 2014, 324,148 businesses universally had

acquired ISO 14001 certification (Arimura et al., 2016). Arimura et al. (2016) explored relationships between institutional pressure and environmental performance such as internal GSCM practice on ISO 14001 accreditation. The high exposure of ISO 14001plays a significant role in facilitating the connection between ISO 14001 accreditation and environmental performance (Cherrafi et al., 2016). Internal motivation is the main force of internalizing ISO 14001(Heras-Saizarbitoria et al., 2016).

The ISO developed ISO 50001 in 2011 (Kamat et al., 2016). ISO 50001 is a combination of ISO 9001, the quality system specialization, and ISO 14001, the environmental specialization (De Sousa Jabbour et al., 2017). The purpose of ISO 50001 is to assist enterprises to establish the systems and processes needed to improve energy performance, including energy efficiency, use, and consumption (De Sousa Jabbour et al., 2017). ISO 50001certification offers the company managers the opportunity to run the business in the most energy efficient way with permanent improvement (Zsebik & Novák, 2018).

ISO 50001 provides full support to small or large companies to create energy with high efficiency (Kamat et al., 2016). ISO 50001 adoption helps organizations to decrease the consumption of energy (Böttcher & Müller, 2014). ISO 50001 necessitates that managers take into consideration energy impacts when selecting suppliers (De Sousa Jabbour et al., 2017). Furthermore, managers must place procurement specifications on services, products, and equipment that can have significant impacts on energy use (Kamat et al., 2016). To attain energy savings to confront economic and environmental issues,

managers need to find new ways to shape the enterprise structure and fix organizational practices (Silva et al., 2018).

A good approach to affect the entire supply chain is to encourage the suppliers to adopt ISO 50001 or chose suppliers who already do (Jabbour et al., 2017). According to Böttcher and Müller (2014), integrating ISO 50001 to GSCM practices can pave the way to develop green and low-carbon supply chains. Enterprises adopting ISO 50001 can save energy by lowering the amount of gases emitted during energy generation (Vieira et al., 2018). According to Jabbour et al. (2017), some advantages of ISO 50001 are improved business collaboration with suppliers; reduced price volatility by decreasing energy costs, and enhanced branding by satisfying customers' demands for sustainability. There are certain obstacles to implement energy improvement efforts within organizations— the cost related to the energy management system adoption, absence of information regarding energy efficiency, and lack of awareness related to financial benefits resulting from the use of energy management system (Jabbour et al., 2017).

Environmental Profit Maximization

Harmful hazardous emissions that present threats to the human race have contributed significantly to climate change (Dubey et al., 2017). Climate change is causing global warming, earthquakes, hurricanes, and floods. Anthropogenic greenhouse gasses (GHG) are the main contributors to climate change (Tian et al., 2016). The atmospheric concentrations of GHG increased by 70% between 1970 and 2004 (Pachauri & Reisinger, 2007). The Kyoto Protocol was signed in1997 as a reaction to climate change. The aim of the Kyoto Protocol was to decrease GHG discharges by an average of

5% from 1990 levels by 2012 in 37 industrialized countries (United Nations Framework Convention on Climate Change Secretariat, 2007). The Kyoto Protocol states that countries should collaborate to meet their GHG discharges reduction targets and cut costs (Almer & Winkler, 2017). Supply chains rely heavily on energy sources and freight transport where truck transportation is responsible for 48% to 60% of total environmental influences, which were caused by the industrial sectors (Egilmez et al., 2016). Industrial organizations face a critical future because of its growing role in nonrenewable energy consumption and GHG discharges (Luo et al., 2016). Adopting a green supply chain would not only make the firm more competitive and profitable but could save the planet by preserving its natural resources for future generations (Gaussin et al., 2013). Chanchaichujit et al., (2016) found that using a GSCM model, could minimize GHG emissions to 1.08 tons of product in the Thai rubber industry.

Organizations' managers need environmental performance methods to move beyond reducing pollution to meeting more stringent environmental regulations (Ramanathan et al., 2016). The actions of green supply chain managers lead to positive environmental results inside and outside the enterprise (Yan et al., 2016). Some of the GSCM outcomes include less solid and liquid leftover, toxic discharges, resources, and consumption of harmful supplies (Yan et al., 2016). GSCM can reduce environmental pollution by decreasing energy and resource consumption. The reduction of energy and resource use can lead to decreased costs and improved financial profits (Zhu et al., 2012b).

Recycling has been an old human tradition that has many environmental and economic benefits (Zaman, 2016). Recycling systems have the benefits of reducing environmental pollution, boosting the economy by creating new jobs, and generating income from trading the recyclable materials (Xu et al., 2017). Green practices emphasize reduction, reproduction, reprocessing, product design, process design, production practices, procurement, and managerial actions. Incorporating green practices into these business activities improves environmental protection (Entezaminia et al., 2016). In a study, researchers have found that firms could ameliorate financial outcomes through including a recuperating and recycling system (Wu et al., 2015).

Zhao et al. (2017) found that implementing a green supply chain in a manufacturing organization reduces carbon emission and economic cost. Transportation activities are significant sources of air pollution and GHG emissions known to have harmful effects on human health (Egilmez et al., 2016). Geng et al. (2017) examined the connection between GSCM and environmental performance. Geng et al. (2017) found that GSCM performances positively affected the economic, environmental, operational, and social performance of organizations. Entezaminia et al. (2016) found the role of green principles in balancing environmental and economic performance for companies facing the community and competitive pressures is very important. In the proposed model by Entezaminia et al. (2016), products are scored in terms of environmental criterions such as recyclability, biodegradability, energy consumption, and product risk.

Competitive Advantage Improvement

Some researchers have noted the implementation of GSCM does not directly link to measures of competitive advantage, whereas other researchers have found such a relationship to be significant. Prajogo et al., (2016) found that there is no significant correlation between GSCM integration and competitive operational achievement; instead, incoming supply chain functioning and internal lean manufacturing procedures determine the relationship between GSCM incorporation and competitive success. From an enterprise manager's point of view, the best way to manage environment is to improve the competitive advantages by increasing the environmental management skills (Jiang & Zhou, 2012). Several authors have confirmed a direct relationship between the adoption of GSCM and improved firm performance (Bhardwaj, 2016; Dubey et al., 2015; Jayaram & Avittathur, 2015; Luthra et al., 2015; Malviya & Kant, 2015)

To have a successful implementation of GSCM, leaders should incorporate the green strategies into the organization culture, involve stakeholders, and set norms to evaluate the progress (Dubey et al., 2017). To get a competitive advantage, managers of businesses in all areas of the supply chain should consider adopting a variety of environmental sustainability initiatives (Zhu, Lai, et al., 2013). The transmission of knowledge and competencies from principal players down the supply chain is essential for the development of a sustainable supply chain. The environment and the inputs and outputs between the environment and firms help to form a cohesive, integrated strategy and thus competitive advantage (Chan et al., 2013). Business managers wishing to maintain competitiveness and sustainability must have the capability to learn and the

ability to adapt to changes. Managers, who successfully manage the environment, can lead their firms to high performance and sustainability. Bhardwaj (2016) revealed that greening the supply chain through sustainable environmental improvement provides significant profits to the environment and the firm's competitive advantage. According to Flynn et al. (2016), green innovation every act of improvement to the industrial practice that decreases the negative influence on the environment through material purchasing, manufacturing, and delivery. According to Mirghafoori et al. (2017), sustainable innovation is one approach that firm leaders could adopt in becoming greener and yet remain competitive. Lin and Tseng (2016) found that change is a top priority for all GSCM aspects. Likewise, businesses should be aware of suppliers, customers, and dependability aspects.

The research by Dubey et al., (2017) indicated that top management encouragement is a critical factor for the effective execution of GSCM. Understanding the value of and support for company efforts by senior management is fundamental to the success of GSCM programs. The implementation of GSCM practices such as green purchasing, collaboration with clients, eco-design, and investment regaining, results in enhanced environmental and economic functioning, which supports enhanced operational and organizational performance (Stevens & Johnson, 2016). Also, top-level managers should work on incorporating ecological sustainability as an important part of the organization's mission statement for organizations to succeed (Yan et al., 2016).

Environmental performance can be a significant performance factor to capture information that managers can use to increase competitive advantage (Björklund et al.,

2012). Organizational managers measure their environmental performance to diagnose positive achievement, address performance, assess the work, and verify what was previously known. GSCM has become an enterprises' tool to reduce environmental impact while offering financial benefits (Wu et al., 2015).

Influence on Costs

Organizational leaders are always looking for ways to increase profits in a tight market, which is why they have increasingly focused on the means to control the costs associated with the supply chain. Cost minimization of supply chain operations is an crucial objective for supply chain network design (Zhao et al., 2017). One way to accomplish that goal is to move from a standard supply chain to a green one (Li, Jayaraman et al., 2016).

Business managers wonder whether embracing environmental sustainability pays. Researchers such as Zhu et al. (2012 b) did not find a convincing and robust connection between environmental sustainability practices and financial performance. Zhu, Lai, et al. (2013) showed through the statistical results in their research that GSCM practices do not directly affect financial performance but can indirectly influence it. Carvalho et al. (2017), noted the foundation of proper coordination relationships among members of the supply chain is essential to decrease costs and to accelerate reaction to market changes, thus improving a system's overall competitive advantage. According to Mirghafoori et al. (2017), there is a positive relationship between customer satisfaction and enterprise financial performance.

By discovering and fulfilling customer demand, companies can gain a competitive advantage. The implementation of green practices has several benefits such as enterprise costs reduction due to efficient use of resources, business sustainability, and a respectable corporate reputation (Carvalho et al., 2017). Stakeholders question an enterprise's eco-efficiency when the production process in the company enormously consumes resources to gain economic benefits. To improve enterprises' eco-efficiency, leaders should identify the most appropriate GSCM strategies (Carvalho et al., 2017). When enterprise leaders consider an only economic or environmental side of the sustainability plan, the results are partial (Nieuwenhuis & Katsifou, 2015).

Green procurement could offer a competitive advantage for enterprises because green procurement leads to eco-efficiency, cost cuts, and enhanced public perception of the products (Lloret, 2016). There are spaces for supply chain coordination to both reduce total system cost and improve environmental performance, and this can be realized with a little emphasis on environmental performance (Chan et al., 2013). Business managers should understand the importance of environmental sustainability in developing a competitive advantage, which is why the right supply chain strategy is necessary to align strategy and resources with environmental protocols to increase competitive positioning and to sustain a competitive advantage (Nieuwenhuis & Katsifou, 2015).

A study on incorporating green concepts in transportation showed that adopting green logistics affects enterprises' total cost as well as the profit margin (Al-e-hashem et al., 2013). When employees minimize waste as part of being green, the result is being lean with the better use of natural resources and subsequently improved efficiency (Dües

et al., 2013). Companies' environmental actions effect will be enhanced if the green practices include the entire supply chain (Carvalho et al., 2017). Enhanced environmental performances of a company could improve the competitive advantage and may lead to improved revenue, increased market share, and a more constructive business image (Daddi et al., 2016). In a research, Carvalho et al. (2017) confirmed that economic performance improvement could result from waste reduction and resource conservation. By adopting a CO_2 emission minimization policies and procedures, company managers can achieve a satisfactory balance between costs and environmental efficiency (Egilmez et al., 2016).

GSCM can create increased efficiency and cooperation among all business partners. Through GSCM, managers can improve environmental performance, reduce waste, and cut cost (Carvalho et al., 2017). The lack of proper supply chain metrics may jeopardize customer satisfaction, lead to a suboptimal performance by an organization, and result in missed opportunities to improve supply chain performance. Xu and Gursoy (2015) found that both environmental and economic activities of sustainable supply chain management affect customer satisfaction and loyalty positively. The performance measurement strategy (PMS) design should be suitable for the environmental management systems of the organization (Balfaqih et al., 2016). The environmental management approaches that an enterprise can take range from ISO 14000 to total quality management programs (Patón-Romero et al., 2019). Within the ISO 14000 certification requirements and guidelines are environmental performance management guidelines codified as IS0 14031 (Nguyen & Hens, 2015). ISO 14031 guideline is a GSCM PMS

design base. Trumpp et al. (2015) distinguishes ISO 14031 from the ISO 14001 standard and explain that ISO 14031 as a guideline for measuring environmental performance and not a criterion for certification. ISO 14031is a tool to provide management with crucial metrics for assessment (Campos et al., 2015).

Supply chain performance measurement systems are suitable for a wide variety of contexts with different goals. Supply chain performance measurement systems aid in supporting quality improvement initiatives and analyzing the impact of information systems on performance (Moon et al., 2013). Supply chain performance measurement systems help managers study the influence of the relationship among different supply-chain players on the performance (Tatoglu et al., 2016) and evaluating the reverse or closed-loop supply chain performance (Govindan, Soleimani, & Kannan, 2015).

Economic Outcomes From Green Supply Chain

Green supply chain actions could improve economic and financial performance in many ways. Economic results are financial profits that result from greening the supply chain (Li, Haung et al., 2016). Economic and financial metrics commonly used to measure performance are profitability, revenue progression, increased market share, and productivity development (Yan et al., 2016). Reverse logistics is an essential element of GSCM initiatives (Khor et al., 2016). The five characteristics of reverse logistics that help achieve economic and environmental benefits are, repair, recondition, remanufacture, recycle, and dumping (Agrawal et al., 2015). Mollenkopf and Closs (2005) mentioned four ways that reverse logistics could produce financial profits for an organization. The first benefit is increasing revenue from secondary sales, such as selling

the recycled or remanufactured goods and from decreasing discounting levels by proposing new stock in place of unsold or low-selling inventory. The second benefit is a good reputation and economic value gained by being active socially and environmentally. Chiou et al. (2012) also identified the third benefit as cost reductions and enhanced profitability due to the diminished cost of products sold and reduced operating charges. The fourth benefit is improved asset turnover and management of returns. If leaders consider forward and reverse supply chains at the same time as a closed-loop, the supply chain will generate significant economic and environmental benefits (Govidan et al., 2015). Currently, the improvement closed-loop supply chain in developed and developing enterprises is a necessity for the society (Govindan & Soleimani, 2017).

Eltayeb et al. (2011) provided a complete study of how environmental actions can result in cost reductions. Enterprises can save costs from complete processing, replacement, reprocess, or recycling of manufacturing inputs (Govindan, Diabat et al., 2015). Better use of by-products allows enterprises to produce more products. The adoption of environmentally friendly activities helps in reducing the costs of activities involved in waste treatment, transportation, and dumping materials (Khor et al., 2016). Also, environmentally friendly actions minimize energy use throughout the production process (Govindan, Soleimani et al., 2015). Substituting virgin materials with alternative green materials that use reused and recycled resources can lower packaging costs. Environmentally friendly activities can help in achieving lower product cost.

GSCM is an essential strategy that helps firm managers gain income and market share by reducing their environmental footprint while raising their efficiency (Nasir et al.,

2017). Producers invest in green supply chains using one of two activities (Barari et al., 2012). The first activity is passing on the greening cost to the customer, and the second activity involves the retailer investing heavily in marketing to emphasize the company's commitment to a green business model. The increase in prices from a green business model negates an increase in marketing expenditure (Barari et al., 2012). By adopting a CO_2 emission minimization policies and procedures, company managers can achieve a satisfactory balance between costs reduction and environmental efficiency (Egilmez et al., 2016). Some leading international enterprises implement eco-design beyond regulatory requirements to gain competitiveness through the establishment of industry standards (Zhu et al., 2017). Therefore, managers of enterprises wishing to improve the company's competitive advantage may need to implement GSCM strategies.

Suppliers' Role in the Success

Pioneers who lead the way to environmental sustainability transformation may have a level of impact on decision-makers and other stakeholders in the renovation. The implementation of environmentally friendly procedures, goods, and services necessitates the work of all the participants in the chain to evade sub-optimization at the partner level (Yan et al., 2016). As the environmental and resource problems are ultimately social issues, that enterprise managers cannot fulfill independently (Liu et al., 2015). All levels of the enterprise organization should cooperate to achieve the goal of strengthening competitiveness, including (a) increase industry economic benefits, (b) decrease environmental pollution, and (c) improve the efficiency of resource use (Liu et al., 2015). GSCM is a critical approach to accomplish a competitive goal. The transfer of

information and competences from leading players to all members of the supply chain affects the implementation of a sustainable supply chain (Holsapple et al., 2015). Company managers must raise their environmental awareness because global customers and buyers are demanding eco-friendly goods that are environmentally safe and nontoxic. (Nasir et al., 2017). International customers are pushing their suppliers to reduce their environmental footprint by decreasing consumption of nonrenewable energy during the production process (Mirghafoori et al., 2017). Suppliers may not be able to find business opportunities without initiating GSCM practices (Chang, 2016). The pressure to adopt green practices is evident (Piercy & Rich, 2015). Some suppliers still have difficulties implementing green iterative into the traditional supply chain. The struggle may be due to lack of information, experience, or the cost for GSCM integration (Gandhi et al., 2015).

Leaders of manufacturing organizations have begun implementing GSCM practices in response to governmental environmental regulations of the enterprise-based country and to customer demand for goods and services that are eco-friendly (Chaudhary & Chanda, 2015). Managers can implement ISO 14001 to improve the enterprise's environmental performance. ISO 14001 is an international standard recognized and accepted worldwide based on the idea that improved environmental performance can lead to economic and managerial advantages (Da Fonseca, 2015). The ISO 14001 certification offers significant economic benefits to multinational organizations, such as worldwide recognition of the product, enhanced competitiveness, and better waste management resulting in cost reduction (Cherrafi et al., 2016). Manufacturers must collaborate with suppliers and clients to improve environmental sustainability (Tangpong

et al., 2015). Organization managers need to evaluate the ecological routine of their suppliers and oblige them to enhance their environmental involvement in products and procedures (Chang, 2016). Managers of industrial enterprises should properly implement ecological sustainability as an internal plan and adjust the current information systems before starting collaborations and monitoring performances with suppliers and consumers (Stevens & Johnson, 2016). The Greenpeace campaign condemning Nestlé of buying palm oil from a dealer who damages the environment obliged Nestlé to change its outsourcing choice (Hosseinali Mirza et al., 2015). The global media exposure pushes firms to consider their behavior and the performance of their allies, including outsourcing businesses, licensees, agents, and associates (Liu et al., 2015). Effective environmental coordination between all members of the supply chain is a promise of successful supply chain management (Chan et al., 2013).

Supply chain green teamwork includes selecting suppliers for environmental performance, offering guidance to improve supplier competencies, and building reverse logistics systems with logistics service providers (Kim & Davis, 2016). A reduced level of environmental management by suppliers might break down a high level of environmental performance by a company (Caniëls et al., 2013). Dubey et al. (2017) mentioned the most important and critical factors that business managers should adopt while implementing GSCM. Among these factors were sharing information, communicating, and auditing suppliers. Communication and information sharing are useful tools to ensure that suppliers can comply with the environmental requirements of their buyers. Auditing is a way to improve suppliers' performances (Dubey et al., 2017).

By incorporating the green principle, company managers can offer suppliers with design qualifications, including environmental requirements for green items acquired, which assist the managers of businesses adopting GSCM to decide which suppliers to choose.

The implementation of eco-friendly practices, goods, and services necessitates the collaboration of all members of the supply chain, as environmental sustainability is a supply chain obligation rather than an organizational imperative (Yan et al., 2016). The reduced environmental practices of some suppliers in the supply chain can negatively influence the work and image of the buying organization (Kannan et al., 2013). The dangerous effect of non- environmentally friendly supplier is that stakeholders usually do not differentiate among an enterprise's environmental performances and the behavior of its suppliers. Company managers often green their supply chains by selecting existing eco-friendly suppliers (Bai et al., 2016). Supplier choice in GSCM is an important action in purchasing management, as suppliers can affect an enterprise's environmental performance (Liu et al., 2015). Working with a green supplier in a competitive international and supervised environment can aid firms to reduce their ecological and legal threats and improve their competitiveness (Bai et al., 2016).

Despite the increasing recognition of the role of supply chain performance in environmental sustainability performance, some researchers have noticed that majority of companies have focused on internal sustainability performance only (Giunipero et al., 2012; Seuring, 2013). Few companies feel responsible for their fellow chain members' sustainability activities (Giunipero et al., 2012; Seuring, 2013). The ecological approach necessitates the collaboration of manufacturers, suppliers, and customers to evaluate and

improve environmental results (Kannan et al., 2013). Organizational managers should incorporate governmental requirements and monitor the activities of suppliers, manufacturers, and customers. Top management support is important for a useful application of improvements, embracing advanced technologies, programs, and actions.

Managers of enterprises with limited resources who desire to enhance their environmental performance can outsource some corporate activities or buy needed supplies from green suppliers. Enterprise managers must evaluate their activities and collaborate with other partners in their supply networks (Yan et al., 2016). Enterprise managers often expect their suppliers to surpass environmental obligations and apply effective, green product designs, life cycle assessments, and other related activities (Lin, 2013). The suppliers sometimes need assistance because of their limited environmental information and poor financial capabilities. Chang (2016) noted that manufacturers should provide suppliers with environmental standards as well as product qualifications that satisfy customer demands before assessing or selecting suppliers.

Organization managers may imitate the behavior of other companies' managers, which Wu and Salomon (2016) discussed as isomorphism. The concept of isomorphism relates to a constraining procedure that obliges an enterprise's manager to act like other organizations leaders with similar environmental circumstances (Tan et al., 2013). Companies in the same supply chain network may have matching internal behaviors. Some organizational demands stimulate green supply chain actions, which improve manufacturing performance (Kim & Davis, 2016). By imitating other companies'

environmental behavior or outsourcing some corporate activities, managers may improve enterprise green practices.

Government and Customers

institutional managers should put efforts in sustainability transformation of our politics, governance, economies, corporations, communities, and, most importantly, societies (Migratory et al., 2017). Unfortunately, in Lebanon, there is a lack of political support and incentives regarding the implementation of green strategies (Saade et al., 2019). External pressures, such as government regulations on the environment and waste disposal, should affect managers formulation and implementation of a sustainability program (Epstein & Buhovac, 2014). Consumer awareness and governmental regulation push enterprises to implement green activities. Offering cheap and good products to satisfy customer demands is no longer sufficient (Nasir et al., 2017). Consumers also draw attention to whether manufacturing, packaging and delivery do not affect the environment negatively. Customers' ecological awareness obliges firms to implement environmental practices to improve their green image (Mathiyazhaga et al., 2014). To generate profits and attract new customers, companies' leaders need to implement quick strategies to cope with consumers' new demands (Mirghafoori et al., 2017).

Customer demand for goods and services that are eco-friendly compel organizational managers to implement GSCM. Governmental environmental regulations play a significant role in obliging corporate leaders to adopt a GSCM (Chan et al., 2013). To satisfy customers demand and governmental regulation, managers admit the importance of knowing and applying eco-friendly activities through the entire supply

chain. Governments and customer pressure, drive firm leaders to consider environmental harm while working. The pressure not only led companies to be more ecologically sensitive, but also to innovate in a sustainable manner (Gaussin et al., 2013). Going green is the trend to establish a green image of goods, procedures, systems, and innovations (Yan et al., 2016). Leaders have to improve their skills in evaluating, managing and controlling the environmental performance of their work as a response to regulations and customer environmental demands (Mirghafoori et al., 2017).

Customers are demanding more eco-friendly goods. Therefore, to satisfy clients demand, products must have eco-friendly characteristics. Collaboration with clients helps producers know the environment requirements of their consumers. As customers' eco-friendly needs evolve, the collaborative between manufacturers and customers should cope with the changes. Clients' modifications in requirements will automatically show in changes while monitoring clients' behavior (Stevens & Johnson, 2016). The customer has needs that could directly or indirectly influence many other factors in an enterprise. The consumers' needs may influence cooperation among product designers and suppliers to decrease waste and eliminate the environmental harm of products (Laari et al., 2016). Clients' needs can influence product characteristic, supplier flexibility, internal service quality, green design, green procurement, ISO 14000, internal environmental manufacturing plan, cleaner fabrication, suppliers' needs, a number of patents, and degree of innovativeness of research and development for green products as well (Laari et al., 2016). When an enterprise leader recognizes innovation as an effective way to

reply to customers' new demand in adopting green measurements, the enterprise gains a competitive advantage (Mirghafoori et al., 2017).

As a result of international attention, the abuse of natural resources and the environment, government leaders in some countries have developed policies to push enterprises to be eco-friendly. Following eco-friendly legislation, manufacturers must decrease pollution throughout the production process. Some organizations acknowledged the importance of ecological protection and implemented environmental goals into their business plans.

An analysis by Gramkow and Anger-Kraavi (2017) of 24 Brazilian manufacturing sectors for the years 2001–2008 showed that some government fiscal policies such as low-cost, finance for innovation and fiscal incentives for sustainable practices, have been effective in inducing green innovation. With the implementation of government's regulations and taxation, the relative power of producers and reverse-logistics suppliers is likely to change, which may complicate the collaboration among chain members and solutions for green supply chain coordination (Li, Jayaraman et al., 2016). A typical example is green taxation, where governments charge green taxes on producers and support the recycling industry using the money collected to encourage ecologically sustainable activities (Gramkow & Anger-Kraavi, 2017). The objective of the work presented by Qayum et al. (2016), is to propose green taxation policy to diminish the harmful environmental influence of different industry sectors and to present the benefits which can connect the socio-economic divide prevalently. According to Qayum et al. (2016), economic growth and environmental pollution are synchronous; that is why the

green tax rate on a project has to be proportionate with the environmental harm. Besides, project growth should not stop because of increased demands; thus, there should be a balance between development and conservation. Green taxation limited environmental deterioration and energy utilization (Qayum et al., 2016). Hence, the government's role as mediator to facilitate the integration of supply chains and reverse supply chains via suitable economic incentives is essential for GSCM (Caniëls et al., 2013).

Achieving Corporate Green Goals

Enterprise manager can effectively achieve corporate green goals by connecting the environmental business strategy with every applied business strategy (Aragón-Correa et al., 2016). A green management perspective has three approaches. The three approaches are reactive, proactive, and value-seeking (Tekin et al., 2015). To develop GSCM strategies, enterprise managers should know the equilibrium of funds to invest in green management (Caniëls et al., 2013). In a green strategy, product design stage, managers should take the necessary material choice, supply procurements, package design, and energy consumption into consideration. All green product design factors influence basic expenses, incomes, and environmental impact of the product (Yan et al., 2016). A firm whom managers apply green procurement can create environmental in selecting and evaluating suppliers (Bai et al., 2016). The manufacturing processes need much energy obtained from different natural resources, such as coal, coke, gas, and combustion; these resources cause air contamination (Govindan, Diabat et al., 2015). When energy savings and pollution reduction became a struggle all over the world, the Kyoto protocol took place (Zhu et al., 2017). The developed Kyoto protocol aimed to

reduce greenhouse gas emissions and energy-saving. To have successful green manufacturing practices, enterprises' managers should professionally work on four aspects in the production procedure— (a) the quantity of energy and supply use, (b) the ecological level of energy, (c) the volume of dangerous waste, and (d) the number of reprocess of waste (Govindan, Diabat et al., 2015). In green marketing and service, customers are conscious of the results of global warming and climate change. Clients prefer to buy eco-friendly products and services. Green marketing emphasizes showing customers the green features of goods and services and highlights enterprises' eco-environmental actions (Fuentes, 2015). Green innovation growth is a win-win solution to diminish the struggle between economic development and environmental protection (Chang, 2016).

Leaders of every organization should choose the appropriate green strategy to meet their goals. Green innovation can change the competition rules and create profit for companies (Chang, 2016). Using a risk-based approach, company managers choose GSCM strategies, finance minimal managerial resources, and oblige suppliers to meet ecological standards. The primary goal of the GSCM strategy is reducing ecological risks by accomplishing environmental programs. The efficiency-based strategy helps in augmenting financial profits, reducing waste, and consuming resources efficiently. Environmental programs are directed mainly at organizations to decrease cost, meet operational optimization, and reduce ecological deterioration. Enterprise environmental commitment should show in the employees' knowledge, capabilities, experience, and creativity as they relate to environmental management and environmental concerns

(Chang, 2016). Innovation-based strategy leads organizations to produce goods from product life cycles, integrate ecological requests upon suppliers, and train suppliers to manage working developments to adhere to environmental regulations. The closed-loop strategy is one of the hardest GSCM strategies that associates environmental functioning with the whole supply chain. The closed-loop strategy includes recollecting, reusing, and recycling. The closed-loop strategy requires cooperation with all the supply chain parties (Govindan, Soleimani et al., 2015). A company's environmental management system includes clear ecological goals and communicates them throughout the company (Chang, 2016). To fully engage green strategies and become environmentally and socially responsible, companies must address external and internal concerns while maintaining economic sustainability (Chen et al., 2017).

Transition and Summary

The purpose of the current study is to explore the benefits of GSCM on enterprises' strategic competitive positioning. The research question aims to define GSCM strategies that supply chain managers need to improve organizational competitive advantage. The literature review regarding GSCM shows the need for a clearer understanding of specific green strategies such as ISO standards, BSC, and ERP to help implement GSCM strategies. Through the research, I may help managers notice the benefits of green practices on enterprises' operations and the environment. Section one serves as a foundation for the study and includes the problem, the purpose of the proposed research, the organization under study, and an in-depth literature review about GSCM. Section two consisted of an extension of the purpose statement, the research

method and design, population and sampling, and data collection. Section three included the findings of the study, recommendations for action, and recommendations for further research.

Section 2: The Project

Section 2 includes a restatement of the purpose of the study and a description of the research, the participants, and the research method and design. Section 2 also contains an overview and justification of the use of the qualitative research methodology and the case study research design. The research design defines the selection criterion for potential participants and interview questions. After the description of the research method and design, I address the population and sampling, ethical research, data collection method, and reliability and validity measures, followed by the transition and summary. Section 3 includes an overview of the study and a presentation of the findings.

Purpose Statement

The purpose of this qualitative single case study was to explore GSCM strategies that supply chain managers need to improve organizational competitive advantage. The specific population was enterprise leaders and supply chain operation employees who use GSCM strategies in North Lebanon. Enterprises produce a high level of pollution, and pollution affects people's health. Furthermore, Nejat et al. (2015) affirmed that 40% of global carbon emissions are due to supply chain activities. The implementation of GSCM may improve an enterprise's environmental performance, resulting in a decrease in air emissions, effluent and solid waste, and the use of toxic materials. Communities might have healthier natural environments once enterprises implement green strategies in the traditional supply chain. My study findings could help business managers discover GSCM strategies to improve organizational competitive advantage.

Role of the Researcher

I served as the primary data collection instrument for this study. In qualitative research, the researcher assumes the central role of a data collection instrument (McCusker & Gunaydin, 2015). My background includes experience in the fields of marketing, management, teaching, and product distribution. Because the study's primary topic, GSCM, lies outside these main areas of expertise, I reviewed related literature, cases, and current trends related to the topic before initiating the research. The company under study was in North Lebanon. Prior experience with the study topic and previous connection with participants might lead to incorrect research assumptions (Bromley et al., 2015). Thus, I had no prior relationship with the topic or the potential participants.

While conducting my doctoral study, I adhered to content in the Belmont Report to ensure valuing ethical principles and guidelines for the protection of the participants. The three basic principles mentioned in the Belmont Report are the respect of individuals, beneficence, and justice (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). The principles of respecting a person consist of valuing the participants' autonomy by giving importance to individuals' points of view (Bromley et al., 2015). Beneficence includes maximizing probable profits and minimizing probable damages to participants (Brakewood & Poldrack, 2013). Furthermore, researchers maintain justice when they conserve the benefits to which a person is entitled (Irving, 2013). I completed the National Institutes of Health web-based training course, Certification #1047071 (see Appendix A).

Researcher bias can affect the direction or outcome of case study research (Berger, 2015). Having direct contact with the participants and asking follow up questions helped decrease bias (Berger, 2015). To reduce bias, I used member checking. Researchers use member checking to improve qualitative data quality and reduce bias interpretations (Birt et al., 2016). I paraphrased the participant's responses for each question into my own words. then asked the participant to ensure that I accurately interpreted their intended message for each question. I sent the transcript to the participants via email. All participants took 1 day to respond with no changes.

Before commencing the interview, developing an interview protocol to guide the process is necessary (Hamilton et al., 2016). Interview protocols or techniques integrating findings from social, cognitive, and applied developmental research are used to aid interviewers who are trying to elicit accurate information from interviews (Peters & Halcomb, 2015). The interview protocol helps researchers collect valuable information from each participant (Brubacher et al., 2016). The interview protocol also helps the researcher be objective and avoid personal judgment (Peters & Halcomb, 2015). I used an interview protocol to follow the same lines of inquiry with each interviewee.

Participants

Participants should meet particular criteria (Palinkas et al., 2015). To accomplish data saturation, participants' criteria should be specific (Lamb et al., 2016). According to Marshall and Rossman (2016), decisively selected participants allow the researcher to support the research question. A group of four leaders who applied GSCM strategies within one company and four supply chain operation employees participated in this case

study. The key characteristics of selecting the contributors in my research included (a) a minimum of 5 years of experience in GSCM and (b) responsibility for daily GSCM operations. Organizational approval is a must to interview participants (Peticca-Harris et al., 2016). Requesting access to potential participants is primary to any action (Vaughn & Turner, 2016). Thus, before engaging in the research, the authorized representative of the firm signed a letter of cooperation expressing the enterprise's willingness to participate in the study.

To remain ethical and respectful of human rights, I did not start data collection until the Walden University Institutional Review Board (IRB) approved this study and issued an approval number. Once IRB approved, I sent 12 email invitations with the informed consent as an attachment for the participant's approval. The purpose of the email was to introduce myself, explain the study, and establish a working relationship. Participant confirmation occurred when I received the participant's response with consent via email. Upon receipt of 10 consent confirmations, I sent another email with dates and times to schedule the interviews with the participants. I conducted eight interviews in an office on site to maintain a distraction-free environment.

Successful qualitative research includes building a positive working relationship with participants (Marshall & Rossman, 2016; Yin, 2014). According to Berger (2015), building relationships with participants is vital to collect data. During the interviews, creating a friendly atmosphere in which the participant feels comfortable and open to talk is important (Easterling & Johnson, 2015). According to Kieft et al. (2014), a good working environment creates a positive relationship with the participants. Lewis (2015)

stipulated that potential participants might be more motivated to share accurate information when the interview condition is comfortable and free from conflict and judgment. I established a good working relationship by reassuring the participants of the confidentiality that pertained to the study.

Research Method and Design

Research Method

The three primary research methods are qualitative, quantitative, and mixed (Yin, 2014). I used a qualitative research method. The qualitative method was appropriate for my study because I aimed to explore, understand, and describe a phenomenon from the participants' point of view. In addition, a qualitative research method is more suitable than quantitative and mixed methods when the sample size is small (Fugard & Potts, 2015). Researchers use qualitative methods to gather many forms of data and are not restricted to a single survey as in quantitative research (Ingham-Broomfield, 2015). Researchers use qualitative research methods to study social and cultural phenomena using field observations, interviews, and archival documents (Berger, 2015). Qualitative researchers explore a person's knowledge descriptively. Providing insight into what a person has practiced is the essence of the qualitative research method (Lunnay et al., 2015). The qualitative research method was suitable for this study because I sought to explore human experiences regarding the strategies that green supply chain managers need to improve organizational competitive advantage. My objective was not to gather quantitative data, test a hypothesis, or examine relationships between variables. Thus, a qualitative methodology was more appropriate than quantitative and mixed methods for

collecting information on meanings and interpretations.

Quantitative researchers use numerical data to test hypotheses (Guetterman et al., 2015; Ingham-Broomfield, 2015; Scrutton & Beames, 2015). Because I was not using numerical data to test a hypothesis, the quantitative method was not applicable. A quantitative research method is not suitable for capturing characteristics of the real-life implementation of phenomena (Hammarberg et al., 2016). In my study, I explored a phenomenon from the participants' point of view; thus, a quantitative method was not appropriate.

Mixed-methods researchers use a combination of both a qualitative and quantitative method (McCusker & Gunaydin, 2015). A mixed-method is a suitable approach when neither a quantitative nor a qualitative approach is sufficient to understand the research topic or when research necessitates one method to clarify another (Molina-Azorín et al., 2015). Mixed methods researchers examine inferences, differences, or relationships among variables from a combination of participants' natural experiences and numerical analysis (Green et al., 2015). I did not choose the mixed-methods research methodology for my study because I am not an expert with gathering numerical data, and the mixed-methods research methodology requires a high level of expertise.

Research Design

Case study, ethnography, and phenomenological are some of the research designs used when conducting qualitative research (Korstjens & Moser, 2017; Marshall & Rossman, 2016). A case study design is appropriate when exploring theoretical constructs

that require a holistic, in-depth investigation of a contemporary phenomenon in various real-life settings (Yin, 2018). Cronin (2014) highlighted the strength of a case study in integrating multiple data collection methods from sources, such as documentation, observations, and interviews, which enables researchers to identify commonalities among the data to understand a phenomenon. A case study design is appropriate for conducting in-depth face-to-face interviews, as participants have the opportunity to express their knowledge about the research subject (Harland, 2014). Researchers use the case study design to explore the perceptions, knowledge, and experiences of participants (Hyett et al., 2014). I used a case study design to explore participants' experiences with GSCM strategies to improve organizational competitive advantage.

Researchers using an ethnographic design immerse themselves within a natural setting by watching interactions and listening to conversations over a prolonged time (Bristowe et al., 2015). An ethnographic design includes strategies for a researcher to collect data about the environment or condition under investigation (Norman & Verganti, 2014). Using an ethnographic design, researchers explain shared and learned behaviors and beliefs of a cultural group (Cincotta, 2015). According to Baskerville and Myers (2015), an ethnography research design would not be appropriate if the researcher is not immersing into the culture of the participants. The ethnographic research design was not suitable for this study because I did not submerse myself into the participants' culture to address the research question.

Phenomenological research includes streamlined data collection as a researcher carefully chooses members who have experienced the phenomenon (Conway &

Elphinstone, 2017; Mason et al., 2017). A phenomenological researcher explores a precise phenomenon through the lived experiences of participants (Cincotta, 2015). The phenomenological design would not be appropriate because the aim of the study was not to describe lived experiences.

Data saturation is a tool used in qualitative research to address the adequacy and quality of collected data to support the study (Palinkas et al., 2015). Data saturation occurs when there is no additional information obtained through interviews (Hennink et al., 2017; Wilson et al., 2016). I interviewed four leaders and four supply chain operation employees within an organization who use GSCM strategies and meet the study criterion. Interviews continued until no themes emerge, and data was saturated.

Population and Sampling

In this qualitative research study, I used purposeful sampling to select participants from a specific population to gain the most relevant data. Sonenshein (2014) defined purposeful sampling as the process of gathering data from a particular type of participants. A researcher sets the research question and accordingly searches for participants who can and are willing to provide the information of knowledge or experience (Etikan et al., 2016; Malterud et al., 2016). Purposeful sampling is suitable for exploring in-depth small groups of participants (Benoot, Hannes, & Bilsen, 2016). Purposeful sampling was the approach I used in the study because I was targeting a narrow population. According to Palinkas et al. (2015), researchers use purposeful sampling to purposefully select participants with the experience and necessary knowledge for providing relevant information to gain an in-depth understanding of the research

question. I chose the sample purposefully and included in the study only the participants with the particular experience required by the study criterion.

The specific population was enterprise leaders and supply chain operation employees within an organization in North Lebanon, who use GSCM strategies. A group of four leaders and four supply chain operation employees participated in my study. While conducting a case study approach, selecting one-case and interviewing critical informants as a data collection method is sufficient (Kannan et al., 2015). According to Cleary et al. (2014), a case study researcher should study a limited number of interviewees intensively and choose participants purposefully. A purposive sample of 6 to 10 participants with diverse experiences might provide sufficient information and accomplish data saturation (Etikan et al., 2016). However, conferring to Malterud et al. (2016), the core concept for sample size in qualitative studies is saturation.

To achieve data saturation, researchers continue to collect information until the data gathered show repetitive results (Colombo et al., 2016). I conducted interviews with four leaders and four supply chain operation employees. The information from the eight interviewees allowed data saturation. Data saturation occurs when there are no indications of new data, evidence, or themes that are accessible from participants (Guetterman, 2015). The criteria for selecting the participants are a minimum of 5 years' experience in GSCM and the responsibility for daily GSCM operations.

According to Marshall and Rossman (2016), the researcher should consider the interview site to enhance data collection. Johnson et al. (2017) later supported the importance of not just the site, but the proper location, which includes privacy

considerations. The interview location influences the sense of well-being of the interviewee (Bieling et al., 2014). According to Lewis (2015), participants feel comfortable to speak freely in a quiet environment. Mealer and Jones (2014) explained that conducting the interview on-site allows privacy and productive results. I did the interviews in an office on site to maintain a distraction-free environment and asked the same questions to eliminate any variation in the data collection.

Ethical Research

Researchers must maintain ethical boundaries and protect study participants (Metcalf & Crawford, 2016). Before engaging in the research, the authorized representative of the firm signed a letter of cooperation (see Appendix B) and an approval letter (see Appendix C) expressing a willingness to participate in the study. Participants corresponded on an informed consent form before engaging in the research study. Participants received an invitation email, including the consent form and an explanation of the research subject. The consent procedure guarantees that individuals are voluntarily contributing to the research (Kaye et al., 2015). To confirm the participation, members should responded with consent via email.

Research participants have the right to withdraw from a study at any time (U.S. Department of Health & Human Services, 2014). Porteri et al. (2014) suggested that disclosure of the opportunity to withdraw from participating in research is a matter of fundamental ethics. All participations were voluntary. There were no incentives for participation in this research. I abided by the three ethical tenets of research involving human beings that are: (a) the respect of people, (b) beneficence, and (c) justice (National

Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). To remain ethical and respectful of human rights, I did not start the data collection until receiving the Walden University IRB approval 11-13-19-0372246.

I minimized risks by protecting the participants' identification and their respective organizations. Confidentiality is required while conducting research (Beskow et al., 2014). Researchers de-identify participants and build confidence by using pseudonyms or unique attributes (Papoulias et al., 2014; Yin, 2014). To protect the privacy of all interviewees and the organization, I did not include identifiable information. Furthermore, to conceal the identities of the participants, I assigned alphanumeric code for each participant. Guaranteeing confidentiality of the information given by participants is obligatory (Mealer & Jones, 2014). According to Elo et al. (2014), all study protocols, collected data, and consent forms should remain in a locked container. All sensitive data and records are in a secure area with limited access. I backed up all data on my personal computer that is password protected and stored the hard copy data in a safe for which I have sole access. After 5 years, I will delete the digital files and destroy the hard copies to maintain the confidentiality of study participants.

Data Collection Instruments

I served as the primary data collection instrument for this study. In qualitative research, the researcher assumes the primary role of data collection instrument (Cope, 2014; O'Sullivan, 2015). As the primary data collection instrument, in a qualitative case study, researchers can use interviews to gather information (Hedlund, Borjesson & Osterberg, 2015). Thus, a researcher is fully involved in the data collecting processes

during case studies (McCusker, & Gunaydin, 2015). I used a semistructured interview with open-ended questions to collect data.

Semistructured interviews with open-ended questions help the researcher ask questions without determining the potential answers (McIntosh & Morse, 2015). Through semistructured interviews, the researcher can have in-depth conversations with the interviewee (Kallio et al., 2016). Semistructured interviews lead to the creation of a rich interpretive context (Castillo-Montoya, 2016). To collect data, I used semistructured interviews with open-ended questions.

Preparatory protocols included obtaining permission before starting data collection; identifying the steps to take before, during, and after each interview; and developing interview questions to gain information (Kallio et al., 2016; Yin, 2014). I used an interview protocol (see Appendix D) to conduct and guide interviews. Researchers use an interview protocol to elicit accurate information from participants (Peters & Halcomb, 2015). The interview protocol (see Appendix D), letter of cooperation (see Appendix B), and interview questions (see Appendix E) are tools that helped me in the completion of my study. Using these tools, the researcher can increase the reliability and quality of the research (Birt et al., 2016).

As part of the data collection process, I integrated member checking to improve reliability and validity of data collection. In small samples such as a case study, member-checking interview responses can lead to in-depth data collection (Simpson & Quigley, 2016). Member checking provides participants with the chance to engage with, and add to, interview and interpreted data after conducting the interview (Birt et al., 2016;

Caretta, 2015). Walker and East (2014) used member checking to confirm the accurate interpretation of the participant's perspective. I sent a summary of my interview interpretation to participants to check for data accuracy. This process was part of the member checking. Through member checking, interviewees review the paraphrasing to ensure the interviewer captured the intended meaning (Goodell et al., 2015). The participants will either affirm the accuracy of the intended meaning or provide clarification. All eight participants affirmed the accuracy of the data. Respondent validation is a technique for exploring the credibility of results (Birt et al., 2016). Using member checking helped me improve the reliability and validity of the data collection.

Data saturation occurs when there is no additional information obtained through interviews, and no new themes emerge (Colombo et al., 2016; Harvey, 2015). I conducted interviews with four leaders and four supply chain operation employees, checking for data saturation following each interview. To achieve data saturation, a researcher will continue to conduct interviews until no new information is possible (Bristowe et al., 2015). I continued to interview participants until no additional information, thereby reached data saturation.

Data Collection Technique

In this qualitative single-case study, I used semistructured interviews and archival documents to explore GSCM strategies that supply chain managers need to improve competitive advantage. I reviewed the organizational archival documents to check for convergence with the interview data. I granted access to the organizational archival documents by the authorized representative of the firm who signed the letter of

cooperation. the organizational archival documents that I got access too were company records, market reports, company research, and a power point presentation of the enterprise's mission, vision, goals, product .Eight semistructured interviews were conducted face-to-face in an office on site using an interview guide. Further, I used probing as needed. I was the primary data collection instrument during each face-to-face interview with participants. The semistructured interview may require asking probing questions after each answer to gain detailed information (Kallio et al., 2016). Yin (2018) explained that interviews are an effective data collection technique when using a case study design. Researchers who use semistructured face-to-face interviews can bring up new ideas during the interview based on what the interviewee might say (Wilson, 2016). The goal of face-to-face interviews is to uncover as much about the topic, the participants, and their situations as possible (Jones, 2015). To collect data for this study, I conducted semistructured interviews and reviewed organizational archival documents for triangulation.

Before engaging in the research, the authorized representative of the firm signed a letter of cooperation (see Appendix B) and an approval letter (see Appendix C) expressing a willingness to participate in the study and access to company (physical) records related to GSCM. I initiated the data collection process after receiving IRB approval 11-13-19-0372246 from Walden University. I emailed the authorized representative of the firm under study a letter of introduction with a request to forward the invitation to participate to all senior leaders and supply chain operation employees. All employees that meet the key characteristics for contribution contacted me directly and

then received an informed consent form for participation. Participants were not required to sign their names on the consent form they just responded with I consent via email to protect privacy of participants. The consent procedure guarantees that individuals are voluntarily contributing to the research (Kaye et al., 2015). There were no incentives for participation in this research. A group of four leaders who apply GSCM strategies within the company and four supply chain operation employees participated. All participants received a copy of the interview questions (see Appendix E) via email before the initial interview. The face-to-face interviews took place in an office on site during office hours as agreed with the representative of the firm in the approval letter (see Appendix C).

One advantage of interviews is flexibility. The interviewer can explain the question and repeat the questions for the participant (Kallio et al., 2016). One disadvantage of interviews is the comfort level of participants. The respondents might feel nervous about the anonymity of their responses when they interact in face-to-face interviews (Pickard et al., 2016). I assured the participants of the confidentiality of the research.

The advantage of archival documents review is to enhance the understanding of the phenomenon under study (Owen, 2014). Weaknesses of archival documents review method may include selectivity of information and reporter bias (Berger, 2015). The benefit of using archival documents, such as company records, is that documents are stable sources of evidence in case study research (Yin, 2014). Researchers can reference archival documents to address the research question and support the study focus (Kaczynski et al., 2014). Within the letter of cooperation (see Appendix B), I requested

access to company records like market reports and any document that the participants might find valuable for the research as sources of second source of information. Utilizing both face-to-face interviews and archival documents review, I collected the data needed to conduct the study and address the research question.

I used an interview protocol (see Appendix D), which includes a semistructured interview with10 open-ended questions (see Appendix E). Researchers use an interview protocol to elaborate on the research question and ensure that interview questions are clear (Castillo-Montoya, 2016). I used an interview protocol as a guiding tool to stay focused on the research topic and ensure clear communication of information throughout the interview.

With permission from participants, I recorded the interviews using a voice recorder. An iPhone 10 was in plain site as the digital audio-recorder, and I conducted backup recordings on an iPad. Recording interviews with an audio recorder ensures the conservation of conversations between the researcher and participants (Merriam & Tisdell, 2016). Most researchers choose to use digital audio recording as a tool to collect and review information for clarity and accuracy (Berazneva, 2014; Bryman, 2014). I used a voice recorder to record each interview to ensure that I accurately capture all the information.

To ensure the accuracy, trustworthiness, and the credibility of each interview, I used member-checking. The member-checking technique improves the rigor of interviews in the study (Wang, 2015). Member checking allows participants to engage with, and add to, interview and interpreted data after conducting the interview (Birt et al.,

2016). Member checking involves providing interviewees an opportunity to ensure that interviewer captured the intended meaning of information contained in the original interview (Simpson & Quigley, 2016). The member-checking follow-up interview may help reach data saturation by obtaining in-depth information and enhancing academic rigor (Burda et al., 2016). Receiving feedback from participants using member checking helps me make adjustments if needed, to verify information validity. Using member checking, I paraphrased the participant's responses for each question of the interview. then asked the participant to ensure that I accurately interpreted they intended message for each question via email. All participants took one day to respond with no changes.

Data Organization Techniques

Using a qualitative method, the researcher collected data, organize the data, and document the data (Yin, 2018). Interviews and documentation should become part of the study database (Yin, 2018). I used participant coding and audio recordings to organize the data.

Researchers use qualitative data analysis software to analyze the research (Woods et al., 2015). Computer software helps researchers organize, manage, and analyze data in qualitative research (Castleberry, 2014; Woods et al., 2015). The NVivo®12 software application is a user-friendly tool, which allows users to create projects and organize collected research data according to type (Zamawe, 2015). NVivo®12 helps researchers with organizing, classifying, and analyzing nonnumeric data (Sotiriadou et al., 2014). I used NVivo®12 software to help manage and organize the data.

I established codes to protect participant identities and transcribe and code the audio recordings. To conceal the identities of the participants, I assigned alphanumeric codes for each participant. Participants were referred to as M1. M2, M3, M4, O1, O2, O3, and O4. All data and backup copies of the research files and consent forms will remain in a locked safe for 5 years from completion of the study. At the end of the 5 years period, I will destroy all paper documents with a paper shredder and all data collected electronically by using hard-drive data removal software.

Data Analysis

According to Archibald (2015), data should come from at least two sources to form triangulation. I used methodological triangulation. Qualitative researchers use methodological triangulation to assure validity in their studies (Goodell et al., 2015). Methodological triangulation consists of analyzing data through different methods, such as interviews and documentation (Goodell et al., 2015). Methodological triangulation helps offer confirmation of results, comprehensive data, and increased understanding of the phenomena studied (Hussein, 2015). For this single-case study, I applied methodological triangulation during my analysis by using the data from the interviews with the enterprise leaders, the supply chain operation employees and the company's archival documents. Once I collected all the data needed from the interview and the archival documents, I transcribed manually the recorded interviews, used member checking to validate the data, then I entered the data to NVivo®12 , and looked for redundant key words. I produced initial set of codes, looked for themes, interpreted

themes, and wrote analysis connecting key themes in data to key themes in the conceptual framework.

Qualitative data analysis techniques involve a process of condensing data into themes or categories (Vaughn & Turner, 2016). A researcher can develop themes using information from interviews (Kallio et al., 2016). Hennink et al. (2017) stated researchers should group data by identifying similarities, differences, or inaccurate information to shape themes. A researcher must discover essential themes from the data to address the central research question (Bromley et al., 2015). Using NVivo®12 software, I analyzed data to identify and highlight GSCM strategies that supply chain managers need to improve organizational competitive advantage. I transcribed the recorded interviews, conducted member checks, and analyzed archival documents. I triangulated, coded, and analyzed the findings through the lens of the SCM conceptual framework to identify emerging themes. Data analysis is a result of the conceptual framework, participants' responses, documentation, and member checks offering the researcher insights into the phenomenon (Morse, 2015b).

Researchers use qualitative data analysis software (QDAS) to organize, manage, and analyze data (Kaczynski et al., 2014). Researchers use NVivo®12 software program to assist in analyzing unstructured data and ascertaining themes (Lensges et al., 2016; Zamawe, 2015). NVivo®12 is useful to analyze the data collected by applying a search, query, and visualization tools (Woods et al., 2015). NVivo®12 facilitates organizing, coding, and categorizing data for the theme and pattern identification in primary and secondary data sources (Sarros et al., 2014). I used NVivo®12 software to manage and

organize the data.

I linked key themes with existing literature incorporating my conceptual framework in my study using the following process: (a) entered data to NVivo®12 software (b) produced initial set of codes, (c) looked for themes, (d) examined themes, and (e) wrote analysis connecting key themes in data to key themes in the conceptual framework (Maguire & Delahunt, 2017). I reviewed the data through the SCM conceptual framework lens to conduct the analysis. The analysis includes searching for patterns from gathered data (Bromley et al., 2015). To retain the meaning of the developing codes, researchers compile and label categories made of connections between the evolving meanings (Hennink et al., 2017). The labels I found using NVivo®12 ISO were ISO, research and development, balance score card, and key performance indicators. These labels were linked to the conceptual framework and developed to form the themes.

Reliability and Validity

In a case study, researchers rely upon many sources of evidence to establish reliability and validity, including credibility, transferability, dependability, and confirmability (Cope, 2014). For this study, I used an interview protocol (see Appendix D) and collect data using a set of interview questions (see Appendix E) created specifically for the study. Thick and detailed data helps achieve reliability and validity (Dikko, 2016). I established (a) consistency, (b) accuracy, and (c) neutrality in the study to increase the trustworthiness of the findings. Gaining detailed information on the phenomenon under investigation helped me assure consistency, accuracy, and neutrality.

During the interview I followed strict procedural and interview protocols and asked many follow up questions. I used member checking to confirm data accuracy and triangulation to confirm participants responses. I adhered to (a) The Belmont Report's guiding principles, (b) IRB compliance requirements, and (c) the DBA Consulting Capstone Manual guidelines and protocols.

Reliability

Reliability occurs when the documentation of procedures can be repeated to obtain the same results (Bryman & Bell, 2015; Tsai et al., 2016). In some qualitative research, the researcher uses the concept of reliability and dependability to describe various aspects of trustworthiness (Lishner, 2015). According to Morse (2015a), researchers can use a coding system, triangulation, and external audits to minimize random variations in their data and maintain the stability and rigor of their findings and conclusions. For the study, I relied on an interview protocol (see Appendix D) and collect data using one set of interview questions (see Appendix E). Additionally, I used member checking to check the accuracy of the information by providing interviewees an opportunity to ensure that I captured the intended meaning of information contained in the original interview. Through member checking, participants can verify the accuracy of the data and ensure that researcher interpreted the information correctly (Kelly et al., 2016).

Dependability

Dependability occurs when the research findings are consistent and repeatable (Kelly et al., 2016). Ensuring that research method and design align with the research

question is important for establishing dependability (Munn et al., 2014). Yin (2018) wrote the use of one set of questions for all participants would add to the ability to replicate the research and confirm the results. Credibility and dependability interrelate because credible results depend upon sound methodology (Elo et al., 2014). Dependability increases when the researcher provides detailed descriptions of the data to understand the phenomenon under study.

Validity

Validity is making sure that tools and procedures are suitable for qualitative research (Leung, 2015). The use of member checking supports the validity of the research findings (Marshall & Rossman, 2016; Yin, 2018). Member-checking interview responses can lead to in-depth data collection (Simpson & Quigley, 2016). As part of the data collection process, I integrated member checking to improve the validity of data collection.

Credibility

Credibility occurs when the results of the research are believable (Noble & Smith, 2015). The participants accomplish the credibility standards in qualitative research **(**Asiamah et al., 2017). The purpose of qualitative research is to define or understand the phenomenon of interest through the participants' eyes (McCusker & Gunaydin, 2015). Thus, the interviewees are the legitimate judges of the credibility of the results. After the study was completed, the participants checked whether the results of the study were realistic and confirmed the eligibility of the information.

Transparent data collection and coding strategies improve reliability, credibility, and transferability (Morse, 2015a). Member checking addresses the co-constructed nature of information by offering participants the opportunity to involve with, and add to, interview and deduced data after conducting the interview (Birt et al., 2016). I used member checking to confirm my accurate interpretation of the participant's perspective.

Researchers use a triangulation method to provide at least three perspectives of a phenomenon (Yazan, 2015). I used methodological triangulation to ensure the reliability of the data collected through interviews with leaders, supply chain operation employees, and archival documents from the company. Qualitative researchers use methodological triangulation to check and implement validity in their studies by addressing a research question from multiple perspectives (Goodell et al., 2015). The triangulation method provides validity in reconstructing the study from the research question to the conclusions. The advantages of methodological triangulation include (a) augmenting confidence in the study data, (b) producing creative ways to understand a phenomenon, (c) offering notable findings, (d) challenging or integrating theories, and (e) offering an in-depth understanding of the problem (Kim, 2014).

Transferability

Transferability is the point to which researchers can generalize or transfer the results of the study to other contexts or settings (Morse, 2015a). The responsibility of the researcher is to offer detailed explanations for the readers to make knowledgeable choices about the transferability of the findings to their particular contexts (Matamonasa-Bennett, 2015). The emphasis of the study should be on generating rich descriptions, comprising

accounts of the context, research methods, and presentation of the findings to assure transferability (Morse, 2015a). The topic of GSCM is still relatively new, thus I may form an interesting base for future researchers in the field and business readers interested in this subject. Transferability allows researchers to generalize the findings of the research to a similar phenomenon (Morse, 2015a). Transferability is applicable when a case study includes thick and detailed descriptions (Finfgeld-Connett, 2014). I addressed transferability by providing details of my research process throughout the study. I used (a) an interview protocols, (b) methodological triangulation, (c) data saturation, and (d) member checking.

Confirmability

Confirmability is the level to which participants can confirm or validate the study findings (Frauenberger et al., 2014; Kallio et al., 2016). Confirmability is the degree of objectivity of the researcher, where the respondents shape the answers without any intervention from the researcher (Jauhar & Tajuddin, 2015). Confirmability occurs when researchers apply measures to authenticate those research findings grounds on data, and not from personal bias (Matamonasa-Bennett, 2015). Data triangulation can serve to confirm results and increase understanding of the phenomena under study (Hussein, 2015). To accomplish data confirmability, I conduct data triangulation by analyzing and comparing information from interviews with leaders, supply chain operation employees, and archival document from the company.

Data Saturation

Data saturation occurs when no new information emerges from the interviews

(Guetterman, 2015; Palinkas et al., 2015). To achieve data saturation, a researcher continues to conduct interviews until no new information is possible (Robinson, 2014). In small samples such as a case study, member checking interviews can lead to in-depth data and can help reach data saturation (Simpson & Quigley, 2016). The researcher reaches a point where the information from participants provides no new data and themes (Malterud et al., 2016). I accomplished data saturation by interviewing participants until no further information or themes emerged.

Transition and Summary

The purpose of Section 2 was to clarify the role of the researcher that is critical in the study due to the intimate nature of face-to-face interviews and other forms of data collection inherent to the case study. Section 2 also included a description of the criterion to participate, ways to reach participants, and ways to establish working relationships with them, as well as a discussion of the research method and design. Section 2 comprised an extension of the purpose statement, data collection technique, and data organization technique, as well as the basic knowledge that led me toward data collection. Section 3 will consist of the findings of the study, recommendations for action, and recommendations for further research.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative single case study was to explore GSCM strategies that supply chain managers need to improve organizational competitive advantage. Four senior leaders and four supply chain operation employees responsible for a large enterprise's supply chain activities participated in this study. I collected data using interviews and archival documents to address the research problem. The findings derived from a review of the research data included a need to focus on the environmentally friendly strategies an enterprise can adopt, corporate image, and the importance of working with stakeholders. A recurring topic in the data was the significance of researching to improve the working strategy and acquiring certifications that help companies compete in the local and international markets. Leaders have acknowledged that small enterprises may find difficulties adopting GSCM strategies because the development of radical environmental innovations requires significant resources and may result in a significant cost increase, particularly in the short term. However, each company could find the equilibrium of green investment needed. Firm owners need to exceed a minimum level in their performance to have a positive environmental and financial performance. With frequency, leaders have acknowledged the spectrum of green supply chain strategies and the associated benefits with local and foreign market entry mode targeting sustainable competitive advantages growth. Senior managers identified successful strategies for GSCM implementations.

Presentation of the Findings

The central research question for this study was as follows: What GSCM strategies do supply chain managers need to improve organizational competitive advantage? I used semistructured interviews with open-ended questions (see Appendix E) and archival documents to collect study data. I uploaded the data into NVivo®12, identified the themes and patterns, and conducted methodological triangulation using the interviews and the archival document. These six themes emerged: (a) need for GSCM practices engagement across the supply chain; (b) need to offer an environmentally friendly product; (c) urge to use the three Rs (recycle, reduce, and refuse) in the product life cycle; (d) importance of acquiring ISO certifications; (e) relevance of doing research and development to find ways to improve production, products, and market shares; and (f) requirement to use BSC as a monitoring model and translate competitive strategies into KPIs.

Theme 1: Need for Green Practices Engagement Across the Supply Chain

Habib and Bao (2019) distinguished between two GSCM practices, internal and external. Internal GSCM concepts are practices that individual manufacturers can implement and manage individually (Santos et al., 2019). External GSCM practices may need a certain level of collaboration with external stakeholders or partners, such as suppliers, and customers (Yan et al., 2016). All eight participants (100%) highlighted that engaging in GSCM practices across the supply chain and involving employees, suppliers, and customers are determining factors for improving competitive advantage.

For internal GSCM practices, the enterprise's vision and mission statements detailing managerial commitment toward environmental sustainability are crucial aspects of developing and maintaining an ecological strategy (Agarwal et al., 2018). A company's environmental management system includes clear ecological goals that managers communicate throughout the company (Chang, 2016). Seven participants (87%) mentioned that managers expect employees to know and live the company's values embedded in the enterprise's corporate culture and enforced in the code of conduct. As per all participants (100%), the enterprise's values serve as critical recruitment criteria and indicators in the company's 360 employee performance evaluation. Top management's decision may take the initial step for success by promoting employee involvement, cultural shift, and an increase in employee empowerment (Mazzei et al., 2017). The employees' behavior results from organizational rewards and incentive systems, by providing efficient training, communication secessions, and developing teams in an organization (Bhavan, 2017).

On the external level, Longoni and Cagliano (2018) stipulated the necessity to discuss with stakeholders how to improve environmental performance to enhance the firm's reputation and financial performance. International customers are pushing companies to reduce their environmental footprint by decreasing nonrenewable energy consumption during the production process (Mirghafoori et al., 2017). Customers' ecological awareness obliges firms to implement environmental practices to improve their green image and position in the international market. A crucial external task, therefore, is evaluating the company's suppliers' ecological routine, obliging the

providers to enhance their environmental involvement in products and procedures (Chang, 2016). Communication and information sharing are useful tools to ensure that suppliers can comply with their buyers' environmental requirements. Auditing is a way to improve suppliers' performances (Dubey et al., 2017). All eight interviewees (100%) acknowledged that the enterprise engages in GSCM practices across the supply chain involving external partners to eliminate or reduce negative environmental impacts. Seven interviewees (87%) mentioned that they implemented the suppliers-selection criterion to reduce negative environmental impacts. Moreover, all interviewees (100%) stated that they hire a company to assess their suppliers' quality and standard of work. The company hired gives the managers a final report by the end of every year. According to the report, managers take action plans. Interviewees also added that they always work to elevate their supplier standards and implement auditing and follow-up mechanisms. This process allows insuring compliance with the company's code, which coincides with the UN Global Compact's 10th Principle of anticorruption. Managers should lead and decide on the degree of environmental sustainability implementation, what concerns should be covered, and how to implement a consistent strategy with the mission, culture, and stakeholder requirements. In Table 1, I illustrate the frequency at which participants mentioned the engagement of employees, suppliers, and customers in the GSCM practices.

Table 1

Need for Green Practices Engagement Across the Supply Chain (Frequency)

Participants	Interview questions	Total number of references

M1	1,2,3,4,6,7	45
M2	1,2	9
M3	1,2,3,4,6,7	25
M4	1,2,3,4,6,7	25
O1	1,2,3,4,6,7	25
O2	1,2,6,7	20
O3	1,2,3,4,6,7	28
O4	1,2,3,4,6,7	22

I used the enterprise's sustainability initiatives report as the archival document for data triangulation. A review of the archival document divulged the company's overview, vision, values, and anticipated mission to identify and address community needs while unleashing business opportunities and maximizing value. A review of the archival document revealed that the collapse of trade barriers has increased the organization's pressure to improve the environmental, economic, and social performance. Information in the archival document showed that the enterprise under study exported to 95 countries. A review of the archival document revealed that sustainability is a strategic priority for the company. Although the transition to sustainability was not easy, the company overcame the challenges. Governmental regulations and customers' awareness pushed enterprises to minimize the ecological footprint (Zhu et al., 2016). As per the information in the archival document,

the enterprise business units across the Middle East, North Africa, Europe, and the United States apply a wide array of externally developed principles through initiatives, certifications, and memberships. By upholding international standards, business units align with manufacturing best practices, global sustainability objectives, and reporting requirements to allow stakeholders to track progress and performance.

However, there is a lack of political support and incentives in Lebanon regarding the implementation of green strategies (Saade et al., 2019). External pressures, such as government regulations on the environment and waste disposal, should affect managers' formulation and implementation of a sustainability program (Epstein & Buhovac, 2014). Governments can make or break companies through legislation and awarded contracts. A right level of government support for green entrepreneurship might correspond to entrepreneurs' stronger environmental orientation (Hörisch et al., 2017).

Theme 2: Need to Offer Environmentally Friendly Products

The purpose of a supply chain is to provide customers with the desired products and services without delay, at the right time, at a competitive price, and at the correct place (Daugherty et al., 2019). To meet high environmental sustainability criteria in the globally competitive market, organizational leaders are interested in the proficiency of the entire GSCM (Dubey et al., 2015). All eight participants (100%) stated that offering an environmentally friendly product at a competitive price is what they work on regularly. Green supply chain managers should aim to reduce the ecological effects of a product during the entire lifecycle by increasing resource-savings, reducing dangerous material, and using product recycling protocols (Sezen & Çankaya, 2016). All

participants (100%) acknowledged that customers are interested in the product's price. As per all the participants (100%), the research and development (R&D) team in the enterprise under study conducted research that helped offer an environmentally friendly product at a competitive price. All participants (100%) admitted that the combination of both desired qualities from customers made the company so competitive in the local market and opened new doors for working in the international markets.

Consumer environmental awareness has become a vital issue affecting consumers' consumption choices. An increasing number of consumers have adjusted their consumption preferences because of the influence of consumer environmental awareness by choosing environmentally friendly products and preferring eco-conscious organizations (Hong et al., 2018). In response to customers' environmentally friendly needs, managers in the enterprise under study had to adjust their products and supply chain. In their study, Michal et al. (2019) proved the sensitivity of some customers' income groups in purchasing decisions related to environmentally friendly products. Researchers have linked the preference for eco-friendly products to the highest income groups. Michal et al. argued that consumers' interest is reflected in their actual purchase decisions and that the environmental aspect does not affect pricing. Four managers (50%) stated that the R&D team always evaluate the different alternatives available and study the best practices to find the best fit with their own supply chain. All participants (100%) stipulated that the research and development team's target is to reduce the negative environmental impact of business operations, reduce cost, and improve the enterprise's competitive advantage.

All participants (100%) recommend that firms invest in capabilities that facilitate the development of environmental collaboration, which are beneficial in terms of market performance. Nevertheless, managers (50%) acknowledged the difficulty for small enterprises to adopt GSCM strategies. The development of radical environmental innovations requires significant resources and may result in a significant cost increase, particularly in the short term. Yet, each company can find the equilibrium of investment needed. Interviewees mentioned that firms need to exceed a minimum level in their environmental performance for the association between environmental and financial performance to become positive. All interviewees (100 %) mentioned some dimensions of GSCM covered in their enterprise, like green purchasing, green manufacturing, green distribution, green packaging, green marketing, environmental education, internal environmental management, and investment recovery. In Table 2, I illustrate the frequency at which participants mentioned the need to offer environmentally friendly products.

Table 2

The Need to Offer Environmentally Friendly Products (Frequency)

Participants	Interview questions	Total number of references
M1	1,2,3	36
M2	2,3	6
M3	1,2,3	38
M4	1,2,3	24
O1	1,2,3	24

O2	2,3,6	8
O3	2,3,4,6	15
O4	1,2,6	15

A review of the archival document revealed the need to work towards offering environmentally friendly products. As consumer and public concern about the environment grow, enterprise managers are looking for ways to sustainably source renewable and recyclable raw materials, as well as enhance product recoverability. Quick service and casual dining restaurant chains, and food service and catering companies have been searching for years for a sustainable packaging solution that maintains needed properties and meets industry standards (Figueres et al., 2017). Global paper cup consumption in 2018 reached nearly 260 billion units with hot paper cups, accounting for over 65% of the market (Gielen et al., 2019). Researchers project paper cups' consumption to reach 290 billion units by 2024 (Gielen et al., 2019). Although disposable paper cups are convenient and more hygienic for hot and cold beverages, they usually end up in landfills and are unrecyclable (Figueres et al., 2017).

The archival document included that in 2018, the company's managers under study recognized the significant impact unrecyclable paper cups have on the environment. They established their foodservice packaging innovation team to develop an eco-friendly foodservice packaging line. A review of the archival document revealed that the R&D team brought together experts in paperboard coating, paper sourcing, paper cup production, and global sustainability. Mentioned in the archival document was that

managers used, for a new sustainable product, sustainably sourced raw materials to replace unrecyclable material. The sustainable product helped foodservice companies and consumers reduce their negative environmental impacts. A review of the archival document disclosed that in addition to hot and cold cups, the product line includes specialty-coated paper bags, sheets, rolls, and sachets, as well as paper straws and molded fiber bowls, plates, and boxes. As per the archival document, the management team works on automating sustainability data across the group worldwide to make reporting seamless and improve key group impact's visibility. As such, managers will also conduct the second materiality assessment and stakeholder engagement in 2020 to set the group's 2025 sustainability and responsibility KPI's.

Theme 3: Urge to Use Recycling, Reducing, Refusing

The green supply chain managers aim is to reduce the ecological effects of a product during its whole lifecycle by increasing resource-saving, reducing dangerous material, and using product recycling protocols (Sezen & Çankaya, 2016). All eight (100%) participants mentioned that recycling, energy-saving, and using renewable energy are part of the enterprise strategy. Using recycling systems, managers have the benefits of reducing environmental pollution, boosting the economy by creating new jobs, and generating income from trading the recyclable materials (Xu et al., 2017). Four participants (50%) mentioned that using PV panels saves $3900 monthly on average. Four participants (50%) stated that implementing coolers' heat recovery systems with chillers that absorb the generator's heat saves $4750 monthly on average. According to all participants (100%), the generator equipped with a heat recovery system is more

efficient than the one not equipped. The heat recovery system allows a decrease in CO2 emission when the generator's temperature is low. Seven (87%) participants mentioned that repairing and reusing wooden pallets help elongate the wooden pallet's life-time and reduce cost. Seven (87%) participants stated that their company owns recycling machines where the waste is directly collected from the production process and reused in the manufacturing. The closed-loop approach includes recollecting, reusing, and recycling. The closed-loop strategy requires cooperation with all the supply chain parties (Govindan, Soleimani et al., 2015). In Table 3, I illustrated the frequency at which participants mentioned the importance of recycling, reducing energy and waste, and refusing to work with suppliers that do not apply environmentally friendly standards.

Table 3

Urge to Use Recycling, Reducing, Refusing

Participants	Interview questions	Total number of references
M1	1,2,3	10
M2	2,3	8
M3	1,2,3	7
M4	1,2,3	7
O1	1,2,3	7
O2	2	4
O3	2,3,4,6	11
O4	1,2,6	6

A review of the archival document divulged that during the manufacturing process, business units consume renewable and nonrenewable raw materials and energy while generating waste and effluents and emitting greenhouse gases from the use of fossil fuel-based energy, solvents, and inks. As per the participants (100%), the purpose of the company's environmental management approach is to reduce the enterprise's negative impacts and identify key areas where a significant positive impact can imply. The archival document included the enterprise aimed to partner across the value chain for a circular economy, renewable raw material and energy, responsible sourcing, and innovating sustainable products. A review of the archival document revealed that enterprise actively engaged in the following initiatives: solar energy, responsible paper sourcing, and partnering for plastics' circular economy.

The world is moving away from the linear model of consumption (Take–Make-Use–Dispose) to a circular economy of plastics which focuses on innovating, redesigning, and extending product lifecycles to facilitate reuse and recycling (Verrips et al., 2019). Participants (100%) acknowledged that using the circular economy system, waste no longer represents product end-of-life but rather a new form of raw material that goes back into the production process as many times as possible. As per the archival document in the Middle East and Arabian Gulf, rapid economic development and population growth have accelerated the depletion of resources and increased waste generation, greenhouse gas emissions, and other negative environmental impacts. To maintain the growth rate and reduce vulnerability, Gulf Cooperation Council (GCC)

countries are moving toward a path of sustainability and circular economy (Figueres et al., 2017).

A review of the archival document revealed that managers took an active role in pushing towards a circular economy of plastics, while creating green revenue streams from recycling plastic waste. A review of the archival document indicated that managers equipped the company with recycling facilities and waste collection, sorting, and cleaning equipment. As per the archival document, the enterprise offers waste-to-energy technologies, and post-industrial plastic collection, recycling, and regeneration. The archival document included that the company under study recycle and convert its own post-industrial scrap, in addition separate and wash agricultural films from local farmers and post-consumer plastic scrap collected from local third-party collectors for conversion by sister companies. As per the archival document, in 2018, the enterprise under study launched its sustainability program focused on partnering with schools to spread awareness on segregation and plastic recycling, as well as provide plastic scrap recycling services.

As countries across the region have started setting clean energy targets and the cost of solar energy technologies has fallen, investment in renewable energy projects within the region has grown (Middle East Solar Industry, 2019). The archival document disclosed that the enterprise had installed PV power plants across member companies in Lebanon to leverage the abundant and untapped renewable energy from the sun. In 2018, the sector added nearly 175 GW of renewable energy capacity globally and 98 GW of solar energy (International Renewable Energy Agency, 2019). Between 2018 and 2022,

the Arab Petroleum Investment Corporation (APICORP) estimates MENA power capacity to expand by an average of 6.4% per year (IRENA, 2019). The archival document stated that in 2018, the company understudy installed a PV power system covering 4,000 m^2 at its plant. The archival document enclosed that PV system decreased greenhouse gas (GHG) emissions resulting from nonrenewable energy consumption by 702.6 $MTCO_2E$, 55.9 Kg NOx, and 2.839 Kg SO2.

Population growth, industrialism, and the massive consumption of raw materials worldwide for mass production have greatly stressed natural resources and habitats (Montabon et al., 2016). As per the archival document, manufacturers of corrugated and paper packaging, and jumbo tissue rolls, consume paper raw materials from forests. As mentioned in the archival document, the company identified responsible paper sourcing as a material topic with boundaries, including the direct impact of tissue mills and paper suppliers' impacts worldwide. A review of the archival document indicated that the company refuses to work with non-environmental-friendly suppliers. The archival document divulged the company elevated the suppliers' standards, as well as implemented auditing and follow-up of mechanisms to ensure compliance with the company's code.

Theme 4: Importance of Acquiring Certifications

Globalization, customer awareness, and stakeholders' easy access to information have led company leaders to adopt ISO 9001 standards to keep up with the ongoing evolution of the market (Psomas & Pantouvakis, 2015). All eight (100%) participants mentioned that acquiring certifications helps companies compete in local and

international markets. All interviewees (100%) mentioned that their company acquired the ISO 9001 certification in the year 2002. Bravi et al. (2019) reported an increase of 7% of certificates valid for the ISO 9001 compared to the previous year. Latan et al. (2019) tested the relationship between continuous innovation (CI) and firm's performance, while taking into account the role of three determinants of firms' level of innovation as core drivers in manufacturing firms working under ISO 9001 certification. The study done by Latan et al. (2019) showed a positive relationship between CI and firm performance. Whereby CI improves both innovation and financial performance. All interviewees (100%) mentioned that ISO 9001 certification allows their company to have a competitive advantage in the local market and the chance to work in the international market. All interviewees (100%) added that ISO certification helped the company export products all over Europe, GCC, Africa, and the United States.

To ensure business viability, leaders need to identify and replicate the best green business policies and operations that drive compliance with ISO regulations and standards (Ho et al., 2018). Managers can apply ISO 14001 norms to adhere to the international rules regarding decreasing discharges, waste, utilization of resources, and overall environment protection (Cherrafi et al., 2016). All interviewees (100%) acknowledged having the ISO 14001 certification. One interviewee mentioned, "we have shifted to a 'Do Well by Doing Good' business model which creates purposeful profit and sustainable growth." Implementing ISO 14001certification has led enterprises to environmental, economic, and managerial advantages (Arimura et al., 2016). The ISO 14001 certification offers significant economic benefits to multinational organizations.

ISO 14001 benefits are operational efficiency, worldwide recognition of product/brand, marketing advantages, enhanced competitiveness, and better waste management resulting in cost reduction (Cherrafi et al., 2016). Valdez-Juárez et al. (2019) proved that the ISO 14001 standard influence the improvement of the business image and the level of profitability of SME. However, as per Ho et al. (2018) in SME, the implementation of ISO standards might be a complicated issue. The main barriers that SME face to incorporate ISO practices mainly focus on the lack of financial budget and managers' short-term vision (Ho et al., 2018). One of the interviewees mentioned, "we acknowledge difficulty for small enterprises to adopt GSCM strategies because the development of radical environmental innovations requires significant resources and may result in a significant cost increase, particularly in the short term". However, adopting GSCM strategies is positive and effective in the long term (Sharma et al., 2017).

One of the most significant strategic actions generating value within and outside organizations has been implementing certification standards related to quality management, environmental management, and social responsibility practices (Rego et al., 2017). ISO 50001 is a combination of ISO 9001, the quality system specialization, and ISO 14001, the environmental specialization (De Sousa Jabbour et al., 2017). The purpose of ISO 50001 is to help enterprise managers establish the systems and processes needed to improve energy performance, including energy efficiency, use, and consumption (De Sousa Jabbour et al., 2017). ISO 50001 certification offers the company managers the opportunity to run the business in the most energy efficient way with permanent improvement (Zsebik & Novák, 2018). In Table 4, I illustrate the frequency at

which participants mentioned the importance of acquiring environmental certifications such as ISO.

Table 4

Importance of Acquiring Certifications (Frequency)

Participants	Interview questions	Total number of references
M1	2,7	15
M2	2,7	6
M3	2,7	6
M4	2,7	7
O1	2,7	7
O2	2,3,7	10
O3	2,7	15
O4	2,7	11

As per the archival document, in addition to ISO 14001 and ISO 9001, the company attained the EU ecolabel certification, FSC certification, and Veolia packaging waste compliance scheme. The EU Ecolabel is a label of environmental excellence awarded to products and services meeting high environmental standards throughout their lifecycle: from raw material extraction, to production, distribution, and disposal. A review of the archival document indicated, the EU Ecolabel helped the enterprise promote the circular economy by encouraging producers to generate less waste and CO2 during the manufacturing process. A review of the archival document showed

that the EU Ecolabel criteria encouraged the company to develop durable, easy to repair, and recycle products. The EU Ecolabel criteria provide exigent guidelines for companies looking to lower their environmental impact and guarantee the efficiency of their environmental actions through third-party controls (Palacios-Argüello et al., 2020). The FSC stands for Forest Stewardship Council. The FSC is an international non-profit organization dedicated to promoting responsible forestry. The FSC certifies forests worldwide to ensure they are meeting the highest environmental and social standards (Galati et al., 2017). A review of the archival document revealed the enterprise's products are labeled as FSC Certified; this means that the product met the requirements of the FSC. Veolia helps enterprises with sustainable waste management and recycling techniques (Kirkman & Voulvoulis, 2017). The archival document disclosed that Veolia helped the enterprise meet legal obligations as well as environmental goals.

Theme 5: Relevance of Doing Research and Development to Find Ways to Improve the Production, Products, and Market Shares

Zameer et al. (2019) indicated that green production and green creativity positively reinforce green competitive advantage. The four managers (50%) interviewed stated that the R&D team always finds the best practices that best fit their green supply chain. All interviewees (100%) mentioned the R&D team's target is to reduce the negative environmental impact of business operations, reduce cost and improve the enterprise's competitive advantage. Recent studies involve a variety of firm-level factors to create a robust link between business enterprises' environmental and financial performance (Abbas & Sağsan, 2019). However, little information exists on the role of

R&D investment in firms' environmental performance (Yang et al., 2019). Alam, Atif, Chien-Chi, and Soytaş (2019) empirically investigates how R&D investment affects the firm environmental performance measured by energy and carbon emission and found that R&D investment improves the firm's environmental performance.

Small companies that are new in the market pay high costs for research and development. Big companies that have been operating in the market for a long time, in contrast, are more efficient at introducing process innovations as they have the financial backing entailed by uncertain midterm returns characterizing innovation (Coad et al., 2016). As such, young born green companies entering markets with their innovative products and services are likely to face challenges compared to the more established firms that adopt environmentally friendly innovations to respond to the changing customer's needs (Demirel et al., 2019). Interviewees (100%) mentioned that environmental innovations require significant resources and may result in a significant cost increase, particularly in the short term. Managers (50%) stated that each company could find the equilibrium of investment needed. All participants (100%) recommend that firms invest in capabilities that facilitate the development of environmental collaboration, which are beneficial in terms of market performance. Participants (100%) affirmed that the company does an ROI study before engaging in any new project or investment in order to make sure the investment will be successful. The company under study applies a stringent enterprise risk management system to effectively identify and evaluate economic, environmental, and social risks, upon which the Board of Directors acts. In Table 5, I illustrate the frequency at which participants mentioned the relevance of doing

research and development to find ways to improve the production, the products, and the enterprise's market shares

Table 5

Relevance of Doing Research and Development to Find Ways to Improve the Production, Products, and Market Shares (Frequency)

Participants	Interview questions	Total number of references
M1	1,3	4
M2	3	1
M3	3	2
M4	3	2
O1	3	2
O2	3	1
O3	1,3	3
O4	1,3	4

A review of the archival document divulged that sustainability is a strategic priority for the enterprise. As per the archival document, the transition from a standard supply chain to a green supply chain was challenging. The archival document revealed that the R&D team always evaluated the different alternatives available and studied the best practices to find the best fit within their supply chain. In the archival document, the enterprise managers explained that they worked to unify the enterprise vision, objectives, and initiatives across business units worldwide, while automating environmental and social data to ensure visibility into the future.

Theme 6: Requirement to Use Balance Scorecard as a Monitoring Model and Translate Competitive Strategies Into Key Performance Indicators

The balance scorecard (BSC) is a performance measurement and management system aiming to help managers assess the environmental performance of a supply chain (Hansen & Schaltegger, 2016). The SBSC is a modification to the original BSC, which considers environmental, social, and ethical issues (Hansen & Schaltegger, 2016). The SBSC should relate an enterprise's performance dimensions and strategic objectives to achieve the corporate sustainability strategy (Kalender & Vayvay, 2016). All participants (100%) mentioned that BSC aims to remedy the limitations of traditional monitoring models, and translate competitive strategies into key performance indicators (KPIs). BSC ensure a balance between short-term performance, measured through financial parameters, and nonfinancial factors that should lead the company to superior competitive performance and sustainability over time. Managers (50%) stipulated five reasons behind the decision to adopt the BSC, (a) to translate strategy into action, (b) to manage quality programs, (c) to support change agendas, (d) to follow managerial trends, and (e) to abandon traditional budgeting. Participants (100%) mentioned having KPI related to waste productivity. The different KPI are related to short-term and long-term goals, and targets. All interviewees (100%) mentioned that employees and managers would want to reduce the waste productivity percentile as much as possible to hit the target. All participants (100%) said that employees and managers are motivated to hit their target to take the bonus. Table 6, illustrates the frequency at which participants

mentioned the requirement to use balance scorecard as a monitoring model and translate competitive strategies into key performance indicators.

Table **6**

Requirement to Use Balance Scorecard as a Monitoring Model and Translate Competitive Strategies Into Key Performance Indicators

Participants	Interview questions	Total number of references
M1	6	2
M2	6	2
M3	4,6	4
M4	6	2
O1	6	2
O2	6	2
O3	6	2
O4	6	2

A review of the archival document divulged that the enterprise applied a wide array of externally developed principles through initiatives, certifications, and memberships. As per the archival document, by upholding international standards, business units align with manufacturing best practices, global sustainability objectives, and reporting requirements to allow stakeholders to track progress and performance. Mentioned in the archival document, using an evaluation framework that integrates the BSC dimensions provided an objective approach to assessing both the system's performance level and the contribution to the strategic objectives. Hence by building

environmental sustainability plans, managers can establish positive long-term functioning. Therefore, sustainable actions are important for an organization's business model because a strategy of targeted and permanent activities offers the company a competitive advantage (Dayan et al., 2017).

Findings Aligned With the Corporate Sustainability Model

I used the CSM as the conceptual framework for my study. Epstein (2008) developed CSM to aid managers in integrating green practices at strategic levels and into daily operations (Varsei et al., 2014). Eight (100%) participants highlighted that engaging in GSCM practices across the supply chain, and involving employees, suppliers, and customers is a determining factor for improving competitive advantage. CSM implies the concept that managers must find strategies to improve corporate social performance and financial performance (Epstein, 2008). Business leaders are experts at evaluating any investment's financial costs and benefits, yet need assistance in moving beyond the traditional cost-benefit analysis. Incorporating environmental sustainability in the conventional cost-benefit study requires leaders to state the investment's environmental sustainability outcomes, involve stakeholders, satisfy stakeholders' sustainability requirements, and evaluate the cost and benefits of environmental sustainability implementation (Pryshlakivsky & Searcy, 2015). All interviewees (100%) acknowledged that the enterprise engages in GSCM practices across the supply chain involving external partners to eliminate or reduce negative environmental impacts. All managers acknowledged the difficulty for small enterprises to adopt GSCM strategies because the development of radical environmental innovations requires significant resources and may

result in a significant cost increase, particularly in the short term. However, each company can find the equilibrium of investment needed.

Key constructs underlying CSM are (a) IGP based on waste productivity; (b) IGP based on energy productivity; (c) sustainability cost; and (d) sustainability reward (Epstein, 2008). The propositions underlying the theory are social performance, financial performance, green performance measurements, rewards such as ISO, and structure alignment (Pryshlakivsky & Searcy, 2015). All eight (100%) participants mentioned that recycling, energy-saving, and using renewable energy are part of the enterprise strategy. Four participants (50%) mentioned that the enterprise managed to save $3900 monthly on average using PV panels. Implementing coolers heat recovery systems with chillers that absorb the generator's heat saves $4750 monthly on average.

Company leaders aiming to increase positive impacts on the environment, society, and economy can also apply the ISO 14001 environmental norms to adhere to the international rules regarding the decreasing of discharges, waste, utilization of resources, and overall environment protection (Cherrafi et al., 2016). Implementing ISO 14001 and acquiring the certification has led to environmental, economic, and managerial advantages (Arimura et al., 2016). Interviewees acknowledged having the ISO 14001 certification. All eight participants (100%) mentioned that acquiring certifications is helpful to compete in the local and international markets.

Managers can also use the BSC to implement green initiatives and monitor environmental performance. The BSC is a performance measurement and management system aiming to help managers assess the environmental performance of a supply

chain (Hansen & Schaltegger, 2016). The BSC has become a popular concept for performance measurement (Kalender & Vayvay, 2016). The BSC model is also useful as a decision support tool to define actions that managers need to take to improve the global environment performance of the supply chain (Ferreira et al., 2016). All participants mentioned that BSC aims to remedy the limitations of traditional monitoring models, as well as translate competitive strategies into key performance indicators (KPIs). BSC ensure a balance between short-term performance, measured through financial parameters, and nonfinancial factors that should lead the company to superior competitive performance and sustainability over time.

Findings Aligned With Existing Literature

The objective of the literature review is to explore the elements and practices of compliance with GSCM, the guidelines and standards, and the effect on enterprise operations. The study's findings may provide business managers with information on GSCM strategies to improve their enterprise's competitive advantage. According to Montabon et al. (2016), supply chain implementation measurement has received improved consideration due to enterprises' changing competitive nature from organizational bases to supply chain bases. The green supply chain aims to reduce the ecological effects of a product during its whole lifecycle by increasing resource-saving, reducing dangerous material, and using product recycling protocols (Sezen & Çankaya, 2016). Using GSCM could enhance the core competitiveness of enterprises and promote sustainable economic development (Zhuo & Wei, 2017).

Epstein (2008) presented numerous tools and approaches to help managers achieve social and environmental goals. Key constructs and propositions underlying the theory are social performance, financial performance, green performance measurements, rewards such as ISO, and structure alignment (Pryshlakivsky & Searcy, 2015). Managers can apply the ISO 14001 environmental norms to adhere to the international rules regarding decreasing discharges, waste, utilization of resources, and overall environment protection (Cherrafi et al., 2016). All eight participants (100%) mentioned that acquiring certifications is very helpful to compete in the local and international markets. All participants (100%) have acknowledged that implementing ISO 14001 certification has led to environmental and economic benefits. Another tool that may help managers is using an information system that aims to increase organizations' operational performance by integrating information and accelerating the distribution of data across functions and departments of an enterprise (Shen et al., 2016). Participants mentioned using an information system that integrates the BSC dimensions. All participants (100%) mentioned that BSC aims to remedy the limitations of traditional monitoring models, as well as translate competitive strategies into key performance indicators (KPIs). BSC ensure a balance between short-term performance, measured through financial parameters, and nonfinancial factors that should lead the company to superior competitive performance and sustainability over time.

The eight dimensions covered by Yildiz Çankaya and Sezen (2019) are green purchasing, green manufacturing, green distribution, green packaging, green marketing, environmental education, internal environmental management, and investment recovery.

Thus, companies' leaders should adopt a holistic approach to sustainability throughout the supply chain, evaluating each link, with collaboration among all stakeholders. Eight (100%) participants highlighted that engaging in GSCM practices across the supply chain, involving employees, suppliers, and customers is a determining factor for improving competitive advantage. All interviewees (100%) acknowledged that the enterprise engages in GSCM practices across the supply chain involving external partners to eliminate or reduce negative environmental impacts. Seven interviewees (87%) said the enterprise managers implemented the suppliers-selection criterion, which helped reduce negative environmental impacts.

All eight participants (100%) mentioned that offering an environmentally friendly product at a competitive price is what they work on regularly. All participants (100%) stated that in their firm, the research and development team always evaluates the different alternatives available and studies the best practices to find the best fit with the supply chain. All eight (100%) participants mentioned that recycling, energy-saving, and using renewable energy is part of the enterprise strategy.

Applications to Professional Practice

The most significant contribution from the study findings may be the identification of the strategies that green supply chain managers utilize to improve organizational competitive advantage. Derived from CSM, managers can uncover the possible economic and social results of their decisions without the need to be experts in environmental sustainability models or methods (Pryshlakivsky & Searcy, 2015). Business leaders and supply chain managers may consider the findings from this

qualitative case study to identify the composite factors to consider when selecting an appropriate green supply chain strategy, improving environmental performance, reducing waste, saving cost, and improving the enterprise's competitive advantage.

Emerged themes from the study included information about the importance of GSCM practices across the supply chain. Implementing GSCM strategies, managers will be able maintain sustainable development techniques and significantly improve operations. (Kirchoff et al., 2016). Eight participants (100%) mentioned that adopting GSCM practices through the supply chain, involving employees, suppliers, and customers is a key factor to improving competitive advantage.

Business leaders are experts at evaluating any investment's financial costs and benefits yet need assistance in moving beyond the traditional cost-benefit analysis. Some managers do not recognize the importance of sustainable development because of their lack of training in environmental sustainability. Incorporating environmental sustainability in the conventional cost-benefit study requires leaders to state the investment's environmental sustainability outcomes, involve stakeholders, satisfy stakeholders' sustainability requirements, and evaluate the cost and benefits of environmental sustainability implementation (Pryshlakivsky & Searcy, 2015).

This study listes some GSCM strategies that will put an end to supply chain managers' struggle towards greening the supply chain. The ISO 14001 certification offers significant economic benefits to multinational organizations, such as operational efficiency, worldwide recognition of product/brand, marketing advantages, enhanced competitiveness, and better waste management resulting in cost reduction (Cherrafi et al.,

2016). The BSC is a model that can help managers assess the environmental performance of a supply chain (Ferreira et al., 2016). ERP systems are another tool that can help managers integrating information and accelerating information distribution across the supply chain to increase organizations' operational performance (Shen et al., 2016).

Managers have to lead and decide the degree of environmental sustainability implementation, what concerns they should cover, and how to implement a consistent strategy with the mission, culture, and stakeholder requirements. Reviewing business practices and policies related to recycling, reducing waist, implementing new technologies, and the use of PV panels can indicate how company managers might minimize negative environmental effects. All eight (100%) participants mentioned that recycling, energy-saving, and using renewable energy are part of the enterprise strategy. Four participants (50%) mentioned that the enterprise managed to save $3900 monthly on average by using PV panels. All managers recommend that firms invest in capabilities that facilitate the development of environmental collaboration, which are beneficial in terms of market performance.

Implications for Social Change

Nejat et al. (2015) affirmed that supply chain activities are responsible for 40% of global carbon emissions. Business managers can apply GSCM strategies to improve environmental performance, reduce waste, save costs, and improve their competitive advantage (Daddi et al., 2016). The increased pressure from customers and NGOs caused brutal environmental regulations. Organizational leaders show interest in green

production because of stringent environmental protocols and regulations worldwide (Li et al., 2016). The supply chain managers will generate significant economic and environmental benefits once considered forward and reverse supply chains simultaneously as a closed-loop (Govidan et al., 2015). Currently, the improvement of the closed-loop supply chain in developed and developing enterprises is necessary for society (Govindan & Soleimani, 2017). The study findings could help business managers discover some GSCM strategies to improve organizational competitive advantage. The findings derived from this study indicated that implementing GSCM strategies like green purchasing, green manufacturing, green distribution, green packaging, green marketing, environmental education, environmental certifications, internal environmental management, and investment recovery may result in acquiring a competitive advantage and reducing cost. My research results may contribute to social change by informing business managers on processes that maximize environmental conservation and minimize negative ecological impacts like air pollution in response to society's need for a healthier population. The reduction of air emissions, effluent waste, solid waste, and the consumption of toxic materials are some of the expected results of the implementation of GSCM (Nishitani et al., 2016). Communities might have healthier natural environments once enterprises implement green strategies in the traditional supply chain.

Recommendations for Action

The research findings yielded data that may assist GSCM managers in identifying the best practices of GSCM strategies for acquiring a competitive advantage. Furthermore, the study's results might help managers effectively implement policies and

procedures for the proficient production of environmentally friendly products and manage resources to acquire a competitive advantage. I recommend the following actions based on the study findings:

- Organizational managers should develop a detailed infrastructure constructed of policies, procedures, and role definitions applicable to all organization members interacting with the integration of green practices at strategic levels and into daily operations to improve efficiency and acquire a competitive advantage.
- Organizational managers should engage in GSCM practices across the supply chain, involving employees, suppliers, and customers for improving competitive advantage.
- Organizational managers should work on green purchasing, green manufacturing, green distribution, green packaging, green marketing, environmental education, internal environmental management, and investment recovery.
- Organizational managers should apply ISO 14001 environmental norms to adhere to the international rules regarding decreasing discharges, waste, utilization of resources, and overall environmental protection.
- Organizational managers should implement BSC to translate competitive strategies into key performance indicators (KPIs) to balance short-term performance, measured through financial parameters, and nonfinancial factors that should lead the company to superior competitive performance and sustainability over time.

Susanty et al. (2019) distinguished between two GSCM practices, internal and external. Internal GSCM performances are practices that individual manufacturers can implement and manage individually (Susanty et al., 2019). Internal motivation leads company leaders to implement ISO 14001 to improve competitiveness, market share, and positioning in the international market (Iatridis & Kesidou, 2018). External GSCM performances usually need a certain level of collaboration with external stakeholders or partners, such as suppliers and customers (Zhu, Geng, et al., 2013). Many factors, such as regulations, markets, stakeholders, and suppliers may encourage enterprises' managers to adopt GSCM. However, an enterprise's vision and mission statements detailing organizational commitment toward environmental sustainability are the most crucial aspects of developing and maintaining an ecological strategy (Agarwal et al., 2018).

Recommendations for Further Study

Study findings may contribute to existing and future research regarding best practices needed by managers to utilize GSCM strategy for improved organizational competitive advantage. Supply chain managers must acquire information to gain a lasting competitive advantage, improve decision-making, and fulfill stakeholder expectations in a dynamic competitive business environment (Lloret, 2016). A limitation of this study was the small sample size, as this qualitative case study included only a single enterprise. This study focused on the implementation of GSCM practices in manufacturing organizations. The model can also be modified to reflect other types of organizations. Future researchers may include multiple enterprise levels or businesses located in different countries. Subsequent research might include an examination of the relation

between GSCM practices and investment recovery. Despite the increase in the number of researchers who have studied GSCM in different dimensions in recent years, GSCM is challenging for managers to establish that this concept has vast application areas. The focus solely on best practices aligned with effective resource management in a CSM environment was an additional limitation of the study. Further research could focus on GSCM outcomes and leadership styles to assess the best practice skills needed by supply chain managers for significant GSCM investment recovery.

Researchers may focus on the effect of GSCM procedures on enterprise investment recovery in future studies. Using the findings from this study, I identified that managers of manufacturing enterprises should understand all aspects of the GSCM strategies and take an active role in GSCM implementation. Further, by maintaining a working knowledge and active role in GSCM, managers may reduce the negative environmental impact of business operations, reduce cost, and improve the enterprise's competitive advantage. Further studies examining the relationship between GSCM strategies and investment recovery, trained employees, data flow, and proficient data analysis might decrease errant GSCM outcomes. Moreover, the research associated with skilled information collection best practices to provide GSCM managers with the necessary results to improve investment recovery and increase positive GSCM performance.

Reflections

Reflecting on my experience within the DBA Doctoral Study process, I discovered that leaders should evolve organizational strategies pertaining to internal and

external activities, policies, and procedures through a review process that includes GSCM implication knowledge. For example, a lack of political regulations regarding implementing green strategies makes implementing environmental strategies optional for enterprise leaders. Only self-motivated enterprise leaders looking to satisfy stakeholders and wishing to export to international markets are implementing GSCM strategies. Not acquiring international certifications and standards could prevent enterprises from entering international markets and having new market shares, and limit brand exposure.

I observed that the size of the enterprise matters when choosing to implement environmental strategies. Furthermore, participants in this study have acknowledged that small enterprise managers may find difficulties adopting GSCM strategies because the development of radical environmental innovations require significant resources and may result in a significant cost increase, particularly in the short term. Correspondingly, study participants conveyed each company, big or small, could find the average green investment to link a positive environmental and financial performance.

Using semistructured interviews with open-ended questions, I encouraged in-depth discussions with study participants, gaining substantial insight into their perspective regarding GSCM practices and strategies. The study participants indicated that without selecting the correct technology and decisions by supply chain managers and training for human capital resources to obtain quality information, a weakness to implement GSCM strategies might occur. The information gained from the literature review and study participant interview responses denotes a correlation exists between GSCM practices, cost saving, and improvement of the competitive advantage.

Summary and Study Conclusions

The objective of this qualitative single case study was to explore GSCM strategies that supply chain managers need to improve organizational competitive advantage. I collected and triangulated data to answer the research question by utilizing semistructured interviews with open-ended questions and an archival document. Six themes emerged from the methodological triangulation of eight interviews, and the archival document, including the need to establish (a) GSCM practices engagement across the supply chain; (b) offer an environmentally friendly product; (c) use the three Rs; (d) importance of acquiring certifications; (e) relevance of doing research and development to find ways to improve the production, products, and market shares; and (f) requirement to use balance score card (BSC) as a monitoring model and translate competitive strategies into key performance indicators (KPIs).

Relating to effective strategy management in supply chain, multiple factors articulated by the study participants were congruent with the expressed intent of the enterprise leaders chronicled in the archival document. Moreover, the themes identified in the research findings were consistent with information garnered from the literature review. A factor that determines the success of corporate sustainability management is the ability to incorporate environmental sustainability into the organization's vision and activities (Dayan et al., 2017). All interviewees (100%) mentioned the target of the research and development team is to reduce the negative environmental impact of business operations, reduce cost, and improve the enterprise's competitive advantage. As per the enterprise managers, "from the time we began communicating our progress three

years ago, sustainability has become a strategic priority for the company. The transition was not easy; however, the challenges we faced propelled us forward. We have worked to unify our vision, objectives, and initiatives across business units worldwide, and we are automating environmental and social data to ensure visibility into the future". A clear and well-established business strategy is the key for company's manager to gain a competitive advantage and achieve better performance (Daddi et al., 2016).

Business managers can apply GSCM strategies to improve environmental performance, reduce waste, save costs, and improve their competitive advantage (Daddi et al., 2016). Enterprises can save costs from complete processing, replacement, reprocess, or recycling of manufacturing inputs (Govindan et al., 2015). Participants in the study claimed that in 2019 the enterprise saved around $108,000 only from implementing PV panels and coolers heat recovery systems. All eight (100%) participants mentioned that recycling, energy-saving, and using renewable energy are part of the enterprise strategy. Adopting GSCM practices may improve corporate economic performance, such as reducing product cost, improving sales, and enhancing return on investment (Younis et al., 2019).

Leaders' failure to employ GSCM strategies may result in errant conclusions that hamper improvements in corporate performance (Younis et al., 2019). My findings illustrate a need for leaders to understand all aspects of GSCM, inclusive of stakeholders' needs, innovations, and certifications. The management team tasked with utilizing GSCM for effective resource management must develop and adhere to best practices aligned with the current literature and research.

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Appendix A: NIH Web Training

By

Jamila Malti

A Project Presented in Partial Fulfillment

Of the Requirements for

DDBA 8427 Applied Research Methods - Qualitative and Quantitative

Dr. Nafarrete

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **jamila malti** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 11/11/2012

Certification Number: 1047071

Appendix B: Letter of Cooperation

(Organization Name)

(Organization Contact)

(Date)

Dear authorizer representative,

My name is Jamila Malti and I am a student at Walden University, searching to complete my Doctor of Business Administration degree with concentration in Supply Chain Management. I am conducting a research on Green Supply Chain Management (GSCM) strategies that supply chain managers need to improve organizational competitive advantage. My study involved interviewing supply chain leaders, supply chain operation employees, and reviewing archival documents. The key characteristics of selecting the contributors in my study are (a) a minimum of 5 years' experience in GSCM and (b) responsibility for daily GSCM operations. Your organization meets my studies necessary criteria. Therefore, I am emailing you to determine the possibility of including employees from your organization in my research.

Upon your agreement I will send you an approval letter to sign and send back to me via email. I will email you a letter of introduction with a request to forward the invitation to participate to all senior leaders and international operations employees on my behalf. All employees that meet the key characteristics for contribution can contact me directly and then receive a consent form for participation. The archival record needed for the study will include company records and market reports. Any document that you might provide that is valuable for the study is appreciated.

After the study is completed, I will provide you with a summary of the study findings. I would like you to know that name of the organization; participants and archival documents will remain confidential.

Appendix C: Approval Letter

<Date>

To Whom It May Concern:

Mrs. Jamila Malti has requested permission to collect research data from employees at our enterprise. I have been informed of the purposes of the study and the nature of the research procedures. I have also been given an opportunity to ask questions of the researcher.

As a representative of the enterprise, I am authorized to grant permission to have the researcher recruit research participants from our enterprise. Mrs. Jamila Malti is also permitted to collect research data during working hours/ office hours / at our factory / at our offices.

If you have any questions, please contact me at (area code and phone number).

Sincerely,

<Name of Authorized Representative>

<Official Title>

Appendix D: Interview Protocol

1. I will start the interview by identifying myself and set the respondent at ease.
2. The respondent's reaction often mirrors that of the interviewer. The respondent will know if I am uncertain and nervous. That is why I will be pleasant, positive, and have a well-informed approach.
3. I will use open-ended questions. The goal of qualitative research is to uncover as much about the participants and their situations as possible and yes or no questions stop the interviewee before getting to the "good stuff"
4. I will arrange questions in order from those that are least difficult or contentious to those that are most difficult. The idea is to slowly build confidence and trust with the interviewee.
5. To motivate the respondent, I will use feedback expressions like these: "Thanks, this is the sort of information we are looking for in this research." "it is important to us to get this information." "These details are helpful." "It is useful to get your ideas (your opinion) on this." "I see; that's useful information."
6. Master the probe: I will repeat the question; give an expectant pause (an expectant look or nod of the head); possibly repeat, summarize, or reflect the feeling tone of the reply. Say: "Anything else?" "How do you mean?" "Could you tell me more about it?" "I am not sure I know what you mean by that (bewildered look)." "Could you tell me a little bit more?" However, don't overuse these, or the respondent will think you can't recognize a valid answer.

7. When interviewing, I will make sure to sit in a comfortable spot where you I can record the responses verbatim, take notes and not to make the interview too longue.

Interview introduction:

I want to thank you for taking the time to meet with me today. My name is Jamila Malti and I would like to talk to you about your experience using strategies to greening the supply chain. Participating in the interview should take approximately one hour. With your permission, I will tape the session so I don't exclude any of your comments. Please be sure to speak clearly and loud enough so that your comments can be understood. All responses will be kept confidential. I will ensure that any information included in the report does not identify you as the respondent. Remember, you don't have to discuss anything you don't want to and you may end the interview any time. Do you have any questions about what I have just explained? Are you willing to continue the interview? The digital audio recorder will be turned on and I will begin asking the approved interview questions to the participant.

Interview conclusion:

I will send you a copy to review. Once you have agreed to the accuracy of the information, I will begin my analysis. I would like to thank you for your participation in my study. I will provide you with a summary of the results. A summary of the results will also be provided to the organization. A complete copy of the study will be provided to the organization upon request

Appendix E: Interview Questions

The following are the interview questions:

1. What GSCM strategies are you implementing to improve organizational competitive advantage?
2. How do you use GSCM strategies as a tool for improving competitive advantage?
3. How do you use GSCM strategies to balance between social responsibility, environmental welfare, and economic progress?
4. How do you reduce your industry group percentile (IGP) based on waste productivity?
5. What GSCM strategies help reduce your IGP based on energy productivity?
6. What GSCM strategies help improve your IGP based on sustainability cost?
7. How does the adoption of GSCM affect the enterprise?
8. What additional information can you add that would be valuable to this study?