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Small to Medium Sized Enterprise Sustainability through Green Supply Chain Management

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This is to certify that the doctoral study by

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2017

Abstract

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MBA, Strayer University, 2013

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

Small to medium sized enterprises (SMEs) make up between 95%-99% of private businesses worldwide, employ 60%-70% of the workforce in most countries and generate 33% of the GDP. SMEs account for a high percentage of the world's pollution because of the significant numbers of SMEs, and their accumulative impact. The purpose of this multiple case study was to explore strategies SME supply chain leaders used to implement green supply chain management (GSCM) policies that increase productivity and decrease losses. The origin of GSCM originates from the research of Ayres and Kneese. A purposeful sample of 3 SME construction companies was selected because of their success in creating strategies resulting in increased productivity and decreased financial losses in Summit County, Ohio. Company documents were reviewed and, member checking, artifact analysis, and reflective journaling were utilized to validate the dependability of the findings. Four main themes were identified: (a) onboarding, (b) fiscal management, (c) policy, and (d) infrastructure. The descriptions provided by SME leaders contributed to exploring the phenomenon in an actual setting. The results of this multiple case study may provide strategies leaders can use to increase productivity, minimize losses, and contribute to social change by decreasing hazardous chemicals and employee health problems.

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Dedication

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This effort is a testimony to how God performs miracles. I love you Angelo, my dearest son. To my mother, Gwendolyn L. Bronner who ascended to be with the ancestors but actively remains a part of my life always, I love you, Queen. To my second mother, Ina Butler, thank you for taking becoming the maternal figure I needed so desperately after the passing of my mother, I love you. Thank you, so much Ina, for reminding me of the greatness that thrives in the Bronner family tradition, you helped plant the seed that has grown into a mighty tree. Thank you, Lonnie M. Jones, for helping me when I needed and for being a wonderful brother, I love you. Thank you, Tia T. Brown, for being my beautiful sister, I love you baby. Thank you, Teresa Bronner-Sims and Darletta Rubin for being the big sisters I never had, I love you guys. Thank you, Bryan Glass for being a wonderful cousin to me, I love you. Thank you, Jen Heller, for being a great person who I adore and who has been a role model and my best friend, I love you dearly. To Donnielle Hadden, thank you for being my best friend and love, even though you passed away your support when I needed it still carries on, I will always love you. To Dr. Melvia Scott thank so much for being the air I needed to keep me going when I lagged, and to Dr. D. Hanson, thank you for molding me into a more patient human being and for being the voice I needed to see me through this tough journey, I love you Doc! To anyone I missed, I do apologize but thank you for being a part of my life, God Bless!

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Section 1: Foundation of the Study

The United States model of sustainable business development began in 1980 in response to 200 years of an ongoing corporate management style that emphasized financial gain for shareholders (Adebambo, Ashari, & Nordin, 2014). The sustainable theory originated in 1987 from the World Commission on the Environment and Development (Drexel & Murphy, 2010; Jenkins, n.d.). The sustainable approach was a three-dimensional paradigm that encompassed the stakeholder, ecology, and business values (Alam & Kabir, 2013). Accordingly, sustainability is a primary concern among business leaders (Buchanan, 2013). The reason for conducting this study was to provide strategies to aid business leaders to improve GSCM thereby increasing sustainability in areas such as (a) environmental protection, (b) knowledge sharing, (c) stakeholder engagement, (d) organizational structure, and (e) specific leadership characteristics in new hires.

Background of the Problem

Government regulators, nongovernmental organizations, and stakeholders are holding businesses accountable for environmental abuses. Kim (2010) posited that environmental concerns have resulted in increased pressure on government and business leaders to reduce global impacts caused by the manufacturing of goods and services. According to Sarkar (2013), the impetus for green awareness began with the Kyoto Protocol passed by the United Nations (UN) in December of 1997. Min and Kim (2012) commented that the Kyoto Protocol standards compelled large multinational enterprises (LMNs) to move towards the insertion and commercialization of green technology.

Business leaders must green their supply chains (SCs) to limit their environmental impacts while increasing productivity. GSCM refers to the inclusion of ecological assessment into supply chain management (SCM), incorporating merchandise planning, material location, and assortment, construction methods, distribution of manufactured goods in addition to end-of-life administration of merchandise after its use (Withers & Ebrahimpour, 2013). SME leaders find difficulty in acquiring sustainability and implementing green innovation because of market opposition and insecurity, challenges to improved technology acceptance, budget effects, and supplier resistance to change regarding GSCM (Jesper, Kristin, & Arlbjørn, 2013).

Therefore, some SME leaders are unable to acquire the sustainable benefits of GSCM practice. SCM leaders face extreme challenges integrating GSCM and sustainable applications. Many buyer organizations mandate that vendors include GSCM processes (Hajmohammad, Vachon, Klassen, & Gavronski, 2013). Some stakeholders are primarily concerned with making profits and choose to avoid implementing costly green supply chain (GSC) strategies (Arseculeratne & Yazdanifard, 2014). A business seeking to include GSCM practices must address SC integration and implementation (Biedenweg, Monroe, & Oxarart, 2013).

Problem Statement

SMEs with fewer than 500 employees exert considerable pressure on the environment and are responsible for up to 70% of all industrial pollution (Johnson, 2015). According to the Small Business Administration and the (SBA, 2015), SMEs make up 99.7 % of U.S. companies. The general business problem is that environmentally

destructive SMEs fail to reap the same financial benefits as sustainable large corporations, resulting in decreased productivity and profitability (Ciasullo & Troisi, 2013). The specific business problem is that some SME supply chain leaders lack strategies to implement GSCM to increase productivity and decrease financial losses.

Purpose Statement

The goal of this qualitative multiple case study was to explore strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. The participant population consisted of three SME leaders from three construction companies each in Summit County, Ohio. The study participants had a history of implementing or involvement with GSCM activity. The results of this study could contribute to an increase in green practices by businesses and a reduction of impacts on the environment.

Nature of the Study

The research method for this study was qualitative. In qualitative studies, the researcher examines each participant in a comfortable setting, to gain a deeper understanding of the lived experiences of the participant (Buchanan, 2013). The quantitative method was not appropriate because I was not seeking to determine a cause-and-effect relationship, test a theory, or collect numerical data for analysis. Researchers combine the theoretical features of the qualitative study with the procedural features of a quantitative study to create mixed methods research. Mixed methods research includes both gathering and analyzing quantitative and qualitative data (Johnson, 2015; Leedy &

Ormrod, 2013). Quantitative data was not needed to address the research question for this study. Therefore, the mixed method design was not appropriate for this research.

The multiple exploratory case study design was suitable for this study. Johnson (2015) mentioned that multiple case studies compared the differences and similarities within a population, using multiple sources of evidence Johnson (2015). I considered other types of qualitative designs including phenomenology, ethnography, and narrative inquiry. According to Groenewald (2004), the phenomenology study examines the human experience through the lens of the participant experiencing the phenomenon. The phenomenology design was not the best method for exploring the precise, intricate phenomenon within its real-world context; which was the purpose of this study

According to Lambert, Glacken, and McCarron, (2013), ethnographic researchers consider criteria based on participants and their culture. According to Wells (2011), narrative designs consist of shared stories, documentation, and group conversations as key data sources when making meaning of the events within a phenomenon. Narrative researchers gather statements, group discussions, and documentation as the primary sources of data to construct the meaning of the activities of a phenomenon (Wells, 2011). The narrative design was not the best method to use in this study because narrative researchers investigate small life-long descriptions to locate the principle of the phenomenon.

Research Question

The research question is important because it is the driving force of the study throughout the entire process (Suri, 2011). Qualitative analysis includes a research question which directs the investigation (Denzin & Lincoln, 2011; Suri, 2011). The research question for this study was: what strategies do SME supply chain leaders need to implement GSCM to increase productivity and decrease losses?

Interview Questions

The interview questions are vital components of qualitative case studies. Yin (2014) asserted that the researcher employs listening abilities to adhere to interview protocols. I created each interview question based on the strategies determined during a thorough review of the literature on GSCM:

1. Based on your experience, which GSCM strategies increased productivity and minimized financial losses?
2. Based on your experience, which GSCM strategies did not positively impact productivity and decrease losses?
3. What parties, if any that you know of, helped in developing strategies for GSCM, what were their contributions and how was that helpful?
4. Based on your experience, describe the difficulties in implementing GSCM practices or strategies along the supply chain.
5. How did you convince supply chain leaders, if needed, that going green was in their best interest?

6. Based on your experience, please describe what sustainable strategies leaders of your organization look for when implementing new changes.
7. Based on your experience, describe how your company has benefitted from GSCM.
8. What strategies and tools helped supply chain leaders within your organization, who had difficulty adopting GSCM practices?
9. What other information regarding GSCM strategies would you like to share?

Conceptual Framework

The conceptual framework serves as a lens through which the researcher views the structure of the study (Galea, 2012). Vijayvargy and Agarwal (2014) contended that GSCM is an important tool for mitigating corporate environmental abuse. Ayres and Kneese (1969) reasoned that the problem of ecological destruction would continue until a total economic resource stream equal to the environment becomes available. SBA (2015) reported that 25% of new functioning SMEs in the United States close their doors after 2 years. The SBA mentioned that over half of SMEs closed their doors before they reached the 6-year mark. The cause of the attrition rate, according to the SBA, is inadequate planning and failed performance monitoring. SMEs are in the nucleus of the U.S. national economy. For SMEs to achieve lasting sustainability, they must acquire collective wisdom, systemic learning, and value creation (Bagnoli & Vedovato, 2014). Many SMEs lack the skills necessary to implement innovative strategies because of limited owner and manager abilities, inadequate resources, and a lack of finances and or time. Despite such shortcomings, SMEs continue to enhance large multinational enterprises (LMNs).

Therefore, the influence of SMEs is related to the LMN's ability to develop and reinforce knowledge capital (Csigéné & Nagypál, 2014). In other words, LMNs could be required to assist their SME vendors by furnishing guidance and resources to aid in SC development and innovation. According to Buchannon (2013), a major benefit of employing GSCM is the powerful long-term influence on the economic profitability of a company. Kim and Rhee (2012) mentioned that the implementation of GSCM could limit manufacturing expenses as well as encourage recycling and reuse of raw materials. GSCM helps to reinforce the company's product, name, and status in the marketplace and businesses attract new customers and gain a competitive edge (Buchannon, 2013; Wu, 2013; Kim & Rhee, 2012).

Operational Definitions

Epoche: a practice that researchers use to define the understanding of a specific phenomenon before data collection for mitigating bias (Moustakas, 1994).

Green supply chain management (GSCM): means the inclusion of ecological assessment into SC management, incorporating merchandise planning, material location, and assortment, construction methods, distribution of manufactured goods in addition to end-of-life administration of merchandise after its use (Withers & Ebrahimpour, 2013).

Knowledge capital: Knowledge capital is a collection of knowledge and facts created, learned and employed inside of a value creation activity (Laperche & Liu, 2013).

Open innovation (OI): Open innovation is a model researcher's use to display how a company can and must use both external and internal concepts, along with internal and outer pathways, to promote products or services, while the company seeks

technological advancement. OI merges internal and external concepts into designs and structures whose necessities are part of a business model (Chesbrough, 2006).

Small Business Administration (SBA): The U.S. Small Business Administration (SBA) is an independent organization of the federal government that supports, advocates, helps and shields the well-being of small businesses (SBA, 2014).

Snowball Sampling: a nonprobable sampling method where current research subjects recruit potential study participants from among their associates (Waters, 2015).

Supply chain: A supply chain in this study refers to an integrated complex of resources and progressions accountable for the attainment of raw material, the conversion of such material into transitional and complete goods, and the delivery of the end merchandise to the final consumer (Manuj & Sahin, 2011).

Supply chain management (SCM): Supply chain management is the formation and management of practical, efficient manufacturing and logistics systems, as well as the intra and inter-structural supervision of supply, alteration, and dispensing methods (Kim & Rhee, 2012).

Sustainable supply chain (SSC). A sustainable supply chain refers to the formation and actions related to resourceful and well-organized manufacturing and logistics systems along with the intra and inter-administrative supervision of resource, conversion, and distribution practices (Kim & Rhee, 2012).

Triple bottom line. The triple bottom line refers to the obligation of a business to people, the planet, and the environment (Wilson, 2015).

Assumptions, Limitations, and Delimitations

According to Fisher and Stenner (2011), assumptions and limitations are elements beyond the control of the researcher; assumptions are truths, but not conclusive. Mitchell and Jolley (2010) maintained that limitations are the possible flaws or weak points in the research study. Delimitations represent things that are controllable by the researcher and specify boundaries for research (Mitchell & Jolley, 2010).

Assumptions

Assumptions are events a researcher assumes to be factual, but cannot verify (Buchanon, 2013). The assumptions for this study included: every GSCM within the literature review is interchangeable and applicable to every business sector, every single outcome of GSCM that supports the productive execution of sustainability will lead organizations to attain ongoing lucrative results, participants will offer truthful responses without bias, this study could influence social and organizational change by adding to the success of SMEs and local stakeholders, and data from semistructured interview questions along with documents from participating organizations will be sufficient to address the research question for this study. A final assumption is this study would contribute to the success of SME leaders, their workforce, and U.S. society.

Limitations

Leedy and Ormrod (2013) defined limitations as potential weaknesses that could influence a participant's response. As Leedy and Ormrod argued, limitations can include a study's sample size, time constraints, and geographical location. Additional limitations of this study include that the claim of three companies from the construction industry and

data from other firms could produce different outcomes from those of this study. Any findings from this study, along with improved practices, may not be transferable to other companies.

Delimitations

Delimitations are restrictions that researchers identify to narrow the scope of research (Merriam, 2014). The delimitations for this study included: geographical location of the study that consisted of three SMEs in Ohio, exploring the strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses, the research question, which delimits the study and interview questions; and time, because research performed at a particular interval provides a portrait that is reliant on circumstances that transpire at that moment. The final delimitation was the inclusion of three SMEs with less than 500 employees instead of focusing on large multinational corporations (LMNs) with more than 500 employees.

Significance of the Study

The results of this study will offer GSCM strategies that business leaders can implement as components of a sustainable strategy within their supply chains. The results of this study could add knowledge regarding sustainability or sustainable progress by finding and examining other dynamics that reinforce the successful implementation of sustainable models. This prospective analysis will contain insights helpful to organizational leaders pursuing sustainability methods as an essential part of their continuing stratagem.

Contribution to Business Practice

During 2012, Ohio small business owners employed 926,977 people, which accounted for 98% of all workers (SBA, 2015). Those firms with less than 100 employees employed the largest number of SME workers (Rezaei et al., 2015; SBA, 2015). The implications for business practice include the possibility of assisting SME leaders in exploring the strategies needed to implement GSCM to increase productivity and decrease losses.

Implications for Social Change

The contributions to positive social change that could result from this study include providing sustainable resources to SME leaders and better equipping SMEs for increases in sustainability and profitability. This study should contribute to positive social change in the following ways: offering business owners strategies to include environmental protection in their daily operations, giving business owners the ability to enhance the effectiveness of their activities towards shareholders and the environment, and a reduction in environmental waste, which lowers operating costs and decreases ecological impact. (Hasan & Ali, 2015). According to the Environmental Protection Agency (EPA, 2000), SC managers may also reduce costs by performing a value analysis of resources to decrease the company's total costs, creating cost cutting SC alliances, requiring less or recyclable packaging and changing the associated specification methods. Green initiatives have positive effects on businesses; economic studies have indicated that officials of green businesses reported an increase in patronage and profits (Biedenweg et al., 2013). Social benefits include: less depletion and abuse of the U.S.

environment; corporate social responsibility (CSR); decreased carbon footprint; environmental stewardship (Biedenweg et al., 2013). Business leaders who practice CSR form sound relationships with shareholders, hire dedicated employees, exercise regulatory compliance, and acquire a favorable reputation within their communities (Green et al., 2012).

A Review of the Professional and Academic Literature

Maintaining a balance between financial and ecological concerns has become one of leading issues for organizations confronting competitive, governing, and public pressures (Malviya & Kant, 2015). By showing how GSCM may add value to the overall business performance, managers may examine such aspects to increase profits and market distribution by reducing their ecological risks and impacts, while enhancing ecological competence (Malviya & Kant, 2015). The purpose of this qualitative multiple case study was to explore strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses.

Camacho (2012) linked GSCM to environmental performance and financial performance, which positively affects operational performance. Operational performance improves organizational performance. Myreteg (2015) suggested that the literature review should provide support for the study proposal by incorporating information from an assortment of areas. Guided by the research question, and an exhaustive search, I sought information related to the study topic using various sources including ABI/INFORM, ProQuest Central, Business Source Complete, industry-related case studies, industry-related journals, and peer-reviewed scholarly journals. Database

searches included the following words or phrases: *corporate social responsibility, environmental management, green management, green supply chain, green supply chain management, green sustainability, Industrial Revolution, management theory, organizational culture, small to medium supply chain vendors, supply chain, supply chain history, supply chain issues, and sustainability.* Topics reviewed include supply chain emergence, supply chain evolution, sustainable development, supply chain management, sustainable supply chain management, green supply chain, green supply chain management, and growth of the GSC organization.

The problem statement, the topic of this literature review, and the area of analysis involves the execution of GSCM. Some issues, ideas or models apply to the degree that they line up with the problem found in this study, the intent of such research, along with the research question (Malik, 2015; Myreteg, 2015). The 16 main subject categories in this literature review were: *supply chain evolution, supply chain emergence, sustainable development, supply chain management, innovative supply chain, green innovations in the upstream supply chain, internal supply chain, downstream supply chain, green innovation in organizational performance, environmental performance, operational performance, economic performance, performance measurement in GSCM, green supply chain management, evolution of the GSC organization,* and *SME barriers for GSCM adoption.*

The literature review includes 141 total references, with 118 peer-reviewed articles, and 138 published within five years of the researcher’s anticipated graduation date, which is 92.20% in compliance with Walden's DBA requirements (85% article

publication dates must be within five years of graduation). I examined peer-reviewed articles dating between 1969 and 2015 available in the following databases: (a) Government databases, such as the SBA and the U.S. Census Bureau, (b) Emerald Management Journal, (c) Science Direct, (d) Business Source Complete, (e) Google Scholar, (f) ProQuest, and (g) SAGE Premier (see Table 1).

Table 1

Literature Review Source Content

Literature Review Content	Total #	# Less than 5 years old at graduation date	% Total less than 5 years old at graduation date
Number of Sources in Literature Review	141	138	97.87%
Number of Sources Older Than 5 years old	3		
Number of Sources Less Than 5 years old	138		
Number of Peer Reviewed Sources	130	120	92.20%

Concept development and authentication are vital for the formation of a shared conceptual foundation, specifically when there is ambiguity concerning the definition of GSCM in the literature (Ahi and Searcy, 2013). Studies on the topic of GSCM identify vital the paradigms for each of the main SC stakeholders which include developers, architects, specialists, and providers (Balasubramanian & Shukla, 2017). According to Schmidt, Schaltenbrand, and Foerstl (2017), GSCM research remains scattered and

fragmented which has led to ambiguity in a consensus in GSCM impacts and policies. An import aspect of GSCM strategy is SCM, which is an intricate part of business managerial practice. SCM is vital for establishing inter-functional processes within SME's for establishing networks with key stakeholders (Ghobakhloo, Tang, Zulkifli, & Ariffin, 2013).

SCM literature contains research information on the numerous obstacles relating to GSCM execution, yet not much research has addressed the capabilities for organizations to diminish such obstacles (Rauer & Kaufmann, 2015). This literature review addressed important aspects of GSCM theory and implementation. GSCM has drawn widespread research in business strategy and policy selection (Chin, Tat & Sulaiman 2015; Lee, Kim & Choi 2012; Zhu, Sarkis & Lai, 2012). Researchers have focused primarily on the impacts of GSCM on LMNs with little consideration on how GSCM affects SMEs (Ahi & Searcy, 2015; Mitra & Datta, 2014).

GSCM integration in SMEs is particularly challenging due to a general lack of operative abilities, limited financial capital, lack of recruiting, and low numbers of maintaining skilled workers (Mafini & Muposhi, 2017). SME adversity has contributed to a lack of growth and limited sustainability which decreases the duration of SME longevity (Ahi & Searcy, 2015; Mitra & Datta, 2014). Besides the functional advantages of SC sustainability, GSCM adoption increases organizational opportunities in merchandise improvement and ecopreneurship (Mohanty & Prakash, 2014). The reason for SME GSCM research is the facilitation of ecological impacts and increases in SME financial performance (Mafini & Muposhi, 2017).

GSCM originated from the green advertising model, which improves ecological sustainability and green expansion (Seuring & Gold, 2013). GSCM is a multifaceted strategy recognized by a range of terms including SCM, green construction, closed loop SCs, sustainable SC management (SSCM), environmental SCM, and reverse logistics (Abbasi & Nilsson, 2012; Ahi & Searcy, 2015). GSCM incorporates environmental practices in the SC such as ecofriendly design and production, supply preservation, waste control, recycling, and reusing (Ahi & Searcy, 2015; Golicic & Smith, 2013).

Ahi and Searcy (2013) mentioned that GSCM is an interstructural synchronization of SC strategies that combine ecological and social concerns with the goal of promoting organizational execution. GSCM has grown from an observance standard to a combined inter organizational strategy directed towards increasing ecological safety and organizational output (Zhu, Tian. & Sarkis, 2012). The advantages of greening the SC consist of functional and interactive effectiveness, improved company image, ecological sustainability, and economic output (Lee, Kim, & Choi, 2012; Wisner, Tan & Leong, 2012; Zacharia, Nix, & Lusch, 2009).

GSCM increases functional effectiveness through expense cutbacks, enhanced merchandise value, and quicker production runs (Zhu, Sarkis, & Lai, 2008). GSCM increases SC collaborations by encouraging trust, transparency, and joint teamwork between SC vendors (Zacharia et al. 2009). The total advantages of GSCM include environmental sustainability and economic output (Chin et al., 2015). Also, Urban and Naidoo (2012) stated that vital SME advantages that stem from GSCM policies include reduced manufacturing fees, faster order sequences and lead times. Increased market

growth, merchandise value, and superior company image. Consequently, GSCM has resulted in becoming a vital strategy that enhances organizations in several aspects.

The purpose of this qualitative multiple case study was to explore what strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. The role of businesses across all industry sectors is central to achieving the goals of sustainable development. Companies whose leaders adopt stakeholder-focused techniques such as corporate environmental reporting, environmental auditing, and life cycle analysis could benefit from a market for environmental products and services estimated at $300 billion (Baumann-Pauly, Wickert, Spence, & Scherer, 2013; Pollach, 2014). Scholars create a case for their analysis by performing a literature review that expands present knowledge to identify current gaps (Costen et al., 2014; Malik, 2015; Myreteg, 2015).

The literature review includes the scrutiny of educational information and ancillary sources related to the primary research question (Camacho, 2012). Another reason for examining relevant literature is to locate chief concerns linked to the phenomenon of interest and to build a foundation that justifies the need for research. Furthermore, the review of the literature on GSCM strategy with SC vendors also focuses on opposing viewpoints regarding this research topic.

The goal of reviewing the literature includes a focus on conflicting views of this study's topic and research question. The focus on GSCM and its effect on LMNs and SMEs can become the subject of public inquiry (Costen et al., 2014). Raymond, St-Pierre, Uwizeyemungu, and Dinh, (2014) mentioned that factors exist that differentiate

SMEs from LMNs. For example, SME leaders have unique approaches to marketing, limited resources, and specific information. Also, guidelines and procedures set forth by the U. S. government facilitate GSCM dissemination from LMNs to SMEs (Buckley & Prashantham, 2016; Sivaprakasam, Selladurai, & Sasikumar, 2015).

According to Sarkar (2013), the concept of going green relates to counteracting the harmful effects of environmental pollution and the reduction of greenhouse gas (GHG) emissions, which stem principally from fossil fuel and energy demanding industrial jobs and anthropogenic activity. For example, burning fossil fuel is a human activity that releases carbon dioxide into the atmosphere. Second, Sarkar mentioned that the goal was to increase financial returns from the environment through mutual collaborations between several areas of the company, and external collaborations among members up and down the supply chain. Such exchanges could occur during the following activities: merchandise construction, substantive collection, production, trades (exchange, sales), and commodity recovery. The result from these types of collaborations is corporate sustainability (Bogue, 2014; Hahn, Pinkse, Preuss, & Figge, 2015; Post, Rahman, & McQuillen, 2015; Roxas & Chadee, 2012).

The traditional meaning of sustainability implies that a company can use its reserves more resourcefully, thus creating a reduction in rubbish, expenses, and emissions (Luthra, Garg, & Haleem, 2014; Roxas & Chadee, 2012). Ciasullo and Troisi, (2013) contended that sustainability creates a reduction in environmental harm and increases the quality of human life. According to Luthra et al. (2014), growing demand exists for products derived from recycled products and results in increased value and environmental

protection. Luthra et al. (2014) also asserted that the primary goal of a sustainable supply chain is to move from expertise and goods that harmfully affect the ecosystem to those embracing eco-friendly values. This study involved discussions on TQM, JIT and Lean Six Sigma as the precursors GSCM. This study also included steps for incorporating sustainability into SMEs in the same manner as their larger business counterparts.

This study involved three SMEs within the state of Ohio, with three participants who were managers and higher with experience in sustainable implementation. I used a descriptive case study approach. For the literature review, SME supply chain partners refer to vendors, suppliers, merchants, or members of the supply chain. Camacho (2012) and Wu (2013) speculated that the main reason vendors experience dilemmas is a lack of human capital.

Supply chain progress evolves with business-related trade and exchange (Patel, Azadegan, & Ellram, 2013). The literature review included discussions regarding the research question by examining the proficiencies SME supply chain partners required for lasting business sustainability and contribution to the development of GSCM (Hahn et al., 2015; Patel, Azadegan, & Ellram, 2013; Olson & Swenseth, 2014). Historical perceptions of GSCM production timelines include supply chain adjustments that shift because of changing market circumstances (Costen et al., 2014).

The Green Supply Chain (GSC) is the subsequent move in supply evolution, balancing conservational policies, fiscal policies, and what the community wants with client development (Olson & Swenseth, 2014; Yu, Chavez, Feng, & Wiengarten, 2014). With the advantages of GSCM practice, companies can choose from a plethora of

suppliers and pull enough resources to improve the environmental impacts of supply chain actions (Sivaprakasam et al., 2015). In the long run, companies may profit from the promotion of dependable and suitable criteria found in GSCM practice execution (Withers & Ebrahimpour, 2013).

The purpose of this qualitative multiple case study was to identify and explore the strategies business SME leaders must adopt to achieve long-term sustainable success. An extensive review of the literature from 1969 to 2015 offered an appraisal of current industry trends, financial statements and as a review of related service industry cases studies, which serve as the basis for introducing the practical applications of the knowledge gained from this study.

Since 1990, sustainability emerged as an integral part of a long-term business strategy (Yu et al., 2014). The impact of the 1995 Greenpeace influenced many business leaders to become more accountable for social issues and the accompanying financial risks. (Porter & Kramer, 2006). Business leaders could no longer focus solely on shareholder interests as external stakeholders demanded recognition as well (Wu, 2013). To fully understand the modern supply chain, an analysis of the evolution of the supply begins with the Agrarian Age.

Agrarian Age

According to Alam and Kabir (2013), artisans were among the initial developers of goods needed by consumers. The artisan trade shops contained smaller household orientated businesses, as well as flat hierarchies. Laborers commonly felt a satisfactory level of job fulfillment, regularly interacted with consumers, and actively contributed to

merchandise planning and conclusion (Alam & Kabir, 2013). The salvaging of provisions transpired, which led to an insignificant amount of waste production (Brandenburg & Rebs, 2015). Suppliers included hand picked intimate partnerships with working artisans; the demand for products arose from repeat clients and referrals built on commodity quality and value (Couldes, 2014).

Industrial Revolution

According to Benassi (2016), the Industrial Revolution started the switch from an artisan-centered culture to the industrial age. At this time, the launch of increased capacity manufacturing with the concentrated use of machines and assembly lines required knowledge and skill (Faith et al., 2013). A consistent surge in the national market allowed companies to mass-produce regulated commodities at reduced prices, succeeding in a homogeneous nationwide marketplace where each competitor had entry to comparable reserves and stores (Alam & Kabir, 2013). When the number of products grew, so did public demand (Buchanan, 2013). In contrast, merchandise variety decreased in capacity, emphasizing expense and merchandise attainability (Faith et al., 2013).

Top manufacturers focused attention on economies of scale and productivity, along with reduced operational costs while concentrating on a single market, which brought about the reliance on supply chain merchants (Singh, Olugu, & Fallahpour, 2014; Withers & Ebrahimpour, 2013). Such businesses typically developed organizational infrastructures, including conventional machine-like constructs (Skinner, 1985). Skinner (1985) also mentioned that business leaders usually manufactured similar goods in mass

numbers with slightly small merchandise lineups, long-production sequences, and increased intervals of time needed for the development of manufactured goods.

Business leaders viewed vendors as non-essential members of the business community (Buchanan, 2013). Furthermore, business leaders rallied several vendors to maintain increased competitiveness and small margins (Huang, Tan, & Ding, 2012). Challenged by a fast evolving marketplace, which included client and vendor perceptions, organizations encountered a paradigm shift from industrialized structures that concentrated on increased manufacturing and lowered expenses to post-industrial systems that focused on rapidly producing an assortment of high-grade manufactured goods, with shifting consumer demand (Huang et al., 2012).

Post-Industrial Revolution

As the U.S. budget switched from industrialization to post-industrialization and because of technological advancements in manufacturing, merchandise production increased tremendously (Benassi, 2016). A post-industrial uprising occurred, and enhancements in buyer knowledge accelerated, thus creating a consistent rise in both turmoil and difficulty in the marketplace (Benassi, 2016). The upper classes became wealthier and modernized. Benassi (2016) asserted that customers evolved to be more discerning and challenging while pursuing lower prices, improved value, increased accessibility, and more merchandise selection. The supply chain became a necessary means to accommodate consumer product development (Sarkar, 2012).

Modifications compelled corporations to alter business methods to adjust to market turbulence, short lifecycles, and product variation (Claub, 2012; Theyel &

Hofmann, 2012). The market consisted of small sectors and constant fluctuations because of developing economic uncertainty (Mowery, 2015). New merchandise advanced at rapid speeds, along with relatively brief life cycles. As a way of increasing strength, leading organizations concentrated on expanding their consumer base by looking for an increasingly wider range of merchandise (Crema, Verbano, & Venturini, 2014). The search also included shorter production sequences and reasonably fast turnovers over time (Galpin & Whittington, 2012). In other words, consumer demand influenced supply chain development, where the supply chain developed to remain a viable entity and business leaders relied on it to stay sustainable. Consumer demand significantly affects supply chain activity; research demonstrated that consumers preferred to purchase goods and services from green companies (Li, Jayaraman, Paulraj, & Shang, 2016). The supply chain had shifted from being a cost center to a profit driver.

Newer efficient, responsive, and mixed supply chains began to surface (Galpin & Whittington, 2012; Mowery, 2015). As a way of accommodating the increases in complexity, lean time production processes surfaced, which allowed businesses that had access to technology to dispose of waste products, with faster speed and enhanced flexibility. Lean-time production methods established the basis for the adaptable receptivity, value, and consumer demand modification (Costen et al., 2014; Seth, Seth, & Dhariwal, 2017). Economies of scale (EOS) fell to second place (Seth et al., 2017).

However, the literature review indicates that complete supply chain integration along with its implementation in sustainable industries remains undervalued (Hall, Matos, & Silvestre, 2012; Jesper et al., 2013; Luthra et al., 2014). The goal of supply chain

management is to increase the total value produced instead of profit production (Amann, Roehrich, Ebig, & Harland, 2014; Ciasullo & Troisi, 2013; Cosimato & Troisi, 2015; Wolf, 2014). The significance of supply chain associations is vital and recognized, but a sustainable implementation is elusive (Digalwar, Tagalpallewar, & Sunnapwar, 2013; DiPietro, Cao, & Partlow, 2013).

Supply Chain Emergence

Various kinds of supply chains surfaced that corresponded to customer pressures, market needs, and technological developments and included standard, lean, agile, hybrid, and, green strategies (Roehrich et al., 2017). The product life cycle fell into six phases (Costen, 2014; Faith et al., 2014; Roehrich et al., 2017). According to Roehrich et al. (2017), in the first stage *cradle* includes design and inception as well as the procurement of essential resources and overall plant operation for construction. The next stage is the *introduction*, where the accommodation of either a new product, such as an innovative product or the existence of a need, such as the revision of a standard product, exist. (Roehrich et al., 2017). Roehrich et al. suggested that the *growth stage* is where the adjustment and modification of original merchandise.

Roehrich et al. (2017) described the next stage, *maturity*, as compelling the development of merchandise, the reflection of higher demand and increased customer approval resulting in enhanced market share. During the *maturity* stage, rivals attempted to copy innovative merchandise (Claus, 2012; Roehrich et al., 2017). The *maturity* stage progressed to a point where merchandise maturity transpired, and where rivals imitated the initiator's goods with likenesses at a cheaper rate (Roehrich et al., 2017).

The next supply chain stage is the *decline*, characterized by a reduction in demand, along with reduced sales and margins (Claus, 2012; Roehrich et al., 2017). The researchers mentioned that when the influx of innovative substitute merchandise enters the marketplace buying slows down (Roehrich et al., 2017). The final phase is known as the *grave* stage (Roehrich et al., 2017). According to Costen (2014), a variety of coinciding matters exist, such as merchandise and utilization/reprocessing, waste flows, and proper accountabilities. These issues are in addition to the possible sanctions for disposal.

During the *grave* stage, supply chain development merchandise reflected a steady demand for consumers. The *grave* stage also had slower variations in design features and ongoing merchandise necessities, where acquisitions are periodic and non-constant (Faith et al., 2014; Shin-Tien, & Bao-Guang, 2013). Throughout the *grave* stage, merchandise ranged from the creation of a single article too small electrical equipment; such merchandise leaned towards the later stage of the evolution period of the product life cycle (Faith et al., 2014).

Merchandise innovation resulted from volatile planning, shifting consumer demands, reflecting new/spinoff merchandise, and necessitating ongoing client interaction at every level of the product life cycle (Couldes, 2014; Roehrich et al., 2017). The green merchandise grew complicated because green merchandise required a hybrid foundation to reach economy of scale and scope while becoming ecologically compliant approved (Roehrich et al., 2017). A detriment to SME growth is that they may lack the

technology necessary to develop a hybrid foundation because of limited means and abilities (Vijayvargy & Agarwal, 2014).

Standard Supply Chain

Supply chains advanced as business leaders discovered that they could not secure the necessary materials for developing and transporting merchandise (Roehrich et al., 2017). Before 1914, the field of supply chain management (SCM) amounted to little more than an accounting process (Roehrich et al., 2017). The first supply chains were basic; the intent was to manufacture what customers wanted with minimal concern for flexibility or upkeep of resources (Faith et al., 2014; Roehrich et al., 2017).

The initial evolution of recognized supply chain value passed through academic circles in 1917 after Harvard University created several courses involving supply management (Claub, 2012; Roehrich et al., 2017). In 1933, Howard T. Lewis wrote the first university textbook on supply chain management (Claub, 2012; Roehrich et al., 2017). This development changed the supply chain's stature within companies, where there was a sudden need for advanced procurement, logistical analysis, and SCM (Claub, 2012). The developmental period continued past World War II and increased because the supply chains increased strategic processes. According to Couldes (2014), just-in-time (JIT) is an inventory approach companies use to improve efficiency and lower waste by obtaining only merchandise required during the production process, hence reducing inventory. Inventory control methods along with leaps in technology allowed for leaner SC processes and decreased operational costs (Zhai, Zhong, Li, & Huang, 2017). Along

with vendor value, effectiveness, and trustworthiness, such developments prompted the inclusion of SCM into the organization's business strategy (Couldes, 2014).

This progress, in sequence, required increased expertise in areas such as strategic sourcing, and supplier network supervision. Nevertheless, growth remained within the firms that produced merchandise, where the field of SCM had yet to become an authentic field of study (Couldes, 2014). In the 1990s, the supply chain entered into a new paradigm known as globalization. Countries such as China and India became economic forces, the international struggle for reserves climbed sharply, and the fee for raw materials began to rise and fall intensely (Roehrich et al., 2017). Because of a lack of knowledge and resources, supply chains become ill equipped to keep up with the fluctuating demands of their LMN counterparts (Wu, 2013). Because of pressure from the U.S. government and nongovernment organizations (NGO), many LMNs began mandating that SME vendors adopt GSCM strategies that limit their environmental impacts (Hall, Matos, & Silvestre, 2012).

SCM leaders faced extreme challenges integrating GSCM and sustainable applications; as a result, uniform proficiency rarely occurred in practice (Amann et al., 2014; Arseculeratne & Yazdanifard, 2014; Beske & Seuring, 2014). According to Alam and Kabir (2013), some of the issues for SCMs involve stakeholder interest. Some stakeholders were primarily concerned with making profits and chose to avoid implementing costly GSC strategies (Arseculeratne & Yazdanifard, 2014; Walker & Jones, 2012). By contrast, Beske and Seuring (2014) asserted that stakeholder relationships could benefit the SCM if the stakeholder supports environmental safety.

Firms could also profit from the use of procurement software as a means of reducing paper waste and increasing buyer tracking. However, a concern is that employees could stop using the software during difficult workplace changes (Beske & Seuring, 2014). Employee resentment to change could also hinder the adoption of GSCM (Biedenweg et al., 2013).

Lean Supply Chain

The foundation of the lean supply chain (LSC) exhibited a push for continuous enhancement, removal of waste, and insignificant stages down the supply chain (Roehrich et al., 2017; Olson & Swenseth, 2014). Typically, inner efficiencies developed with decreases in manufacturing time and more efficient inventory control management systems (Costen, 2014). The LSC was enhanced by using advanced software which resulted in increased transparency, real time inventory, and data collection; improvements in LSCs also resulted in superior management decisions, and offered seamless communication from raw material collections to the end user (Costen, 2014; Faith et al., 2014; Roehrich et al., 2017).

Then again, lean supply chains could be excessively fragile, and unable to tolerate unexpected problems, as in the case of a JIT system, if one link in the chain breaks, the entire production system stops (Couldes, 2014; Green, Zelbst, Meacham, & Bhadauria, 2012). Other problems with the JIT system include a greater risk of stock depletion, increased dependency on supplier availability, and excessive supply planning (Zhai, Zhong, Li, & Huang, 2017). The LSC processed standard merchandise at every stage during the product life cycle, while innovative merchandise appeared during the

maturation and declining stages (Roehrich et al., 2017). The reuse of merchandise elements during the *grave* stage focused on revenue possibilities and waste control (Costen, 2014).

Many SME companies are mandating that their SME vendors adopt GSCM strategies that limit their environmental impacts (Hall, Matos, & Silvestre, 2012). LMNs have more resources than smaller enterprises and can carry out innovative activities (Malviya & Kant, 2015). Huang and Yu (2011) found empirical evidence which indicated that ecological collaborations could lead to innovation by using specific materials and information procurement. Ecological collaborations refer to the practice in which company leaders unite for a shared environmental objective (Huang & Yu, 2011).

In the SC setting, stakeholders consist of merchants, builders, vendors, opposing sellers, government and nongovernment regulators, and consumers (Ahi & Searcy, 2015). The addition of opposing sellers is no surprise because collaborations may involve partnerships with entities that companies may not usually cooperate with (Findik & Beyhanb 2015). The motivation for ecological collaborations is that each member needs the other and that they must operate in alliance to mutually benefit (Un, Cuervo-Cazurra, & Asakawa, 2010). Mafini and Muposhi (2017) mentioned that the search for creative resolutions to business problems, instead of compromising is the added reason for forming collaborations (Mafini & Muposhi, 2017). In other words, successful SME SCs rely on networking with other organizations that contribute and benefit by its undertakings (Huang & Yu, 2011; Mafini & Muposhi, 2017). As a result, ecological collaborations have become vital to the continuing success of SMEs.

In the SCM setting, the ongoing advantages of GSCM rely on the dedication and support of SC members such as vendors, builders, merchants, sellers, and consumers (Mafini & Muposhi, 2017). Networking is key to GSCM because the degree of reliance among SC participants whereby the production of a member affects another (Mafini & Muposhi, 2017).

SC collaboration includes functional practices such as merchandise planning, innovation, purchasing combined preparation, allocation sharing, disseminating merchandise specifications, communicating effective methods, reducing expenses and sharing strategic feedback (Gunasekaran, Subramanian, & Rahman, 2015; Mafini & Muposhi, 2017; Sarkis et al., 2011). The persistent addition of SC methodology is the trademark of GSCM adoption (Zhu, Geng, & Lai, 2010). The productive employment of GSCM is contingent upon a productive joint effort, dedication, objectivity in arbitration, and the shared trust among SC members (Sarkis et al., 2011). The continuous stream of intelligence within a GSC forms functional proficiencies and networks that reduce the hazards and ambiguities of the operational environment (Ruan, Ochieng, Price, & Egbu, 2012). Despite such collaborations and proper resources, the realization of GSCM remains a distant pursuit for many organizations (Alam & Kabir, 2013). GSCM integration concerns many processes and must address a lack of appropriate resources (Beske & Seuring, 2014; Bocken et al., 2013). A business seeking to include GSCM practices must address supply chain integration and implementation (Biedenweg et al., 2013; Costen et al., 2014)

Agile Supply Chain

Agility is important when sudden and unanticipated disruptions occur to the upstream and downstream partners in the supply chain (Costen, 2014). Organizations with agile supply chains can address the fluctuations in supply and demand (Roehrich et al., 2017), echoing the line between businesses and markets, and representing the outdoor viewpoint on flexibility (Perotti, Zorzini, Cagno, & Guido, 2012). The primary focus was on reacting to unpredictable market changes and profiting from them using quick delivery, lead-time flexibility, applying new devices, and expertise to undertake unexpected problems (Hasan & Azman, 2015).

Hybrid Supply Chain

The hybrid supply chain is a representation of both the agile supply chain and the LSC (Roehrich et al., 2017). The hybrid supply chain works as a go-between illustrating the wisdom of made-to-purchase merchandise and delivery with near-expert precision (Roehrich et al., 2017). In this type of assembly, fabrication variation slows until final construction, and by doing so, costs are reduced (Costen, 2014). Hybrid merchandise develops in the hybrid supply chain during the command/purchasing stages based on product complexity. Recycling is an important part of GSCM because recycling can lead to less waste or remanufacturing, and offers more profit potential (Green et al., 2012).

To integrate sustainable goods, the GSC advanced and retained the hybrid supply chain design (Costen, 2014). The GSC also included additional conditions such as ecological conformity during the life of the merchandise from start to finish (Hall, Matos, & Silvestre, 2012). In other words, during the entire life cycle of a product from raw

material procurement until the after the product's useful life span, SC activity must conform to environmental sustainability standards set by the government and nongovernment agencies (Lake, Acquaye, Genovese, Kumar, & Koh, 2015).Societies critical response to 200 years of profiteering by large multinational enterprises (LMNs) without concern for the environment eventually led to an awareness of the destructive impact on global natural resources (Roehrich et al., 2017). The leaders of LMNs accepted the responsibility of their supply chain activities and assumed sustainable measures to minimize the destruction of the environment (Perotti et al., 2012).

Businesses depend on an environment where they can always adapt to outside change forces (Perotti et al., 2012). In 1977, Cook reasoned that dependence occurs between trade associates. Because of these relationships, each cohort impacts the other company processes and ultimately, business performance (Zhu, Sarkis, & Lai, 2012). From a resource dependency viewpoint, SMEs are nearly 40% less efficient than same industry LMNs (IEA, 2015; Zhu et al., 2012). Some SME leaders tend to depend on outside resources to help create a competitive outcome (Verma, 2014). Many SMEs do not carry out GSCM practices in the same manner as LMNs (Malviya & Kant, 2015). Because of limited resources some SME leaders suffer from an absence of IT application, organizational inspiration, value in human resources (HR), use of green practices, management sponsorship systems, and upper management commitment (Green et al., 2012; Hajmohammad et al., 2013; Hall et al., 2012). Therefore, some SME leaders are unable to acquire the sustainable benefits of GSCM practice (Hajmohammad et al., 2013).

Conversely, because some LMNs incorporate environmental auditing systems as a means of increasing control of supply chains companies, sustainable SMEs can maintain and extend business agreements (Kim & Rhee, 2012). In effect, SME vendors could find difficulty in acquiring new business prospects while lacking GSCM capabilities (Kim & Rhee, 2012). Based on the concept of resource dependency, owners of businesses strive to reduce ambiguity and mitigate such dependency by intentionally organizing trade relationships (Kim & Rhee, 2012).

Businesses also develop conventional and semi-conventional relationships with outside organizations. Such strategies are what SME supply chain leaders require for lasting sustainability (Zhu et al., 2012). Four advantages of conventional relationships with outside organizations include the ability to provide vital information concerning the actions of that firm which could encourage the LMN, deliver a mode of communication for consulting, suggest a vital gateway to obtain assurances of backing from significant environmental components, and create a definite value for legitimizing the LMN (Patanakul,& Shenhar, 2012; Piorkowski, Gao, Evans, & Martin, 2013; Roxas & Chadee, 2012).

The above-listed strategies are vital to the survival of SME vendors. Whereas LMNs rarely report difficulties employing GSCM practices, SME leaders find difficulty in acquiring sustainability and implementing green innovation because of (a) market opposition and insecurity, challenges to improved technology acceptance, budget effects, and supplier resistance to change regarding GSCM (Jesper, Kristin, & Arlbjørn, 2013). Therefore, many SMEs remain unable to acquire the sustainable benefits of GSCM

(Hajmohammad et al., 2013). As identified in the conceptual framework, and the research question, adequate resources must become available to SME SC leaders so that they can initiate GSCM strategies that will minimize harmful impacts on the environment and increase financial gains (Hajmohammad et al., 2013; (Jesper et al., 2013).

Sustainable Development

In the United States, the model of sustainable development began in the 1980s as a reaction to 200 years of an ongoing corporate management style that emphasized financial gain for shareholders. The sustainable theory originated in 1987 by the World Commission on Environment and Development (WCED) (Jenkins, n.d.) At this point, sustainable theory surfaced as a three-dimensional paradigm that encompassed the stakeholder, ecology, and business values (Alam & Kabir, 2013). According to Luthra et al. (2014), sustainability refers to financial growth that meets the requirements of the current generation without interfering with the capacity of upcoming generations to survive. Sustainability as a strategy remains a primary concern among business leaders (Buchanan, 2013).

Supply Chain Management

In 1982, Keith Oliver created the term consultant in 1982 and presented the term supply chain management (SCM) during an interview with the Financial Times (Huang et al., 2012). SCM practices help to organize and manage intricate systems and actions related to the release of completed merchandise to the consumer (Kim & Rhee, 2012). The term SCM also has a variety of meanings for different researchers. Cohen, Naoum, and Vlismas (2014) mentioned that despite a general regard for the term SCM, there

persists substantial uncertainty regarding its implication. The SC is an organized, tactical bringing together of routine tasks, and the plans throughout functions inside a business, and across to retailers in the supply chain (Cosimato & Troisi, 2015). SCM involves both the value chain and the SC. A value chain is a model used to describe a process where businesses add maximum value to raw materials at various points during product development, marketing, and after its useful life, whereas a supply chain is a series of activities used during product manufacturing and distribution (Guodong, Fei, & Yu, 2017). The reason is to enhance the continuing functioning of the firms, value chain, and the supply chain as a unit (Ageron, Gunasekaran, & Spalanzani, 2013).

GSCM enhances value chain and SC sustainable processes by minimizing waste and natural resource usage (Guodong et al., 2017). An organization's value chain and SC arrangement consist of outside suppliers, inside aspects of the organization, and outside distribution to consumers (Amann, Roehrich, Esig, & Harland, 2014). O'Dwyer, Gilmore, & Carson (2011) found that the main success factors for strategic alliances include an applicable value chain and shareholders who make similar offerings in relevant areas.

Several areas led to productive supply chain management. These areas included consumer expectations, globalization, governing laws, free market competition, and the natural environment (Kim & Rhee, 2012). Several research studies aimed at the theme of environmental sustainability as a background for examining management systems from an operative and tactical perspective (Sharma et al., 2012). As part of the need to gain an understanding of GSCM, research studies transpired across several contexts including

merchandise proposal, method strategy, production procedures, and procuring (Kim & Rhee, 2012).

Under a sustainable effort, researchers have examined the impact of the green methodology on supply chains. LMNs rarely reported difficulties employing GSCM practices, where SMEs leaders reported difficulty acquiring sustainability and implementing green innovation (Hajmohammad et al., 2013). Inspired by a green outlook, GSCM could originate from motivation based on competition from within the organization. According to Beske and Seuring (2014), the traditional supply chain purpose was to transform raw material into a finished product and then transport the finished product to customers (Mathiyazhagan, Govindan, NoorulHaq, & Geng, 2013). Additionally, with the steady supply chain flow, there were those who focused on the uncertain significance of SCM (Beske, & Seuring, 2014; Bocken, Short, Rana, & Evans, 2013). In other words, because businesses failed to reach an overall consensus on how sustainability develops through SCM, the value of GSCM failed to emerge.

SCM leaders face challenges when integrating supply chain restrictive policies with the complete corporate business strategy. Therefore, uniform proficiency rarely occurs in practice (Amann et al., 2014; Arseculeratne & Yazdanifard, 2014; Beske & Seuring, 2014). The majority of GSCM dilemmas originated from doubts or a failure to organize various undertakings and partners. At the same time, consumers became more educated and intuitive resulting in increased demands for higher quality merchandise, service, and less expensive products (Arseculeratne & Yazdanifard, 2014; Beske & Seuring, 2014).

The uncertain significance consisted of placing importance on market requirements, confidence development, merchandise creation, vendor base cut back, tactical placement influence, and operational productivity enhancement (Boiral, Baron, & Gunnlaugson, 2014; Bonneveux, Calmé, & Soparnot, 2012). Environmental issues were at the forefront, and business leaders and LMNs were on the cutting edge for supporting the idea of GSCM being the motivation of many research studies (Beske & Seuring, 2014; Bocken et al., 2013; Chen et al., 2012). The result is that SMEs captured the interest of scholars across the world because of the study of GSCM improvement (Beske & Seuring, 2014; Bocken et al., 2013; Chen et al., 2012; Ciasullo & Troisi, 2013).

Nevertheless, because of an assortment of limitations, SMEs encountered increased difficulty in adopting GSCM policies successfully. Cohen et al. singled out the challenges SME leaders face when attempting to address implementation, including (a) environmental matters, (b) limited resources, (c) duration, (d) finances, (e) skills, and (f) information. Strategies that enhance SC effectiveness include Radio frequency identification (RFID), ISO 140001, and life cycle analysis (LCA),

Radio Frequency Identification

Radio frequency identification (RFID) is an innovative technological tool that provides real time automated visibility to SC networks (Leung, Cheung, & Chu, 2014; Turri, Smith, & Kopp, 2017). RFID works by providing a tracking and identification system for products by inserting a wireless frequency transponder and microchip on the article (Leung et al., 2014). When the item makes contact with a reader, wireless transmitters automatically send signals and exchange identifying data; RIFD allows

organizations to track, secure, and manage products along the total life cycle while enhancing SC productivity and visibility (Leung et al., 2014; Turri et al., 2017). RFID technology is limited in distribution primarily because of the lack of guidelines, confidentiality and security problems, high expenditures, and uncertain value are the major obstacles; companies should evaluate RFID technology and equate its use with their business strategies before adopting it (Leung et al., 2014; Turri et al., 2017). RFID technology aids businesses by securely tracking the location of resources, deliveries, and supplies (Leung et al., 2014). LMNs should assist their SME SC vendors by furnishing guidance and resources to aid in SC development and acquiring innovative technology (Csigéné & Nagypál, 2014).

ISO 14001

ISO 14001 is an innovative process that incorporates specific prerequisites organizations can use to enhance environmental management systems (EMS) and increase ecological performance (Islam, Zahurul, & Zunder, 2014). ISO 14001 benefits businesses that seek to manage their environmental impacts in an organized approach that adds to supporting ecological sustainability (Islam et al., 2014). According to Rishi, Jauhari, and Joshi (2015), ISO 14001 helps businesses reach the environmental objectives of their EMS, which limits their environmental impacts and provides value for businesses and stakeholders. The aims of EMS include improvements in environmental operations, fulfillment of regulatory requirements, and achievement of ecological intentions (Islam et al., 2014; Rishi et al., 2015). Rishi et al. (2015) mentioned that ISO 14001 is effective for organizations of any size, kind, or makeup when monitoring the ecological impact of

merchandise and services. Businesses can implement ISO 140001 in its entirety or partially as a systematic enhancement to its EMS, but total ISO 14001 compliance is not achievable unless a company implements all ISO 14001 mandates (Islam et al., 2014; Rishi et al., 2015). LMNs should assist their SME SC vendors by furnishing guidance and resources to aid in SC development and acquiring innovative technology (Csigéné & Nagypál, 2014).

Life Cycle Analysis

The life cycle analysis model (LCA) highlights the close relationship between LCA and GSCM (Li, 2011). According to the U.S. EPA (2013), LCA impacts SCs from the areas of production, processes, or services by accumulating an account of pertinent energy and material contributions and environmental emissions, assessing the probable ecological impacts related to acknowledged contributions and emissions, and translating the outcomes to assistance SCs in making educated decisions that diminish adverse impacts throughout the lifespan of the product. The central feature of the LCA is the valuation format used to score different emission stressors and statistical confidence values for crucial phases inside of a company's SC consisting of raw material procurement, construction, usage, delivery, and discarding (El-Akruti, Zhang, & Dwight, 2016). Li (2011) mentioned that charts provide outputs of LCA progression and vividly denote the significance of the ecological influences down the SC, LCA analysis also compares various products, but application between SC vendors may result in uncertainty, and scoring could be biased (El-Akruti et al., 2016).

According to Li (2011), there are no precise metrics for GSCM performance analysis, but GSCM performance is more effective when combined with other performance indicators, and, the effective implementation of such tools depends on the overall cooperation among organization members and seamless access to data and instruction for LCA implementation. The ability to innovate requires technological expertise, and many SME supply chain members lack the technical competency of LMNs, leaving those SMEs unable to include green innovation in the same manner as LMNs (Roxas & Chadee, 2012). Businesses should assist their SME SC vendors by furnishing guidance and resources to aid in SC development and acquiring innovative technology (Csigéné & Nagypál, 2014).

Amann et al. (2014) described SCM as a series of methods used to adapt suppliers, builders, stock rooms, and retailers to ensure that the distribution of goods occurs in the correct amounts. The products included distribution to sites, also at the right stage to reduce organizational costs while fulfilling the consumer-level obligation (Amann et al., 2014; Beske & Seuring, 2014). SCM takes into account the total network from suppliers, builders, stock rooms, wholesalers, merchants, retailers to patrons, providers of vendors, and clienteles of clients (Amann et al., 2014).

The function of the supply chain is to reduce total firm expenses while pleasing consumers and reducing other costs, such as supply fees (essential resources and finished merchandises) and transport charges (interior and exterior) (Tollin & Vej, 2012). According to Soni and Kodali (2016), a primary instrument for enabling the progress of SCM is a consumer-focused vision that pushes transformation throughout an

organization's inner and outer relationships. SCM has three aims: moving the correct merchandise to the proper location at the slightest rate, retaining the lowest supply possible while maintaining the best customer service, and decreasing cycle time (Xie & Breen, 2012). While progressing over a substantial period, SCM leaders garnered an increased focus on minimizing costs. A tremendous amount of scientific inquiry on SCM exists based on the perspective of operational research, recycling, optimization, and administration. Pertinent supply chain issues have varied historically because of deliberate buying, supply chains, logistics adaptation, and supply system organization (Bonneveux et al., 2012).

The supply chain system begins with raw materials and finalizes with the delivery of merchandises to consumers. Hsu, Tan, Zailani, and Jayaraman (2013) categorized three levels of supply chain complexity direct supply chain, extended supply chain, and ultimate supply chain. The direct supply chain is at the primary level and involves the company, as well as the upstream providers, and the downstream consumers.

Suppliers of the intermediary providers are upstream, where clienteles of intermediary clients are in the downstream. The optimal supply chain includes every organization implicated in both upstream and downstream activities (Hsu, 2013). Additional resources enrich the successful supply chain including outside logistics suppliers, financial contributors, and market investigation companies. Vijayvargy and Agarwal (2014) asserted that the short-term goal of supply chain management is to boost output and shorten stock and rotation periods, where the long-term objective is to

advance process proficiency including targets for every member to expand consumer approval, marketplace segment, and returns.

LMNs are liable for their activities outside of their margins, and cultivating the significance of overseeing their supply chains, especially in developing economies (Acosta, Acquier, & Delbard 2014). Some SMEs, in acquiring sustainability and implementing green innovation face unique challenges while integrating supply chain policies with the complete corporate business strategy (Amann et al., 2014; Arseculeratne & Yazdanifard, 2014; Beske & Seuring, 2014). The majority of GSCM dilemmas originate from doubts or the failure to organize various undertakings and partners. At the same time, consumers are more educated and intuitive, resulting in increased demands for higher quality merchandise, service, and less expensive products (Zhu, Sarkis, & Lai, 2012a).

From a supply company's viewpoint, such a state of affairs could result in possible economic impacts. Countless buyer companies have mandated that vendors include GSCM processes along with other sustainable implementations (Hall et al., 2012). Conversely, because LMN's incorporate environmental auditing systems as a means of increasing control of supply chain companies, sustainable SMEs could maintain and extend business agreements (Kim & Rhee, 2012). In effect, some SME suppliers find difficulty in acquiring new business prospects while lacking GSCM (Kim & Rhee, 2012).

The ability of SME suppliers to contribute to and take part in environmental initiatives such as GSCM has been the subject of critical discussion (Mitra & Datta, 2014). The failed impact of many SME suppliers occurred because of a lack of disclosure

driven by the vendor's approach toward sustainable processes. Mitra and Datta (2014) also mentioned that the negative impact towards many SME suppliers occurred because of a lack of structure, skill, resources, and communication. The results led to increased difficulty in gauging and conveying a sustainable phenomenon. Otherwise, greening the supply chain leads to survivability, improved outcome and less environmental waste (Mitra & Datta, 2014).

Srivastava (2007) assembled an abundance of articles and findings linked to going green and the sustainable supply chain (Kim & Rhee, 2012; Mitra & Datta, 2014; Verma, 2014). Srivastava split the documents into two classes centered on the framework and organizing systems (Kim & Rhee, 2012; Mitra & Datta, 2014; Verma, 2014). The first class expanded the grouped dilemmas into following three modes (a) the value of GSCM, (b) eco-friendly layout, and (c) eco-friendly function. The second class developed into two forms of approach; experiential analyses and numerical displaying (Kim & Rhee, 2012; Mitra & Datta, 2014; Verma, 2014).

The United States offers a variety of governmental organizations, regulatory parameters, policies, and rules related to toxic waste, raw material, biological waste (U.S. Environmental Protection Agency [EPA], 2013). Each industry has its set of regulations based on the nature of trade and materials necessary for commerce. One of the most powerful and prevalent government bureaus is the Environmental Protection Agency (EPA). The EPA works as a U.S. government entity that protects the environment and the well-being of citizens. One of the EPA's collective responsibilities is to create and make necessary laws concerning the environment ratified by Legislature (U.S. EPA, 2013).

Business leaders who violate EPA mandates are subject to sanctions and penalties (U.S. EPA, 2013).

Many SME vendors are unable to include GSCM practices in the same manner as LMNs because of limited resources, and their susceptibility to EPA penalties (Malviya & Kant, 2015). Because of consumer awareness, financial, ecological, and legislative influences, the requisite for GSCM escalated, and non-sustainable SMEs have failed to reap the same rewards as sustainable large corporations, resulting in decreased profitability (Vijayvargy & Agarwal, 2014). According to the SBA (2015), SMEs make up 95%-99% of private businesses worldwide. If SMEs fail to become sustainable, the lack of GSCM will prove devastating to industries worldwide (Vijayvargy & Agarwal, 2014).

The Innovative Supply Chain

Innovation is not just a strategy for LMNs; change also affects SMEs just as globalization impacts every business regardless of scope, magnitude, or industry. Innovation is the central component of survival, achievement, and the expansion of SMEs (Raravi, Bagodi, & Mench, 2013). SMEs are the core of the modern-day economy, and the chief supplier of employment, prosperity, and economic improvement among other things (Spithoven, Vanhaverbeke, & Roijakkers, 2013). To become innovative, organizations must create knowledge capital, described as a collection of knowledge and facts created, learned, and employed inside of a value creation activity (Laperche & Liu, 2013).

The resources for SME development are inadequate primarily because of fewer resources. Sequentially, the power of SMEs, compared to larger organizations, is that SME leaders rely on skill sets to develop and reinforce knowledge-capital (Laperche & Liu, 2013). SMEs fail at a much higher rate than LMNs (Rezaei et al., 2015; SBA, 2015). According to the Small Business Administration (SBA), a quarter of all new U.S. SMEs goes out of business within a 2-year time span (SBA (2015). The SBA also mentioned that more than half fail inside of 6 years (SBA, 2015). The reason for such failures, according to researchers, is that many SMEs utilize inefficient planning strategies and the inability to measure business performance (Laperche & Liu, 2013).

Companies increasingly rely on external knowledge (Camacho, 2012), and research alliances (Dukic, Stankovic, & Lepojevic, 2015), as an innovative means of creating new goods, expertise, and services. The majority of the previous studies on open innovation (OI) expose the creative habits of LMNs from which the idea of OI originated (Dukic et al., 2015). To remain viable, SMEs must become innovative, but most SMEs lack adequate resources such as IT application, organizational inspiration, value in HR, use of green practices, management sponsorship systems, and upper management commitment (Green et al., 2012; Hajmohammad et al., 2013; Hall et al., 2012). Therefore, many SMEs cannot acquire the sustainable benefits of GSCM practice (Hajmohammad et al., 2013). Many SMEs have a lesser likelihood of conducting research and development than LMNs because of limited resources, knowledge, manpower, and a lack of inclusion into the mainstream economy (Dukic et al., 2015).

In spite of this dilemma, collaborating with outside organizations offers a possible key for SME leaders who wish to become innovative, but lack the required resources or proficiencies. Many SMEs lack networking skills because of limited owner and manager abilities, inadequate resources, and a lack of finances and or time. These shortcomings limit the ability of SMEs to function in the same manner as LMNs (Alam & Kabir, 2013). According to Dukic et al. (2015), empirical research indicated that networks offer massive influence towards innovation because of the use of materials and information attainment. The process of change remains a social practice irrespective of the size of the organization (Dukic et al., 2015). Nevertheless, in spite of the positivity involved with networking and collaborations, partnerships have their limitations.

According to Spithoven et al. (2013) and Theyel and Hofmann (2012), participating in a collaborative partnership offers costs and risks, such as (a) a failure to meet expectations, (b) improper risk analysis, (c) an underestimation of the effort and resources required to complete the collaborative partnership, and (d) misuse or manipulation. Rusly, Corner, and Sun (2012) asserted that each partner should trust the other and refrain from self-centeredness at the expense of their partner. According to Laperche and Liu (2013), no agreement can address all of the potential issues that could arise during a partnership.

SMEs are unique in that they harbor specific traits, where SME leaders use individual decision-making processes that are unlike those of LMNs (Fantazy & Salem, 2016). Both types of organizations address perceived opportunities and threats within their particular environments. Moreover, the strategies that SMEs exploit connect to the

process from which SMEs alter their merchandise and target markets. Therefore, SMEs vary from LMNs in the same industries (Fantazy & Salem, 2016).

The majority of strategy studies focus on particular sectors, because of their ability to have significant power over the situational distinctions that challenge different organizations (Fantazy & Salem, 2016). The capacity to strategize requires knowledge, but many SME supply chain members lack the knowledge competency of LMNs, leaving those SMEs unable to include sustainable processes in the same manner as LMNs (Roxas & Chadee, 2012). SME supply chain membership encourages firms to retain the status quo; such inaction is a significant hurdle for engaging GSCM, not to mention increasing the level of sustainability (Al Zaabi et al., 2013; Muduli, Govindan, Barve, Kannan, & Geng, 2013).

Researchers have focused on the innovative habits of SMEs (Dukic et al., 2015; Laperche and Liu, (2013). They have also studied how innovative systems of SMEs, and their reaped advantages, differ from those of LMNs, who engage in innovation. Many SMEs have difficulty in acquiring sustainability and implementing green innovation. Consequently, SMEs face unique challenges while integrating supply chain restrictive policies with the overall corporate business strategy. Therefore, uniform proficiency rarely occurs in practice (Amann et al., 2014; Arseculeratne & Yazdanifard, 2014; Beske & Seuring, 2014).

Large companies benefit from the majority of green innovation, but the contribution of smaller companies is also significant (Arseculeratne & Yazdanifard, 2014; Beske & Seuring, 2014). Moreover, the segment of smaller companies involved in

research and development expenses expanded from 4.4% in 1981 to 24.1% in 2005 (National Science Foundation [NSF], 2006). Few studies exist that address open innovation (OI) strategies within SMEs and how SMEs fair compared to LMNs (Spithoven, Vanhaverbeke, & Roijakkers, 2013).

Dividing SMEs from LMNs is important to highlight specific obstacles SMEs encounter while attempting to innovate (Mitra & Datta, 2014; Tollin, & Vej, 2012). Mitra and Datta (2014) indicated that the difference in strategic focus and innovative approach of both SMEs and LMNs remains especially relevant when each organization competes in the same rigorous marketplace. Oxborrow and Brindley (2013) and Hall et al. (2012) asserted that the ability to adjust to market instability has a chief impact on revenue and the continued existence of businesses. In a rigorous marketplace, circumstances frequently mandate that organizations adapt to external situations by switching tactical directions (Baumann-Pauly, Wickert, Spence, & Scherer, 2013; Oxborrow & Brindley, 2013). Analysis of the parallels and differences in tactical orientations requires further investigation to add scholarly substance to the growing body of research.

SMEs, with leaders who have the innovative ability, are recognized in numerous countries as being among the leading globally sustainable firms (Oxborrow & Brindley, 2013; Hall et al., 2012). Oxborrow and Brindley (2013) and Hall et al. (2012) mentioned that the primary concern confronting SME leaders was the ability to cultivate successful creativity. The marketplace, as well as an organization's tactical position, is the driving force for innovation. Scholarly sources relate the marketplace to viable organizational

structures, work surroundings, industrial growth, and consumers (Baumann-Pauly et al., 2013; Kumar & Rao, 2015.

The ability to innovate requires technological expertise, and many SME supply chain members lack the technical competency of LMNs, leaving those SMEs unable to include green innovation in the same manner as LMNs (Roxas & Chadee, 2012). Technical complexity and the non-availability of suitable machinery and equipment for the SMEs lead to significant hurdles when attempting to adopt green supply chain management (GSCM) (Govindan, Kaliyan, Kannan, & Haq, 2014). Innovative principles and applications help to transform SME vendors into GSC members, and in return, increase their effectiveness as partners under GSCM (Roxas & Chadee, 2012).

The literature divides GSCM into internal and external dimensions (Chiou et al., 2011; Roxas & Chadee, 2012). Internal GSCM practices include compliance, commitment, and support within the organization (Zhu, Sarkis, & Lai, 2012b) where external GSCM practices include the greening of suppliers, green purchasing, and cooperation with customers (Withers & Ebrahimpour, 2013; Zhu et al., 2012b). Only a small number of innovative GSC vendors have the strategies to embrace the process of enhancing ecologically safe execution throughout the supply chain (Spithoven, Vanhaverbeke, & Roijakkers, 2013; Srivastava, 2007). The majority of SMEs do not have the abilities to perform greening tasks. Therefore, most SMEs are unable to acquire the sustainable benefits of GSCM practice (Hajmohammad et al., 2013).

The literature review indicates that the methods of the green supply chain (GSC) evolved from the hybrid supply chain (HSC), with the aims of on-going conformity to all

related ecological guidelines. The GSC includes orders for growth, production, usage, salvage, reprocess, and reinstatement of merchandise (Yu et al., 2014). Yu et al. (2014) added to this list all measured factions, allowances, liabilities, public, ecological, and fiscal impacts. Combining eco-friendly schemes with SCM equals GSCM, which in turn equals innovation.

Organizations must be able to adjust to the fluctuating environment of the marketplace to compete and gain an advantage over competitors (Taticchi, Tonelli, & Pasqualino, 2013; Tennant & Fernie, 2013). The world changes rapidly, and innovation and vision could lead to success in the marketplace (Taticchi et al. (2013). Al Zaabi et al. (2013) and Vijfvinkel et al. (2012) reasoned that many SME leaders could not incorporate GSCM practices in the same manner as LMN leaders. Al Zaabi et al. and Vijfvinkel et al. further discussed that limited proficiencies such as knowledge of supply chain member sustainability encourages firms to retain the status quo; such inaction is a significant hurdle for engaging the SCM, not to mention increasing the level of sustainability (Al Zaabi et al., 2013; Malviya & Kant, 2015).

Nevertheless, innovation frequently overlaps with technology, but this result is not always the case. Taticchi et al. (2013) explained that innovation means novel ways of thinking or behaving or brand new or refashioned merchandise. Hence, innovation transcends society and impacts human existence and interactions within the environment. Market difficulties and disintegration dictate that supply chain merchants must embrace the value of constant innovation (Gobble, 2012). According to Muduli, Govindan, Barve, Kannan, and Geng (2013), the literature review includes three GSCM practice domains:

a) greening the upstream supply chain, b) greening the internal supply chain, and c) greening the downstream supply chain.

Green Innovation in the Upstream Supply Chain

Several researchers described *greening* as a group of SCM strategies, actions, and connections that business leaders enact about the ecosystem for the distribution of resources (Withers & Ebrahimpour, 2013). Supervision of the upstream supply chain and collaboration with suppliers are critical factors of GSCM practice (Huang et al., 2012; Jesper et al., 2013). Environmental impacts primarily originate from first-tier suppliers, the suppliers for original equipment manufacturing (OEM) companies such as Ford, General Motors, and Apple, second-tier suppliers, providers for first-tier companies, and further out in the upstream supply chain (Lee, Kim, & Choi, 2012). Without greening the vendors, GSCM implementation will fail (Wu, 2013). Vendor selection is an important process because toxic materials included in raw materials can be detrimental to the overall environmental performance of the supply chain (Withers & Ebrahimpour, 2013).

Luthra et al. (2014) asserted that most small to medium sized enterprises (SME) supply chain leaders lack GSC implementation methods, innovation resources, pollution strategies, and the expertise to create and maintain sustainable endeavors that prevent harmful environmental impacts. Green purchasing has a direct influence on GSCM practices with the procurement of environmentally sound components and materials (Uhlaner, Berent-Braun, Jeurissen, & Wit, 2012). Supplier development is crucial for GSCM implementation (Fu, Zhu, & Sarkis, 2012). The literature included information on greening the upstream supply chain (Cosimato & Troisi, 2015), green purchasing (Bosch-

Mauchand, Belkadi, Bricogne, & Eynard, 2013), green procurement (Triki, 2014), and environmental purchasing (Sharma et al., 2012; Thanika, Pudaruth, & Marie Monique, 2012).

Greening the upstream supply chain is possible by implementing innovative principles such as convening a green workshop with suppliers, emphasizing the importance of the vendors' own environmental programs, embedding environmental requirements in the design specification of ordered items, providing information on advantages of environmentally-friendly production to suppliers, encouraging providers to develop green practices, and selecting certified vendors using environmental management standards such as the ISO 14000 (Xie & Breen, 2012). According to DiPietro et al. (2013), and Simon, Bernardo, Karapetrovic, and Casadesus (2013), an ISO 14000 represents a string of environmental management standards created and issued by the International Organization for Standardization (ISO) for companies. The ISO 14000 standards according to DiPietro, Cao, and Partlow (2013) offered criteria or a context for businesses that must establish and organize their environmental management efforts. Supplier involvement is necessary for environmentally friendly practices (DiPietro et al., 2013).

The upstream environmental collaboration encompasses awareness seminars, training, education, and feedback to suppliers (Ageron, Gunasekaran, & Spalanzani, 2013; DiPietro et al., 2013; Simon, Bernardo, Karapetrovic, & Casadesus, 2013). Mentoring SME leaders in developing green enhancement programs are important when addressing environmental concerns within the supply chain (Beske & Seuring, 2014).

The presence of environmental management systems is a major determinant of supplier selection (Beske & Seuring, 2014). Thus, during the process of green purchasing, building supplier assessment programs provide direction in environmental specifications (Mitchell & Harrison, 2012; Perotti, Zorzini, Cagno, & Guido, 2012).

Green knowledge transfer is significant for many SME leaders because of their limited knowledge of environmental impact (Green, Zelbst, Meacham, & Bhadauria, 2012; Laperche, & Liu, 2013. Green et al. (2012) indicated that support from the buyer company positively relates to greening the upstream supply chain. GSCM practices require a long-term relationship with ISO 14000 certified suppliers (DiPietro et al., 2013). Many buyers in the environment sensitive market demand the ISO 14000 certification as the essential requirement in selecting vendors (de Vries, Bayramoglu, & Ton van, 2012; Maria-Manuela, Martín-Pozuelo, & José Luís, 2011; Starke, Eunni, Nuno Manoel Martins, & Claudio Felisoni, 2012).

Green Innovations in the Internal Supply Chain

Environmental management always begins internally and then diffuses throughout the entire supply chain (Liu et al., 2012). Production activity profoundly affects GSCM practices (Muduli, Govindan, Barve, Kannan, & Geng, 2013). Manufacturing plays a critical role in GSCM. According to Li, Morrison, Zhang, Nakano, Biller, and Lennartson (2013), the most environmentally responsible business process is manufacturing because of its direct influence on natural resource depletion and pollutant creation.

Li et al. (2013) mentioned that environmentally sustainable manufacturing practices are essential for the implementation of the green paradigm. Adopting

sustainability requires the cooperation of the entire organization. Muduli et al. (2013) mentioned that GSCM requires the internal cross-functional cooperation within the whole organization as an important starting point for adopting sustainable practices. The standard for greening the internal supply chain must include environmental impact awareness during the production phase (Oxborrow & Brindley, 2013).

Successful implementation of GSCM depends on the buyer firm's leadership in a supply chain (Perottiet al., 2012; Sarkar, 2012; Mitra & Datta, 2014). The literature highlights the greening of the internal supply chain (Green et al., 2012), sustainable production (Li et al., 2012; Liu, Yang, Qu, Wang, Shishime, & Bao, 2012), green manufacturing (Digalwar, Tagalpallewar, & Sunnapwar, 2013), remanufacturing (Barquet, Rozenfeld, & Forcellini, 2013), and waste management (Pant, 2012).

To green the internal supply chain, a company must adopt and implement the following ground rules: (a) use of sustainable materials and components; (b) replacement of hazardous equipment and components; (c) consider environmental criteria in the production phase; (d) minimization of solid waste, air emissions, and noise by process optimization; (e) awareness of clean and environmental technology; and (f) reuse of materials to prevent waste (Cosimato & Troisi, 2015). The results of not going green could lead to more waste and pollution (Li et al., 2012). Eco-designs for reducing and recycling raw materials enable green manufacturing practices (Galia, Ingham, & Pekovic, 2015). Examining whether a sufficient amount of recycled material and the minimum level of harmful materials are used in the manufacturing stage directly results in increased GSCM outcomes (Cosimato, & Troisi, 2015). Developing a measurement

model to assess and monitor the level of total quality environmental management (TQEM) practices is indispensable (Mishra & Napier, 2015).

Many SME leaders have difficulty acquiring new business prospects while lacking GSCM processes (Kim & Rhee, 2012). SME leaders who have previously employed environmental management systems could be in a better position to conduct business with LMNs (Zhu et al., 2012a). Countless buyer companies have mandated that vendors include GSCM processes along with other sustainable implementations (Hall et al., 2012). SMEs are unique in that they harbor particular traits and use individual decision-making processes unlike those of LMNs (Fantazy & Salem, 2016). Therefore, to green the internal supply chain, SMEs would have to collaborate with outside sources (Zhu et al., 2012a).

These types of collaborations offer a key for suppliers to become innovative. Otherwise, many SMEs could continue to lack the skills, resources, and proficiencies required to become sustainable (Hall et al., 2012). Technology is a great benefit to SMEs when attempting to practice sustainability. Kim and Rhee (2012) revealed that adopting green technology such as new production systems that deplete fewer raw materials, and less energy is necessary to become more environmentally efficient. Kim and Rhee also emphasize the importance of using socially appropriate materials instead of dangerous substances, while substituting non-recyclable for recyclable materials to green the manufacturing firms internally. Re-engineering manufacturing processes to minimize solid waste, liquid waste, and air emissions are equally important as developing cleaner

technologies and techniques for the environmental sustainability (Digalwar et al., 2013). Resource re-usage coincides with green production (Heidrich, & Tiwary, 2013).

Green Innovations in the Downstream Supply Chain

Downstream GSCM practices involve the greening of outbound logistics, such as delivery and promotion (Huang et al., 2012; Jesper et al., 2013; Wang & Chan, 2013). Comprehensive GSCM practices should cover both the upstream and downstream side of the supply chain; every firm is a buyer to its suppliers and, at the same time, is a provider to its customers. Thus, greening the process in the downstream supply chain is as valuable as greening the process in the upstream supply chain (Wang & Chan, 2013; Wu, 2013).

Environmentally sustainable management needs to encompass a partnership with upstream and downstream members rather than being a free standing single manufacturing firm (Ageron, Gunasekaran, & Spalanzani, 2013; Petre & Wagner, 2013; Wang & Chan, 2013). Previous studies focused on greening the downstream supply chain from the perspective of green packaging (Soylu & Dumville, 2011), green transportation (Perotti et al., 2012), and green marketing (Arseculeratne & Yazdanifard, 2014; Wang & Chan, 2013).

Greening the downstream supply chain can occur by adopting the following efforts: adopt eco-labeling systems; make use of environmentally friendly packaging; recycle packaging; advertise green products and processes to customers; and use green transportation methods (Cosimato & Troisi, 2015). Components provided by suppliers could undermine the downstream client's green reputation (Jesper et al., 2013); buyers

remain much more environmentally conscious and are inclined to spend more resources for products with eco-labels (Zhu, 2012b). As a guiding principle for certified green products, the ISO 14020 series offers environmental labeling and declaration. The purpose of adopting eco-labels helps consider the environmental aspect of manufactured goods (Zhu, 2012b). Therefore, eco-labeling is a beneficial way to market and promote green products and green production methods (Zhu, 2012b).

Packaging designs include close ties to greening the downstream part of the supply chain (Wang & Chan, 2013; Wu, 2013). Thus, SME leaders need to address questions concerning the recycling possibilities of packaging materials for distribution (Luthra, Garg, & Haleem, 2014). Poorly managed outbound logistics could become a source of pollution and could prove harmful to the environment (Zhu et al., 2012a). Vital concerns for switching the downstream supply chain condition into becoming environmentally friendly are customer involvement in the distribution, and transportation of goods (Luthra et al., 2014).

To achieve the greening of the downstream supply chain, SMEs could collaborate with outside sources. These types of collaborations offer a chance for suppliers to become innovative (Zhu et al., 2012a). Otherwise, SMEs could continue to lack the skills, resources, and proficiencies required to become sustainable. LMNs include the inclination to be viable and aid SMEs in doing so because LMNs tend to have increased resources and expertise (Zhu et al., 2012a). To remain viable, SMEs must become innovative, and because many SMEs lack the adequate resources to innovate, they face many challenges to becoming sustainable (Zhu et al., 2012a).

Green Innovation in Organizational Performance

Previous literature has rarely defined organizational performance explicitly because no consistent measurement scale exists (Kroll, 2016). Organizational performance became the most popular and widely adopted dependent variable in management research (Maia & Bastos, 2015; Tilcsik, 2014). Organizational performance is an outcome variable in many GSCM studies (Lee et al., 2012; Maia & Bastos, 2015; Martin, Borah, & Palmatier, 2017). Organizational performance is a multidimensional construct (Hajmohammad et al., 2013; Tilcsik, 2014) where performance includes financial as well as nonfinancial performance (Lee et al., 2012; Martin et al., 2017).

However, many organizations have failed to consider a balanced framework between financial and operational performance (Maia & Bastos, 2015). Environmental performance is one of the most frequently studied nonfinancial indicators in the GSCM context (Hajmohammad et al., 2013; 2015; Lee et al., 2012; Martin et al., 2017). Both Zhu et al. (2012b) and Hajmohammad et al. (2013) offered environmental performance, economic performance, and operational performance as constructs of organizational performance in GSCM.

In this study, organizational performance defines the outcomes of a corporate action, such as GSCM practices that integrate environmental, economic, and operational performance; also known as the Triple Bottom Line. Hajmohammad et al. (2013) further define the Triple Bottom Line as a three-dimensional development and treatment protocol, and an alternative to keeping a single drive towards profit growth. In other words, company leaders can use this three-dimensional benchmark that integrates

individuals, earth, and earnings to target, convey, and calculate their firm's accomplishment.

Green Innovation in Environmental Performance

Green, Zelbst, Meacham, and Bhadauria (2012) mentioned that in the industrial setting, stable relationships and secure partnerships with suppliers led to upgrades in environmental performance. Environmental performance is a result of the implementation and fulfillment of green practices. Successfully evaluating, monitoring, and enhancing the ecological functioning of the supply chain is crucial to achieving increased environmental performance (Li et al., 2012). Whereas objective measures are preferred, standardized sources of environmental performance data are very rare (Ochieno, 2013).

Zhu (2012) proposed the use of ISO 14001 environmental performance evaluation as a way of assessing a firm's environmental performance. Several researchers have included content analysis based on corporate annual environmental reports to measure environmental performance (Ochieno, 2013; Zanella, Camanho, & Dias, 2013). However, this approach often failed because self-reported environmental phenomena lacked consistency concerning environmental performance (Björklund & Forslund, 2013; Zanella et al., 2013). The subjective interpretation of contents by a researcher could disable the reproducibility of the study (Li et al., 2016).

Theyel (2012) used the perceived level of chemical reduction as an indicator of environmental performance. However, most other researchers used aggregated survey items to measure environmental performance (Hajmohammad et al., 2013). Most commonly used measurement items include a decrease in solid and liquid waste and

reducing air emission. The criteria used to evaluate overall environmental performance include: enhanced environmental conformity, less use of harmful materials, reduced energy consumption, decreased environmental accidents, improved firm environmental condition, and enhanced green reputation and increased level of recycling (Hajmohammad et al., 2013; Lai & Wong, 2012; Large, Gimenez, & Thomsen, 2011; and Sivaprakasam et al., 2015).

Green Innovation in Operational Performance

Vachon and Klassen (2008) suggested that the effect of GSCM practices on operational performance is a valuable future research avenue. Initially, Zhu, Sarkis, and Geng (2005) identified only environmental and economic performance as organizational performance. However, in their subsequent studies, Zhu et al. (2005) consistently included operational performance as one of the outcome variables of GSCM practices. The criteria used to gauge operational performance are delivery time, inventory level, product quality, capacity utilization, and scrap rate.

Lai and Wong (2012) suggested six additional measurement items: perceived level of product quality; lead time; position in the marketplace; better products; reduced waste; and sales in the international market for operational performance. Adebambo et al. (2014) demonstrated examples of operational performance using operational costs, manufacturing time, a range of products, quality, flexibility, and capacity. Lee, Kim, and Choi (2012) introduced competitiveness as a latent dependent variable of GSCM practices, and dimensions of competitiveness, to the supply chain's efficiency, quality, productivity and cost savings. Vachon and Klassen (2008) proposed that the following

aspects of the manufacturing firm's performance equation remain in evaluating operational performance: cost, quality, delivery, flexibility, and environmental performance.

Green Innovation in Economic Performance

Green et al. (2012) asserted that adoption of GSCM policies by manufacturers results in both environmental and economic performance growths, which in turn, positively impact operational performance. Zhu et al. (2005) defined economic performance as financial profit gained through GSCM. Economic performance represents financial benefits such as growth in profitability, sales, and market share (Mitra & Datta, 2014; Sivaprakasam et al., 2015; Zhu et al., 2005). Multiple indicators measured economic performance in previous GSCM studies. Mitra and Datta (2014) operationalized market performance with sales and market share, and financial performance with a return on sales (ROS) and investment (ROI).

Sivaprakasam et al. (2015) combined a degree of growth in profitability, sales, marketplace change, and productivity for economic outcomes. Chan, He, Chan, and Wang, (2012) used four items to measure performance in the study; they included: after tax ROI, revenue expansion, retail development, and markets. According to Mitra and Datta (2014), new marketplace prospects, merchandise price, earnings margin, market share, and transactions combined represent the latent construct of economic performance.

Hence, economic performance is also a concept that embraces market performance and financial performance. Similarly, Chan et al. (2011) described economic performance as profitability or market performance. According to Mitra and Datta

(2014), the negative impact on the economic performance towards many SME suppliers occurs because of a lack of structure, skill, resources, and communication. The results can lead to increased difficulty in assessing and conveying sustainable phenomenon. Therefore, greening the supply chain leads to greater economic performance (Mitra & Datta, 2014).

Environmental Management Systems

Environmental management systems (EMS) involve the administration of a company's environmental programs in a complete, organized, calculated and detailed manner (Cordeiro & Tewari, 2015; de Vries et al., 2012). The areas of focus include the organization's construct, preparation, and resources for the development, implementation, and maintenance strategies for environmental safety (Ben Brik et al., 2013; de Vries et al., 2013; Shin-Tien & Bao-Guang, 2013). EMS's are used to focus on a company's impact on the ecosystem (de Vries et al., 2013). Company's use EMS's to keep in conformity with environmental laws, reducing environmental expenses, lowered risks, training personnel, create measurements of impact and enhance ecological functioning (Ben Brik et al., 2013; de Vries et al., 2013).

The structure of an EMS includes rules, aims, information systems, job records, data assembly and organization, backup strategies, inspections, governing obligations, and annual reports (de Vries et al., 2012). One EMS is the International Organization for Standardization (ISO)14001. First published in 1996, company leaders used ISO 14001 guidelines to address: EMS; environmental management systems; green auditing;

ecological performance evaluation; green classification; life-cycle appraisal; and ecological characteristics in merchandise standards (Shin-Tien & Bao-Guang, 2013).

According to (Cordeiro & Tewari, 2015; de Vries et al., 2012), the ISO 14001 certification benefits companies by improving business operations and green performance, and possibly by enhancing the company's financial performance. The Porter hypothesis proposes that solidly constructed ecological principles have the capability of increasing an organization's profits in addition to green performance (Cordeiro & Tewari, 2015; de Vries et al., 2012). de Vries et al., 2012 backed the hypothesis by empirically confirming that ISO 14001 certification not only decreases ecological effects but also enhances waste reduction and business productivity in green supply chain practices. Buyers have increased their demands that suppliers acquire ISO 14001 certifications as a means of producing environmentally friendly merchandise through the GSC (Cordeiro & Tewari, 2015; de Vries et al., 2012). For instance, General Motors, Ford, and Toyota demand that supply chain vendors obtain the ISO 14001 certification (Cordeiro & Tewari, 2015).

Many SMEs have been unable to acquire an ISO 14001 certification because of the significant upfront investment, limited resources, and time constraints. Despite the sizable performance benefit for SMEs, realizing EMS through ISO 14001 certification may be a demanding procedure that could have an adverse impact on the market value of the organization (Shin-Tien & Bao-Guang, 2013). Many SMEs lack the adequate resources to innovate. Therefore, many SMEs face major challenges to becoming ISO 14001 compliant (Zhu et al., 2012a).

Performance Measurement in GSCM

According to Green et al. (2012), adopting GSCM strategies by businesses leads to improvements in ecological output and financial performance, and the result is a positive effect on organizational execution. Several theoretical approaches to GSCM exist. The present performance measurement instrument systems intended for environmental strategies continue to develop but remains satisfactory for the assessment of GSCM (Amann, Roehrich, Ebig, & Harland, 2014; Kim & Rhee, 2012). According to Kim and Rhee (2012), instruments retrieved from research and training, consist of diagnostic grading processes, action based appraisal, designs for eco-analysis, composed record, and life-cycle study tools. The balanced score card is another instrument used in the analysis of performance measurement (Kim & Rhee, 2012; Min & Kim, 2012).

The balanced scorecard is an administrative and dimension technique thought to aid firms in creating strategic visions, schemes, and for engagement (Min & Kim, 2012). The balanced scorecard delivers the results of business improvements and outcomes so that continuous improvement in strategic execution remains ongoing (Gopal, & Thakkar, 2012). Zanella et al. (2013) contended that SME leaders often have ineffective pre-emptive ecological strategies, reduced ecological awareness, and may lack environmental management abilities.

The Balanced Scorecard

The balanced scorecard indicates that organizational performance includes four perspectives time, value, execution, and service, as compared to the following viewpoints: the customer's viewpoint; the firm's procedural view; the knowledge and

evolution perspective; and the economic outlook. Expansions to the balanced scorecard include environmental performance measures in the GSCM strategies (Kim & Rhee, 2012; Sánchez-Medina et al., 2015; Ulubeyli, 2013). The U.S. EPA (2013) recognized the composed record as the preferred methodology for implementing calculated direction, conveying expectancies and quantifying movement towards firm goals (as cited in Luthra et al., 2014).

According to Gopal and Thakkar (2012), the balanced scorecard approach expanded and linked to SCM. Accordingly, this method could be useful and sanctioned by most businesses to fit inside the GSCM performance measurement system of ISO 14031 constraints. Zhu et al. (2005) demonstrated that to remain competitive; management needs to seek improvement in environmental conformity; tackle the ecological concerns of consumers, and mitigate the ecological impacts of each product and service. Sivaprakasam et al. (2015) acknowledged that the greening of the supply chain eventually results in increased firm effectiveness and financial execution.

A balanced scorecard is a tool that helps businesses create a vision and offers feedback on inner business developments and exterior results to provide ongoing strategic improvements in execution and results (Luthra et al., 2014). According to Gopal and Thakkar (2012), the balanced scorecard enables performance evaluation from four viewpoints metric development, data collection, and analysis of the company about the following viewpoints: customer outlook, business practice, knowledge and development, and economics. The balanced scorecard also allows organizations to share objectives,

perform a strategic alignment of activities and initiatives, arrange business ventures, merchandise, and services (Sivaprakasam et al., 2015). The benefits of the balance card

Figure 2. The Benefits of the Balanced Scorecard

Financial	Improves the bottom line by reducing process cost and improving productivity and mission effectiveness.
Strategy	Allows an organization to align its strategic activities with the strategic plan. It permits, often for the first time, real deployment and implementation of the strategy on a continuous basis. With it, an organization can get feedback needed to guide the planning efforts. Without it, an organization is "flying blind."
Strategy	Provides a measurement of process efficiency for a rational basis for selecting what business process improvements to make first.
Best practice	Allows managers to identify best practices in an organization and expand their usage elsewhere.
Word picture	Provides visibility of a measurement system that supports better and faster budget decisions and control of processes in the organization. This means it can reduce risk.
Word picture	Provides visibility, accountability, and incentives based on real data, not anecdotes and subjective judgements. This serves for reinforcement and the motivation that comes from competition.
Best practice	Permits benchmarking of process performance against outside organizations.
Financial	Allows collection of process cost data for many past projects, to learn how to estimate costs more accurately for future projects.
Strategy	Requires U.S. federal agencies to abide by statutory law. The Government Performance and Results Act of 1993 requires a strategic plan and a method of measuring the performance of strategic initiatives.
Quality	Raises the agency's Baldrige score, which can serve to increase its long-term chances of survival.

Figure 2. The Benefits of the Balanced Scorecard From "The balanced scorecard versustotal quality management: Which is better for your organization?" by J. Schwartz, 2017, *Military Medicine, 170,* p. 855-858.

Total Quality Management

The theory of Total Quality Management (TQM) integration leaves an interesting theoretical component in GSCM practice. Zanella, Camanho, and Dias (2013) mentioned that TQM refers to organizational management strategies that decrease or stop environmental pollution. Changes in the organizational environment sparked the demand for supply chain integration. For example, Muslan, Abd Hamid, Tan, and Idris (2013) described conditions that create value within an integrated supply chain, beginning with bulk manufacturing and ending in customization.

TQM has led to positive impacts on organizational performance (James, Copuroglu, & Fred 2012; Muslan et al., 2013). An illustration of TQM is in a GSCM practice that centers on usefulness and productivity. The core principles of TQM,

according to Muslan et al. (2013) are procedure, preparation, and direction; merchandise construct and modification control; handling of acquired materials; construction value control; operator interaction and area output; correction; and worker choice, preparation, and inspiration. The implementation of TQM leads to an overall improvement in effectiveness and efficiency in GSCM (James et al., 2012).

Several types of theoretical frameworks exist which involve GSCM application performance (James et al., 2012; Muslan et al., 2013). These applications aid in locating and framing important concepts and interest variables, and assists in formulating research hypotheses (Muslan et al., 2013). The impact of the literature review on GSCM brings attention to strategies SME leaders need to develop green supply chains (GSCs). As a result, Muslan et al. (2013) pinpointed this process for research on theoretical grounds. TQM spread widely as implementation improved firm performance. For example, the implementation of TQM leads to overall improvement in effectiveness and efficiency in GSCM (Fred 2012; Mitra & Datta, 2014; Muslan et al., 2013). What makes GSCM significant is the firm's reduced environmental impacts, and increased firm performance (James et al., 2012; Torielli, Abrahams, Smillie, & Voigt, 2011; Valmohammadi, 2011).

According to Lee, Kim, and Choi (2012), the study of GSCM, as related to SMEs, is still in the early stages of development. Therefore, generalized research findings lack suitability. Lee et al. (2012), and Prajogo and McDermott (2014) mentioned that the implementation GSCM enhances the functional and interactive proficiencies of SME vendors. Lee et al. (2012) added that GSCM activities help to create new prospects for attracting customers, as well as fulfilling the buyer company’s requirement.

Six Sigma

According to Sabet, Ehsan, Adams, and Baback (2016), Six Sigma is a statistical process that improves output value by finding and removing sources of imperfections while aiming to reduce variability in commercial processes to 3.4 mistakes per million opportunities. Six Sigma is a quantifiable criterion that surfaced during the 18th century when Carl Friedrich Gauss pioneered the concept of the normal curve (Drohomeretski et al., 2014). During the 1920's, Walter Shewhart presented Six Sigma as a quantifiable criterion used in merchandise deviation (Gutiérrez et al., 2012). Although there were differences in measurement standards, the creator of the term "Six Sigma" rests with Bill Smith, an engineer at Motorola, who owns the federally registered trademark. Sixth Sigma had a tremendous impact on Motorola's bottom line; the company saved more than 16 billion dollars (Gutiérrez et al., 2012; Drohomeretski et al., 2014).

Following Motorola's success with Six Sigma, numerous companies included Six Sigma as a chief component in their business activities (Siddh et al., 2013; Timans, Antony, Ahaus, & Van Solingen, 2012). The use of Six Sigma helps to guarantee the maximum quality of production process outputs through the identification of the sources of variations or imperfections and eliminating them (Timans et al., 2012). To achieve these outcomes, the Six Sigma approach outlines distinctive tasks with well-defined steps and key performance indicators (KPI), which are primarily quantified goals (Siddh et al., 2013; Timans et al., 2012). The KPIs of Six Sigma is typically the following: a reduction in development budgets, less pollution, increased consumer approval, and eventually, better revenue (Sarkar & Mu khopadhyay, 2013). The digital illustration of Six Sigma

illustrates quantitatively how the activity is functioning. To reach Six Sigma, the activity cannot yield beyond 3.4 defects per million opportunities. Six Sigma flaws are described as factors beyond what consumers desire (Psychogios, Atanasovski, & Tsironis, 2012; Sarkar et al., 2013). A Six Sigma possibility is the entire amount of chances for a flaw. The essential function of the Six Sigma method is the use of a quantifiable strategy that centers around procedure enhancement and variation decline within the use of Six Sigma improvement strategies; this occurs by using two Six Sigma secondary practices: DMAIC and DMADV.

The Six Sigma DMAIC method: define, measure, analyze, improve, and control is a development method used for prevailing practices that fall short of specifications and considered for additional upgrading (Psychogios et al., 2012; Sarkar et al., 2013). The Six Sigma DMADV method: describe, gauge, examine, plan, and verify is a development technique for advancing innovative practices or merchandises at the Six Sigma value level. Six Sigma may apply if an existing procedure needs additional incremental development (Psychogios et al., 2012; Sarkar et al., 2013). Six Sigma Green Belts and Six Sigma Black Belts apply either of the Six Sigma or Lean Six Sigma methods, and Six Sigma Master Black Belts oversee the applications (Sarkar et al., 2013; Psychogios et al., 2012).

Most SMEs are unable to acquire a Six Sigma implementation because of a lack of leadership, limited resources, inadequate training, employee resistance, and weak task choice (Timans et al., 2012). Many SMEs leaders lack the adequate resources to innovate (Timans et al., 2012; Zhu et al., 2012a). Therefore, most SMEs face many challenges to

achieving Six Sigma implementation (Zhu et al., 2012a). Also, SMEs are extremely limited in the area of human resources and encounter vast problems in hiring and sustaining skilled personnel, particularly with prior experience (Siddh, 2013; Timans et al., 2012; Zhu et al., 2012a).

Lean Six Sigma

Lean Six Sigma (LSS) is a hybrid of LM and Six Sigma (Lameijer, Veen, Does, & de Mast, 2016; Laureani & Antony, 2012; Tsironis & Psychogios, 2016). LSS, originated by Michael George who authored the 2002 book, "Lean Six Sigma: Combining Six Sigma with Lean Speed," implemented the same language and belt classifications found in Six Sigma (Drohomeretski et al., 2014). The principal differences are in selecting the undertakings, data collection and data analysis (Gutiérrez et al., 2012). There are similarities between Six Sigma training and LSS training, but LSS focuses on LM, assignment prioritizing, and analysis, also, LSS training may take longer than Six Sigma because of the addition of process flow charts, waste assessment, and benefit analysis during training (Shokri et al., 2016; Timans et al., 2012; Tsironis & Psychogios, 2016).

During the early 2000's, LSS training began at select trade associations such as engineering groups, consulting firms, and colleges which increased the popularity of the LSS certification (Naslund, 2013; Shokri et al., 2016). In LSS, the fusion between LM and Six Sigma occurs because LM is unable to create statistical control of the process, and Six Sigma fails to enhance process speeds or reduce financed capital (Maleyeff et al., 2012; Manville et al., 2012; Timans et al., 2012). The application of LSS on SMEs is

different than in LMNs, SMEs leaders have separate attributes which lead to different realities of the interpretations of quality management initiatives, such as LSS (Sarkar & Mukhopadhyay, 2013; Siddh et al., 2013). Therefore, it is important to consider the fundamental differences between LMNs and SMEs when creating quality models (Lameijer et al., 2016; Laureani & Antony, 2012; Tsironis & Psychogios, 2016).

LSS aims to increase shareholder profits by accomplishing quick enhancements in consumer approval, value, and quickness (Tsironis & Psychogios, 2016). Lean manufacturing is an attempt to produce more with a reduced amount of space, fewer resources, reduced waste, a smaller workforce, and a reduced industrial footprint (Naslund, 2013; Shokri, Waring, & Nabhani, 2016). LM originated from the Toyota Production System (TPS), whose leaders sought to minimize waste production, LM then expanded as a means of cost efficiency and reducing the adverse effects on the environment (Lameijer, Veen, Does, & de Mast, 2016; Laureani & Antony, 2012).

LM aims to create zero waste organizations that generate no waste or defective merchandise (Psychogios et al., 2012). During LM cost savings happens when companies use less space to achieve the ideal outcome and discovering approaches to developing the same merchandise with no setbacks, reduced rotations, and less manpower can increase efficiency (Sarkar & Mu khopadhyay, 2013). LM complements flexible merchandise production when smaller groups of equipment are used to manufacture merchandise and afterward repositioned to make new merchandise (Lameijer, Veen, Does, & de Mast, 2016; Psychogios et al., 2012).

Most SMEs are unable to acquire an LSS implementation because of a lack of leadership, limited resources, inadequate training, employee resistance, and weak task choice (Timans et al., 2012). Many SMEs leaders lack the adequate resources to innovate (Timans et al., 2012; Zhu et al., 2012a). Therefore, most SMEs face many challenges to achieving LSS implementation (Zhu et al., 2012a). Also, SMEs are extremely limited in the area of human resources and encounter vast problems in hiring and sustaining skilled human capital, particularly with prior experience (Siddh, 2013; Timans et al., 2012; Zhu et al., 2012). Many SMEs lack the skills necessary to implement innovative strategies because of limited owner and manager abilities, inadequate resources, and a lack of finances and or time. These shortcomings limit the ability of SMEs to function in the same manner as organizations with innovative capabilities (Alam & Kabir, 2013). Therefore, the influence of SMEs is related to the LMN's ability to develop and reinforce knowledge capital (Csigéné & Nagypál, 2014). In other words, LMNs could be required to assist their SME vendors by furnishing guidance and resources to aid in SC development and innovation.

Green Supply Chain Management

Historical attempts exist to reduce waste during manufacturing. In 1969, the spirit of GSCM structure emerged (Srivastava, 2007). Shin-Tien and Bao-Guang, (2013) addressed some of the fundamental dilemmas involving manufacturing uptake and raw material balancing, along with the tasks of production and expenditure within the supply chain. Initially, their efforts included the dedication to a linear relationship between removal to discarding. Eventually, individual loops merged into assessment where there

were issues about the chance of residuals leaking into the structure (Tritos, Adebanjo, & Choon Tan, 2013). Shin-Tien and Bao-Guang addressed not just solid, and water contamination, but also issues such as global warming, greenhouse gasses, and climate changes as such matters impacted interadministrative dealings.

Because of the ongoing destruction of the environment and the depletion of Earth's natural resources, GSCM has garnered increased attention and developed into a prevalent research subject (Gimenez & Sierra, 2013; Mathiyazhagan et al., 2014; Tritos et al., 2013). Society became increasingly aware of global environmental issues such as increased greenhouse gasses and global warming (Gimenez & Sierra, 2013; Mathiyazhagan et al., 2014; Tritos et al., 2013). Many organizations responded to these concerns by developing green ideologies for their companies. According to Gimenez & Sierra (2013) and Mathiyazhagan et al. (2014), sustainable processes have relied on resources that minimize harm to the environment. Sustainable methods helped to decrease an organization's reliance on non-renewable stores such as oil, coal, and gas (Gimenez C., & Sierra, 2013; Mathiyazhagan et al., 2014; Tritos et al., 2013). Companies began to recycle to protect the environment, and in effect, green concepts extended to other firms and their supply chains (Chiarini, 2014; Luthra et al., 2014).

GSCM incorporates ecological concerns with supply chain management. GSCM came to the forefront of literature when Srivastava (2007) assembled and categorized previous studies. At this point, Srivastava took the lead and presented a definition for GSCM (Min & Kim, 2012; Sarkar, 2012; Tritos et al., 2012). Srivastava (2007) defined GSCM as the integration of ecological thought into SCM merchandise models, materials

tracking, collection, and production methods. Srivastava included in the definition of GSCM, transportation of finished commodities to consumers, and end-of-life supervision of the exhausted merchandise.

Cremmins (2014) described a supply chain as being a group of several units wholly dedicated to the upstream and downstream movement of goods, amenities, funds, and communication from a supplier to the consumer. However, no agreement exists on the definition of GSCM. Mathiyazhagan et al. (2014) asserted that GSCMs evolved in a manner that incorporates environmental concerns into each event at the inbound logistics phase of material handling and onward to the outbound logistics phase of the end user.

Green et al. (2012) mentioned that GSCM means incorporating ecological interests into the infrastructural systems of supply chain management and reverse logistics. Reverse logistics is the upstream advance, return of goods and materials following recycling, reworking, or discarding with a minimal amount of excess which creates increased efficiency in both forward and reverse distribution processes (Green et al., 2012). Kim and Rhee (2012) defined GSCM as being a blend of green procuring, green constructing, green resource supervision, green allocation, green promotion, and reverse logistics. In summary, GSCM inserts the ecological perspective into SCM, and GSCM merges conservational interests with the movements of products and services, both interior and exterior to a corporation's confines (Chan et al., 2012; Green et al., 2012; Huang, Tan, & Ding, 2012). Lee et al. (2012) claimed that effective GSCM involves active inner green processes and collaborative activities with outside affiliates such as merchants and consumers inside the supply chain.

GSCM run-throughs require eco-friendly partnerships, direction, and conformity between supply chain members and ecological supervision to supervise and govern its merchants (Govindan et al., 2014; Sarkis, 2007). The aim of GSCM is to reach green perfection beginning with the upstream and ending at the downstream of the supply chain (Chan et al., 2012; Huang, Tan, & Ding, 2012). GSCM increases the quality of green procuring, tracking, green construction, fabrication, green allocation, and reverse logistics (Fantazy & Salem, 2016; Jesper et al., 2013; Kim & Rhee, 2012) and could include a varied number of systems by merchants, companies, and consumers (Chan et al., 2012; Huang et al., 2012).

As with the description set forth by Srivastava (2007), GSCM connects with a broad scope of manufacturing, from the initial planning to reusing or demolishing. This aspect compares to the merchandise lifecycle, in that merchandise goes through a life cycle (Jesper et al., 2013). According to Prajapati, Tripathy, and Dureja (2013), product life management begins with planning, designing, building, and supporting, to discarding. Product life management offers a level of order to product life and delivers guidance for the various practical energies needed to manufacture and transport products (Bosch-Mauchand, Belkadi, Bricogne, & Eynard, 2013; Piorkowski et al., 2013).

Numerous researchers such as Huang, Tan, and Ding (2012) have debated merchandise life cycles, SCM, and GSCM (2012); they considered that the period life cycle fluctuation connects with different scopes of supply chain integration. GSCM is the reflection of creativity, raw ambition, and the drive for success in SMEs. Subsequently, the ability of SMEs to contribute and take part in sustainable initiatives, such as GSCM,

remains the topic of critical discussion (Mitra & Datta, 2014). The failed impact of SMEs occurs because of a lack of disclosure reinforced by the SME approach toward sustainable processes (Mitra & Datta, 2014). Accordingly, Mitra and Datta (2014) mentioned that the negative impact towards SMEs occurs because of a lack of structure, skill, resources, and communication. The results lead to increased difficulty in gauging and conveying sustainable phenomenon.

The SBA (2015) reported that 25% of new functioning SMEs in the United States close their doors after 2 years. The SBA mentioned that over half of SMEs closed their doors before they reached the 6-year mark. The cause of this, according to SBA, is because of inadequate planning and failed performance monitoring. SMEs are at the nucleus of the U.S. national economy. SMEs provide 97% of earth's employment and are vital elements in achieving prosperity and financial development (Rezaei et al., 2015; SBA, 2015).

For SMEs to achieve lasting sustainability, they must acquire knowledge capital meaning, collective wisdom, systemic learning, and value creation (Bagnoli & Vedovato, 2014). Despite such shortcomings, SMEs continue to enhance LMNs. The increasing significance of GSCM follows the rapid decline of the Earth's systems (e.g., decreasing natural resources, flooded rubbish sites, and elevated concentrations of pollution (Bagnoli & Vedovato, 2014; Verma, 2014; Withers & Ebrahimpour, 2013). The process of GSCM represents more than just being green; GSCM has to do with implementing a robust business strategy and economic productivity (Wu, 2013). Hence, the range of GSCM spans from the responsive examination of environmental management systems to

additional proactive preparations (Roxas & Chadee, 2012). Afterward, supply chain leaders direct their focus towards at least one of eight R interventions (reduction, reuse, rework, restore, renew, recycle, revise, reverse logistics, etc.) (Verma, 2014).

Srivastava (2007) contended that ecological knowledge absorbs into the SCM's functioning, beginning with the planning and raw material phase of production ending with the conveyance to the consumer, or end-of-life. Tritos et al. (2013) similarly asserted that GSCM amounts to a progressively expanded tactic to acquire improved ecological execution. Tritos et al. furthered that organizations create a broad range of GSCM proposals, and the extent, size, and kind of projects differ considerably.

Despite these differences, organizations employ GSCM to make substantial gains to their business's triple bottom line. LMN leaders assist their supply chain partners with: (a) recorded guidelines and consultation, (b) surveys and inspections, (c) supplier meetings, (d) guidance and technological aid, (e) combined research and development, and (f) the reorganization efforts with vendors and end-users (Lee et al., 2012). Despite supply chain shortcomings, SME vendors continue to enhance LMNs. Therefore, the influence of SMEs is in direct relation to the LMN's ability to develop and reinforce knowledge capital (Laperche & Liu, 2013). In other words, LMNs could oblige SME leaders by furnishing guidance and resources to aid in supply chain development and innovation. To address the skills and demands of SME vendors, corporate leaders should accept the equivalent competencies each experience requires (Rusly, Corner, & Sun 2012). The purpose of this qualitative multiple case study is to explore what strategies

SME supply chain leaders need to implement GSCM to increase productivity and decrease losses.

Many SMEs lack the skills necessary to implement innovative strategies because of limited owner and manager abilities, inadequate resources, and a lack of finances and or time. These shortcomings limit the ability of SMEs to function in the same manner as organizations with innovative capabilities (Alam & Kabir, 2013). Therefore, the influence of SMEs is related to the LMN's ability to develop and reinforce knowledge capital (Csigéné & Nagypál, 2014). In other words, LMNs could be required to assist their SME vendors by furnishing guidance and resources to aid in SC development and innovation.

While most articles in the literature review agree with the positive implications of GSCM, many articles mention that GSCM is not easily attainable for SMEs. SMEs with fewer than 500 employees exert considerable pressure on the environment and are responsible for up to 70% of all industrial pollution (Johnson, 2015). It is vital that SMEs become environmentally sustainable, but the adoption of GSCM is not the same for SMEs as compared to LMNs; many different drivers and barriers exist for SMEs such as a lack of specialized training and knowledge, and capital (Taneja, Pryor, & Hayek, 2016). Aghelie (2017) mentioned that stakeholders are demanding accountability from SMEs, and because they hire half of the private business workforces, SMEs are a vital component in the economic input the gross domestic product (GDP). SMEs, because of their smaller size, can straightforwardly implement innovative strategies while pursuing economic gains (Taneja et al., 2016). Most SMEs operate within a single dimensional and

conventional routine that ensures plasticity, immediate response and quick SC assessment (Aghelie, 2017). Amir (2017) described several drivers for green sustainability practices for SMEs which include: regulations, knowledge and training, organizational culture, business ecological concerns, social influences, financial motivations, and competitive advantage (see Figure 3).

Figure 3. Drivers for Green Sustainability Practices for SMEs

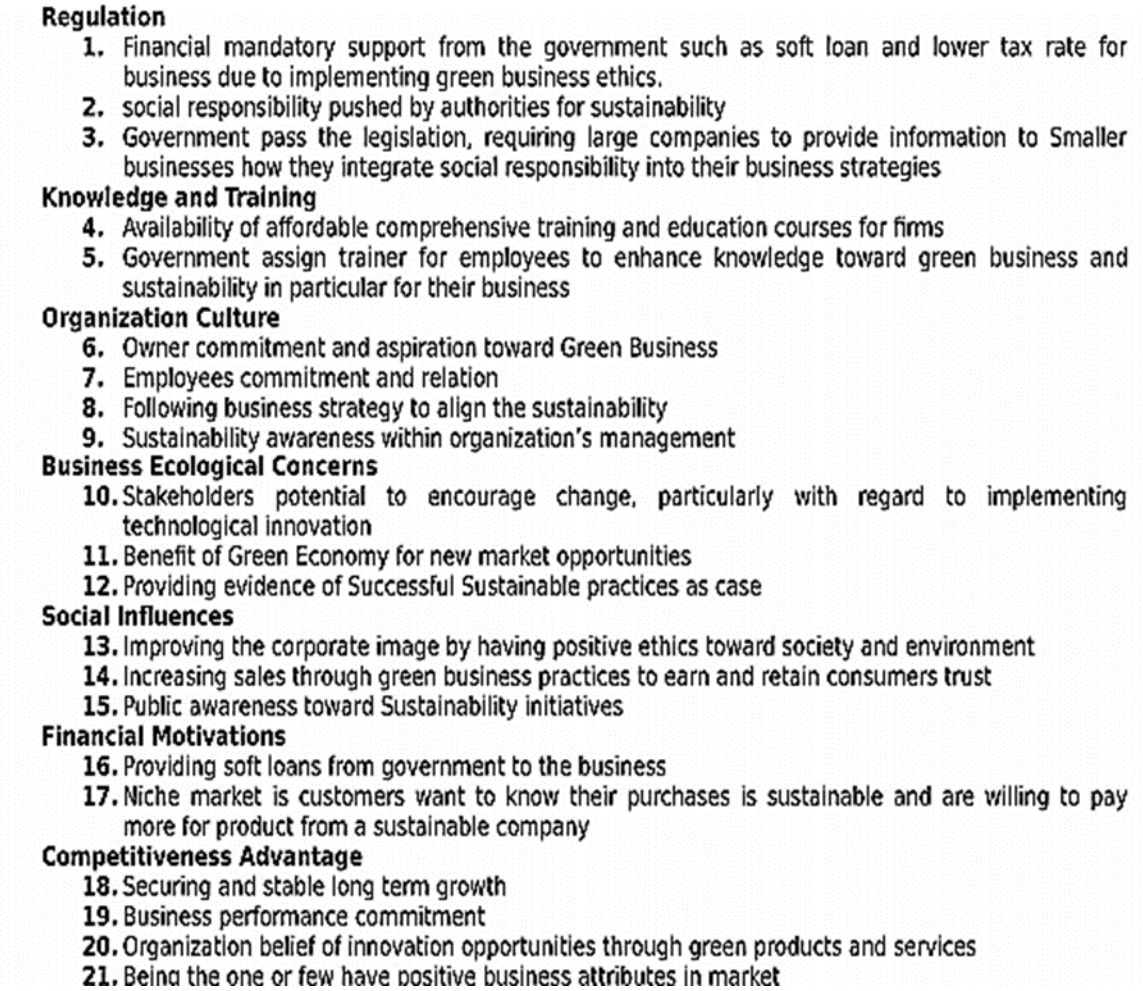

Figure 3. Drivers Acknowledge for Green Business/ Sustainability Practices for SMEs.From "Exploring drivers and barriers to sustainability green business practices within small medium sized enterprises: Primary findings," by A. Amir, 2017, *International Journal of Business and Economic Development, 5,* p. 41-48.

Evolution of the GSC Organization

Every supply chain requires supervision to run successfully, usually from within the central business in question. Based on the GSC model, when environmental outcomes affect the primary business, the consequences affect the structure of the complete supply chain (Curkovic & Sroufe, 2011; Mowery, 2015). Traditional SCM focused on expenses, proper organization, and merchandise diversity with little or no concern for the ecological costs, such as harmful environmental effects (Bagnoli & Vedovato, 2014).

A useful paradigm reduces dangerous substances and develops working valuations that heighten remanufacturing chances (Arseculeratne & Yazdanifard, 2014). Such endeavors could benefit companies and merchants within the supply chain (Arseculeratne & Yazdanifard, 2014; Thomas & Lamm, 2012). Advantageous, interdependent partnerships can happen with every company within the supply chain by applying such guidelines that support production and increase financial circumstances and revenue. Besides facilitating virtuous eco-friendly operations, the impact could increase the chances of creating a sustainable outcome (Arseculeratne & Yazdanifard, 2014; Theyel & Hofmann, 2012). The quest for sustainability led to an innovation titled Green Marketing. In 2008, the Organization for Economic Cooperation and Development (OECD) offered in its findings that unless an increase in environmental governance occurs, carbon emissions will increase by 52% to 58% by 2030 (as cited in Yoon, Oh, & Lee, 2017). The OECD insisted that LMNs become more proactive by adopting resourceful waste removal techniques such as recycling and environmental control systems that will prevent environmental harm (Yoon et al., 2017). Based on the OECD

recommendations, LMNs should develop and sustain an efficient environmental oversight, and create an auditing program to evaluate the implementation impact on the environment related to goods and services for the period of a full life cycle (as cited in Yoon et al., 2017).

Despite SC flaws, many SME vendors continue to enhance LMNs. Therefore, the influence of SMEs is in direct relation to the LMN's ability to develop and reinforce knowledge capital (Laperche & Liu, 2013). In other words, LMNs could have to assist their SME vendors by furnishing guidance and resources to aid in SC development and innovation. As time progressed, legislative policies have amended this significantly. In 2015, companies considered not only the adverse effects of practices (levies, penalizations, etc.) but also the economic and shared gains of reclaiming and recovering merchandise components (Mishra & Napier, 2015).

According to Adebambo et al. (2014), a closed-loop supply chain is a zero waste supply chain capable of reusing, recycling, and composting all waste. The genesis of the conservation drive in the United States occurred in the late part of the 1960s, because of heightened concern over the environment’s destruction. As protection policies spread, limitations began to affect industrial processes and gave rise to a growing need for the use of eco-friendly resolutions in SCM; forecasting switched from being responsive to pre-emptive (Adebambo et al., 2014; Verma, 2014).

Accordingly, ecological implementation principles remain included in agreements and policies for supply chain associates (Verma, 2014; Vermeulen, 2015; Vijayvargy & Agarwal, 2013). A company's response to the conservational conditions of outside

stakeholders depends on its degree of obligation to ecological concerns and operations. In this naturally built circumstance, the supplier-consumer connection remains influenced equally via current business cost requirements and the conservational obligation of both parties (Cordeiro & Tewari, 2015; Costen et al., 2014).

In response to the need for conservational conformity, GSCM advanced, revealing an adaptation of eco-friendly rationale (Vijayvargy & Agarwal, 2014). GSCM involves a general point of view that incorporates merchandise strategy, material tracking, collection, production methods, distribution of final goods to customers, and end point supervision of products (Roehrich et al., 2017). GSCM continues to evolve in significance and is pushed by expanding environmental destruction, declining environmental reserves, and increasing greenhouse gasses (Green et al., 2012; Huang et al., 2012). Intrinsically, GSCM involves many conservational principles to combine mutual supply chain periods interface with each vendor down the supply chain (Luthra et al., 2014).

Traditionally, the supply chain focus was on expenditure and efficiency, with minor concern for problems relating to waste and ecological after-effects (Luthra et al., 2014; Roehrich et al., 2017). GSCM affects the total supply chain, housing persons with a full array of talent in avoidance and alleviation of conservational concerns, along with increasing accountability of the production company (Green et al., 2012; Min & Kim, 2012; Mitra & Datta, 2014). This necessary skill of LMN leaders centered on the use of environmentally sound habits and methods, attaining public endorsements for the

business's goods and amenities, and preserving fiscal sustainability while endorsing the acceptance of green commodities (Cremmins, 2014).

Because companies and supply chains grew in the sphere of scope and density, suppliers sought path trails leading to sustainability (Chen et al., 2012). The chief target of a sustainable supply chain is to change from services and commodities that adversely affect the ecosystem to those incorporating environmental ideologies (Vijayvargy & Agarwal, 2013). Uhlaner et al. (2012) agreed and inserted matching economic and shared ideas as principal targets. The more sustainable supply chain vendors aimed at a complete integration of sustainable routines end to end (Thanika et al., 2012; Triki et al., 2014; Tritos et al., 2013)

Thanika et al. (2012), Triki et al. (2014), and Tritos et al. (2013) also mentioned that both the supplier and principal business owner benefit. Merchants gained because of shared profit between the merchants and the dominant firm. Thanika et al. (2012), Triki et al. (2014), and Tritos et al. (2013) stated that the supplier profited after ecologically related targets become implanted into agreements. Principal business owners provide expertise to the vendor, simplify conformity and bring about education concerning product-specific environmental issues (Uhlaner et al., 2012).

Collective knowledge offers a resourceful setting for the principal business owner, suppliers, and other associates all along the supply chain (Triki et al., 2014). Imparting wisdom is a benefit to the company, facilitating the expansion of a more trustworthy firm (Tritos et al., 2013; Thakkar et al., 2012). The tradition of corporate social responsibility ascended from business leaders who willingly addressed ecological,

community, and monetary influences (Cremmins, 2014; Demuijnck & Ngnodjom, 2013). This strategy has a positive impact on the attitudes of customers concerning business practices that correspondingly increases financial backing of the firm's goods and services.

In keeping with Sivaprakasam et al. (2015), overlapping regions of financial/societal and economic/environmental tends to benefit the supply chain. Sivaprakasam stated that the same overlying regions could also create adverse impacts on the supply chain when all facets intersect, and sustainability occurs. This arrangement is perhaps not ideal since this method creates an additional hazard to the supply chain than when all the facets intersect and sustainability occurs. Optimization of this broad outlook becomes apparent when the company's sustainability plans and business tactics align with the supply chain. Splitting the curricula and movements can bring about a decrease in transparency and various departmental mandates, presenting limitations to sustainable positioning (Bocken, 2013; Hsu et al., 2013). Because of extensive interaction, computer networking, and cyberspace, organizational transparency is an increasing preference of customers who focus on the societal aspects of the Triple Bottom Line (Beske & Seuring, 2014). Despite such supply chain flaws, many SME vendors continue to enhance LMNs.

Amann et al. (2014) asserted that clarity not only advises stakeholders of likely impacts to the triple bottom line, but clarity also elicits their feedback. Such dealings and knowledge interactions increase the facilitation of buy-ins from buyers and improve supply chain methods. Customers also search for merchandise/service credentials

indicating an allegiance to safe workplace settings, and job regulation conformity at companies where they choose to buy goods or seek services (Bocken, 2013).

Publicly reliable companies engage in certification quests as a normal functioning process, even though this could decrease their immediate returns (Beske & Seuring, 2014). Not all organizational leaders look to supply chain sustainability or identify revenue gain as the essential goal (Amann et al., 2014; Sivaprakasam et al., 2015). Company culture, basic tenets and the feeling of determination serve as the drivers for the financial bottom line, incorporating every business down the supply chain.

Components of the GSC Organization

In keeping with the progression of the GSC, corresponding and intersecting elements warrant conservational objectivity of the production and distribution systems (Cordeiro & Tewari, 2015; Jesper et al., 2013; Srivastava, 2007). GSCM originated from both SCM sources and Conservational Administration sources. Cordeiro and Tewari (2015) and Srivastava (2007) suggested that in addition to a green factor, the organization and connections between SCM and the ecosystem interconnect.

Green strategy detailed in the literary review functions as a means to separate and differentiate the growth of earnings in certain environmental conditions, while using a systematic methodology (Cordeiro & Tewari, 2015; Srivastava, 2007). This type of practice is pre-emptive as opposed to the conventional manner of coping with ecological issues in a responsive, less compelling fashion (Cordeiro & Tewari, 2015; Jesper et al., 2013, Ray, 2014). Preceding the production and building of all module parts, the green strategy includes the process of ecological conformity connected to the proper guidelines,

such as legislative, and voluntary manufacturing criteria like ISO 14001 (Cordeiro & Tewari, 2015; de Vries et al., 2012).

Embraced in 1996, the global criterion primarily emphasizes advancement, application, and upkeep of a prescribed long term, environmental management (de Vries et al., 2012; Searcy et al., 2012; Wagner, 2013). According to Srivastava (2007), a green strategy incorporates a collection of topics in a range of areas, as well as merchandise planning. For instance, hazard administration, environmental compliance, commodity security, employee well being, greenhouse gas prevention, resource preservation, and refuse management reflect green strategy (Srivastava, 2007).

Green strategy consequently results in green undertakings during the product lifecycle but is not a cure-all given the obstacles yet to overcome (Srivastava, 2007). Nevertheless, the bulk of barriers are temporary limitations that will disappear as green ideology fills the organization's culture and corporate reasoning (Srivastava, 2007). In reality, a significant benefit of employing a GSC happens to be the widespread view required for the proper treatment and execution of sustainable business activities (Ben Brik, Mellahi, & Rettab, 2013). Making use of complete merchandise and GSC allows owners and stakeholders to address Triple Bottom Line concerns over merchandise creation, usage, and the product afterlife. Such simplifying occurs in the passageway to sustainable growth in the supply chain. The Triple Bottom line refers to the obligation of business to people, the planet, and the environment (Wilson, 2015).

The problem remains that many SME vendors are unable to implement GSCM practices in the same manner as LMNs. The majority of GSCM dilemmas originate from

doubts or a failure to organize various undertakings and partners. Limited strategies that include knowledge for supply chain sustainability can encourage firms to retain the status quo; such inaction is a significant hurdle to engaging the SSCM, not to mention increasing the level of sustainability (Al Zaabi et al., 2013; Malviya & Kant, 2015). At the same time, consumers became educated and intuitive resulting in increased demands for higher quality merchandise, service, and less expensive products (Arseculeratne & Yazdanifard, 2014).

Furthermore, Ben Brik et al. (2013) and Shin-Tien and Bao-Guang (2013) considered dominant companies and supplier partnerships with obligations of eco-friendly conformity. The mode of compliance comes from both obligatory and volunteer viewpoints, such as the ISO 14001 (Ben Brik et al., 2013; de Vries et al., 2012; Shin-Tien & Bao-Guang, 2013). Reade, Koichi, Thorp, Masahiro, and Wasbauer (2014) proposed that conservational cooperative endeavors augment connections between participants of the supply chain in a manner that reduces the general ecological effects. Reade et al. (2011) asserted that a smaller supplier base could indicate an improved environmental group effort.

This theory appears believable, since a reduced base of SME suppliers is easier to supervise, as their targets are in harmony with the leading organization (Mowery, 2015). SMEs suppliers frequently exchanged shared projecting meetings, knowledge sharing, buyer participation, and green merchandise planning (Bagnoli & Vedovato, 2014; Spithoven et al., 2013; Thanika et al., 2012). The problem remains that because of a lack

of finances, skill, and expertise, SME vendors are unable to include GSCM (Arseculeratne & Yazdanifard, 2014).

Several top organizations utilized comparable supply investors for combined ventures tackling ecological problems (Cremmins, 2014; U.S. EPA, 2013, 2013). For instance, when Wal-Mart observed increased carbon gas emissions from company vehicles, the company integrated environmental safety measures (Cremmins, 2014; U.S. EPA, 2013, 2013). The corrective action occurred especially during the usage of hazardous materials in procuring, merchandise control, and supply choices, supply chain merchants assisted and developed techniques to lessen the impact of harmful surplus (Cremmins, 2014; U.S. EPA, 2013, 2013). The level of clarity and cooperative collaboration differs from the historical opinion of conservational obligations as being an inconvenience to the company (Srivastava, 2007).

Bagnoli and Vedovato (2014) and Theyel and Hofmann (2012) discovered that a cooperative buyer-merchant connection could result in conservational performance enhancements and improve merchandising/assistance standing of the consumer and merchants. One of the motives for these improvements is that shoppers learn of the ecological breaches of corporations (Theyel & Hofmann, 2012). Theyel and Hofmann (2012) reported that after conformity transpires, buyer-merchant partnerships increasingly stress compliance with the organizations they seek out and every firm. The problem with attaining buyer-merchant partnerships is that each party has different drivers and has difficulty including GSCM practices in the same manner (Al Zaabi et al., 2013).

Bagnoli and Vedovato (2014) mentioned that these demands affect both the providers and the dominant organization. As dealings with suppliers and leading organizations grow and settle, partnerships between vendors and the LMNs mature, and progressively strict conservational conditions integrate into the supply chain (Al Zaabi et al., 2013). These circumstances heighten the major organization leader's ambitions in their search for sustainable pathways (Gibson, 2012; Glock, Grötsch, Blome, & Schleper, 2013; Gobble, 2012). According to Gibson (2012) and Glock et al. (2013), among the problems with partnerships between suppliers and LMNs is that many SME leaders lack networking capabilities because of limited owner and manager skills, inadequate resources, and a lack of finances and time.

The public push for environmental abuse penalties has increased and will continue to grow, because of the growing public responsiveness to environmental collapse and legislative criticism (Wu, 2013; Yu et al., 2014). Along the same lines, current supervisors could gain increased recognition while examining, investing, and executing a partnership with every investor in the supply chain. Hall et al. (2012) agreed, affirming that leaders should heighten their responsiveness to every supply chain investor, increasing effectiveness, and seeking to enhance natural, public and fiscal resources. Organizational leaders are looking to achieve greater conformity to green guidelines and abide by the rules of GSCM (Gimenez & Sierra, 2013; Mathiyazhagan et al., 2014; Yu et al., 2014).

GSCM Problems for SMEs

Bhattacharjee (2015) mentioned that GSCM implementation for SME has substantial problems which include high initial costs in the areas of ecofriendly production and services, environmentally friendly technology, renewable energy and power, and expensive research and development. The research is still inconclusive regarding what GSCM practices result in enhanced business performance and positive outcomes (Lai, Wu, & Wong, 2013; Golicic & Smith, 2013). Zhu et al. (2012) and Zhu et al. (2012) have also argued that GSCM processes have not resulted in the increased economic performance of companies. Golicic and Smith (2013) also mentioned that the initial steps for acquiring GSCM processes require an initial investment that will escalate operational costs and negatively affect business profits. Therefore, most SMEs cannot afford to take such risks (Bhattacharjee, 2015). Geng, Mansouri, and Aktas (2017) mentioned that because of the mixed outcomes in GSCM processes much more research is required to determine the link between GSCM and increased performance.

Namagembe, Sridharan, and Ryan (2016) mentioned that despite GSCM processes many SMEs fail to succeed in areas such as product distribution, tax incrementation, and competitiveness. Another problem the may hinder SME greening that is that some SMEs are reluctant to compromise their relationships with suppliers who do not participate in environmental sustainability (Geng et al., 2017). SMEs may also encounter issues with a GSCM implementation such as customer refusal to pay higher rates for sustainable merchandise, and stakeholder refusal to support or cooperate with GSCM expansions; these problems can negatively impact the economic performance of

struggling SMEs. (Namagembe et al., 2016). In other words, GSCM is not a perfect strategy.

SME Barriers to GSCM Adoption

SME suppliers are vital to the U.S. national economy. SMEs receive credit for 99.7% of all businesses and hire about half of the U.S. workforce (Mitra & Datta, 2014). SBA (2015) reported that 25% of new functioning SMEs in the United States close their doors after 2 years. The SBA mentioned that over half of SMEs closed their doors before they reached the 6-year mark. The cause of the attrition rate, according to the SBA, is inadequate planning and failed performance monitoring. SMEs are in the nucleus of the U.S. national economy. According to Taneja et al. (2016), SMEs must become actively involved in innovation to ensure enhancements in the following areas: longevity, production, customer service, business practices, management, human resources, communications, and advertising. The influence of SME SC innovation is related to the buyer company's ability to develop and reinforce knowledge capital (Csigéné & Nagypál, 2014). In other words, businesses could be required to assist their SME vendors by furnishing guidance and resources to aid in SC development and innovation.

Huang and Yu (2011) discovered empirical evidence which indicated that ecological collaborations could lead to innovation by using specific materials and information procurement. Ecological collaborations refer to the practice in which company leaders unite for a shared environmental objective (Huang & Yu, 2011). SC collaboration includes functional practices such as merchandise planning, innovation, purchasing combined preparation, allocation sharing, disseminating merchandise

specifications, communicating effective methods, reducing expenses and sharing strategic feedback (Gunasekaran et al., 2015; Mafini & Muposhi, 2017; Sarkis et al., 2011). SMEs, as defined by the SBA (2015), includes 500 or fewer employees and account for half of the U.S. gross domestic product (GDP). Therefore, SMEs must succeed for the U. S. economy to prosper (Bressler et al., 2013). Despite the importance of SMEs, barriers have prevented many SMEs from achieving sustainability.

Many SME leaders had the perception that the ecological impact of their organizations was insignificant (Alam & Kabir, 2013; Digalwar et al., 2013), but at the same time, they claimed to be ecologically conscious and engaged environmentally. SME leaders are frequently sluggish or slow to reply to the challenges of increasing their environmental operations (Jesper et al., 2013). Planning, funding, and skill deficits are limitations to environmental action (Ciasullo & Troisi, 2013; Cosimato & Troisi, 2015). Apparently, LMNs can dedicate more managerial effort and resources to environmental development. Govindan et al. (2014) mentioned that many organizations fail to recognize or understand the barriers that hinder GSCM adoption.

SME leaders find difficulty in acquiring sustainability and implementing green innovation because of market opposition and insecurity, challenges to improved technology acceptance, budget effects, and supplier resistance to change regarding GSCM (Jesper, Kristin, & Arlbjørn, 2013). LMNs are possibly more driven to enhance ecological functioning as the pressure on LMNs to become environmentally responsible is acute, while the green effect of SMEs remains slight with SME leaders and patrons (Hall et al., 2012; Jesper et al., 2013; Luthra et al., 2014). Therefore, SME leaders often

consider environmental concerns insignificant to their firm's daily routines (Jesper et al., 2013) and environmental enrichment as an unnecessary expenditure (DiPietro et al., 2013).

SME leaders mindful of green activity maintained that sustainable action is too expensive and lacked any actual benefits (Hall et al., 2012). SCM leaders faced extreme challenges integrating GSCM and sustainable applications; as a result, uniform proficiency rarely occurred in practice (Amann et al., 2014; Arseculeratne & Yazdanifard, 2014; Beske & Seuring, 2014). According to Alam and Kabir (2013), some of the issues for SCMs involve stakeholder interest. Some stakeholders were primarily concerned with making profits and chose to avoid implementing costly GSC strategies (Arseculeratne & Yazdanifard, 2014; Walker & Jones, 2012).

Many SMEs do not carry out GSCM practices in the same manner as LMNs (Malviya & Kant, 2015). Because of limited resources some SME leaders suffer from an absence of IT application, organizational inspiration, value in human resources (HR), use of green practices, management sponsorship systems, and upper management commitment (Green et al., 2012; Hajmohammad et al., 2013; Hall et al., 2012). Therefore, some SME leaders are unable to acquire the sustainable benefits of GSCM practice (Hajmohammad et al., 2013).

Global market fluctuations and the sustainable approaches of LMNs have exerted tremendous pressure on SME capability and modernization (Taneja et al., 2016). SME sustainability has not been an easy task, problems occur when there is a lack of knowledge concerning green implementation, attempting too large of a sustainable

adoption, lack of employee enthusiasm, upstream SC inefficiencies, too expensive to incorporate, and business interference, GSCM should be a slow continual process (Aghelie, 2017). Other obstacles for sustainable process implementation in SMEs include the lack of profit guarantee on the return on investment (ROI), stakeholder hesitation, and negative workplace culture (Aghelie, 2017). Amir (2017) described several barriers to green sustainability practices for SMEs which include: business structure and style, environmental hinders, social barriers, suppliers, government and legislation, and financial obstacles (see Figure 3).

Figure 3. Barriers for Green Sustainability Practices for SMEs

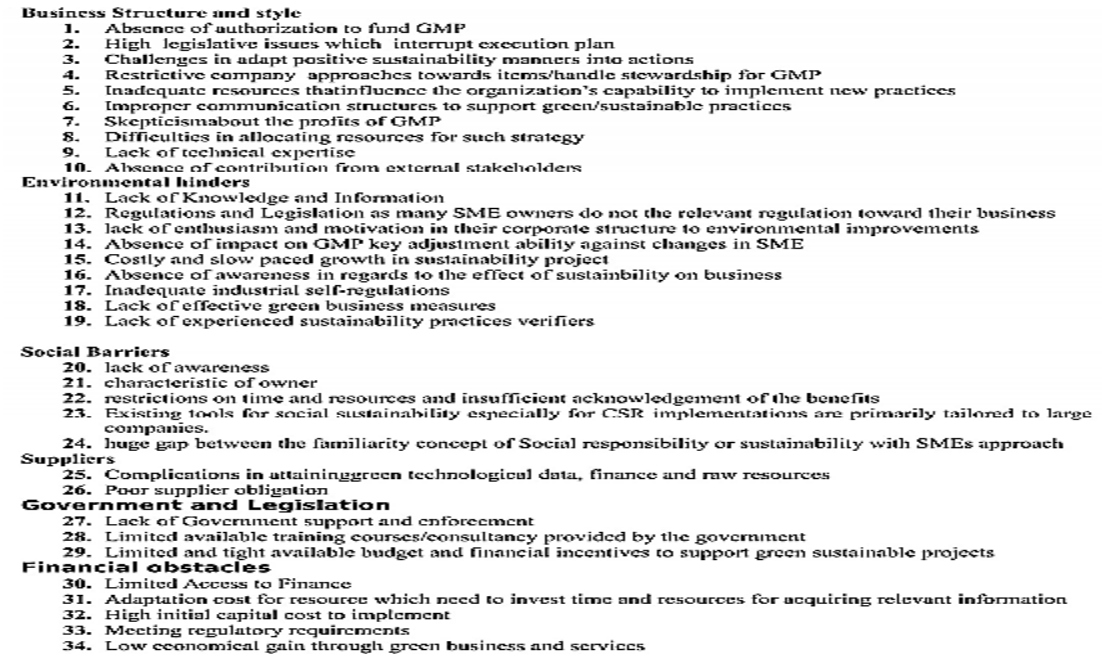

Figure 3. Barriers Acknowledge for Green Business/ Sustainability Practices for SMEs. From "Exploring drivers and barriers to sustainability green business practices within small medium sized enterprises: primary findings," by A. Amir, 2017, *International Journal of Business and Economic Development, 5,* p. 41-48.

The lack of sustainability in SMEs intensifies when LMN leaders are unable to measure the real value of investing in activities involving green activities (DiPietro et al., 2013). Furthermore, the minute status of SMEs could reduce their ability to receive price reductions and additional values because of environmental engagement (Malviya & Kant, 2015). Restricted access to pertinent intelligence and a minimal capacity to design and execute environmental programs hinders SME involvement. Most of the instruments and methodology for enhancing environmental enrichment adheres to LMNs and fails to take into consideration the distinctive features of SMEs (DiPietro et al., 2013).

Some stakeholders are primarily concerned with making profits and choose to avoid implementing costly GSC strategies (Arseculeratne & Yazdanifard, 2014). Such failures could explain the minimal acceptance of environmental management systems by SME leaders (Jesper et al., 2013). Many SME leaders fail to recognize the significance of having a green methodology for their firms. Consequently, the absence of area detailed help and resources shaped to the various ranges of companies emerge as a huge barrier to the implementation of green technology in SMEs (Green et al., 2012; Hajmohammad et al., 2013; Hall et al., 2012). GSCM integration concerns many processes and must address a lack of appropriate resources (Beske & Seuring, 2014; Bocken et al., 2013). A business seeking to include GSCM practices must address supply chain integration and implementation (Biedenweg et al., 2013; Costen et al., 2014).

In the literature review, I addressed GSCM and it structural effects on SC development and management. I also examined how the greening of various steps in the SC impact organizational processes resulting in increased profits and reduced

environmental impacts. Many SMEs lack the skills necessary to implement innovative strategies because of limited owner and manager abilities, inadequate resources, and a lack of finances and or time. These shortcomings limit the ability of SMEs to function in the same manner as organizations with innovative capabilities (Alam & Kabir, 2013). For SMEs to achieve lasting sustainability, they must acquirecollective wisdom, systemic learning, and value creation (Bagnoli & Vedovato, 2014). Because of limited resources some SME leaders suffer from an absence IT application, organizational inspiration, value in human resources (HR), use of green practices, management sponsorship systems, and upper management commitment (Green et al., 2012; Hajmohammad et al., 2013; Hall et al., 2012). Therefore, some SME leaders are unable to acquire the sustainable benefits of GSCM practice (Hajmohammad et al., 2013). Therefore, it is imperative that LMNs collaborate with SME SCs to achieve GSCM.

Transition

The current literature associated with sustainability is unique and multidimensional, creating a flexible reference collection suitable for numerous industries. The history and information in Section 1 are the foundations for investigating the link between GSCM and business productivity in the 21st century. Additionally, the green ideas and principles referred to in the literature review consist of sustainable mechanisms for business prosperity and justifications for GSCM implementation.

Section 2 includes a discussion of this study's purpose, the researcher's role, along with the intended participant selection. Second, Section 2 includes the selected research method and design, population and sampling, ethics, and data collection and

analysis techniques. Finally, Section 2 includes mechanisms to ensure the reliability and validity of the study, and a transitional statement leading to Section 3. Section 3 includes a discussion of the purpose of the study, the presentation of findings, and the applicability of the results on the professional practice of business. Section 3 also includes the implications for social change, recommendations for action, further research, and a reflection on the researcher's experience within the DBA doctoral study.

Section 2: The Project

In Section 1, the focus of the literature review was on the GSCM that increase productivity and decrease losses. In Section 2, I described the research segment of the research study. I also reaffirmed the purpose of the study and the explanations of how I operated the study. In Section 2, I explained the role of the researcher, research methods, research question, study population, data collection, data analysis, and reliability and validity.

Purpose Statement

The goal of this qualitative multiple case study was to explore strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. The specific population consisted of three SME leaders from three construction companies from Summit County, in the State of Ohio. The prospective research applicants had a history of implementing or involvement with GSCM activity. I also gathered and evaluated documents and used reflexive journaling for data triangulation. The implications for positive social change include potential changes that impact business practices by offering SME supply chain leaders strategies to implement GSCM, thus increasing productivity and decreasing losses (Gimenez, & Sierra, 2013; Mathiyazhagan et al., 2014; Tritos et al., 2013). The results of this study could contribute to an increase in green practices by businesses, and lead to a reduction in adverse environmental impacts, and an increase in positive environmental impacts.

Role of the Researcher

According to Walker (2012), the researcher's role is to determine a suitable research methodology and design, participant recruitment, selection, data collection, and analysis. The researcher in a qualitative study serves as the primary data collection instrument (Eide & Showalter, 2012; Morse, Lowery, & Steury, 2014). I was the primary data collection instrument for this study, and I collected data using semistructured interviews with organizational leaders who used advanced expertise to attain long-term sustainable outcomes for their companies. To mitigate bias and increase the validity of this study followed the same interview protocol and asked identical open ended questions to each participant. Furthermore, I had no prior contact with any prospective participant or any knowledge of the topic, participants, or area.

The role of ethical behavior is vital when conducting research. Consequently, I treated all study participants respectfully and abided by the rules and standards as determined by the Belmont Report issued in 1979 by The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (Davis, 2013; Thomas, 2015). The National Commission endorsed the Belmont Report as an ethical doctrine and a model for researchers by establishing three fundamentals pertinent to research studies involving human subjects: respect for persons, beneficence, and justice. To safeguard ethical treatment, I treated research participants fairly, without exploitation, harm, or injury. Recognizing social and ethical treatment helps to advance character and insightful results (McDermid, Peters, Jackson, & Daly, 2014). Hence, ethical behavior plays a vital role for any scholarly researcher. Collecting data by protocols outlined in the

Belmont Report (1979) ensured that the data was trustworthy and free of bias (McDermid et al., 2014).

Leedy and Ormrod (2013) declared that during qualitative studies the researcher attempts to minimize error and mitigate researcher bias. To view research data through a personal lens, Moustakas (1994) recommended that the qualitative researcher participates in *epoche* to bracket conclusions concerning research phenomena. According to Moustakas (1994), epoche consists of immersion, where the researcher immerses him or herself in the happening, incubation, a place of mindfulness, instinctual or delicate insight, and understandings, illumination, an energetic knowing activity to enhance the researchers grasp of the event, explication, a meditative action, and inspired creation, collectively combining the designs and displaying the connections. Epoche aids the researcher in viewing data from a personal lens (Moustakas, 1994).

I engaged in epoche to reach a state where all conclusions about the reality of the outside world, and subsequently all engagement in the world decreased. I used epoche as a means of mitigating assumptions or biases within my mind. To prepare for and use epoche, an investigation into my initial ideas, feelings, and notes informed me of any assumptions or biases that I may have had. In this manner, I remained vigilant and did not allow my assumptions or biases to enter the analysis.

The use of epoche aided in mitigating bias or assumptions because I had to understand the intrinsic meaning of the phenomenon. Moustakas (1994) asserted that the researcher should employ epoche and then document and describe his or her experiences regarding the phenomenon before examining the event from a clear point of view.

Moustakas asserted that bracketing is a type of epoche. Bracketing functions in a way that assumptions and beliefs are pushed aside regarding the phenomenon so that the researcher could, without bias, examine the effects of the phenomenon on the research participant. I identified and bracketed any personal viewpoints so that I could better understand the views of others involved in this study (Hermanowicz, 2013).

Qualitative researchers rely on interview protocols as a method of achieving cohesion and improving stability and uniformity (Green et al., 2013). The method of consolidating information could facilitate insight and bring into focus data linked to the phenomenon related to this study. The interview protocol (see Appendix C), according to Hermanowicz (2013), a researcher adheres to the same set of rules with all participants. Furthermore, abiding by the interview protocol ensured that I treated each participant equally and, did not omit or miss important steps in data gathering. The interview questions for this study were open-ended and were created to encourage each participant to offer rich, far-reaching explanations as replies to the central research question through semistructured interviews.

I recognized each participant's choice regarding involvement in the research study and safeguarded the participants from harm by concealing their information. I am the only person with access to individual information from each participant such as their titles, names, and organizational information. I was able to acquire and maintain the confidence of each participant by maintaining their anonymity which maximized the benefit of participation in this research study and minimized the potential perception of harm by research participants.

According to Moustakas (1994), the use of data triangulation mitigates bias when researchers can confirm various data sets with each other. The principle is that if researchers can verify different data sets with each other, the understandings and inferences drawn from them tend to be trustworthy. According to Hermanowicz (2013), member checking is the most important provision to bolster a study's credibility. Member checking helps to reduce bias and increase research credibility. The use of member checking gave research participants a chance to verify their responses to researcher questions.

Participants

According to Davis (2013); Kolb (2012); and Suri (2011), when purposefully selecting participants, it is crucial that the target population meets certain criteria to acquire a sample of participants. The eligibility requirements for participant selection were: (a) participants were owners or managers of an SME; (b) the SME construction company had been an ongoing business for 20 years or more; (c) the SME included a location in the State of Ohio; and (d) the participant(s) had a history of implementing sustainable strategies with SME suppliers. Another criterion was that participant was 18 years of age or older. Each of the participants interviewed had extensive experience with the implementation of GSCM strategies. Otherwise, I could not have collected the rich information needed to address the research question.

Rowley (2012) posited that choosing a sample size and drawing of 10, or more research participants do not mean there is sufficient data required for a case study. Yin (2014) said that the researcher compares two or three cases within a phenomenon to

ascertain if there are shared experiences among them. I conducted the research study in the county where I resided. I selected participating construction companies from the comprehensive listings offered by the Ohio office of the Small Business Administration and the Ohio Small Business Development Center Network (SBDC). To remain ethical and respectful of human rights, data collection did not commence until the Walden University Institutional Review Board (IRB) approved this study and issued an approval number.

The purpose of the invitation was to acquaint the potential participants and the researcher and briefly explain the research project. I sent a letter of invitation by email to all potential participants. The letter of invitation contained a participant consent form for the participant's approval and electronic endorsement. Participant confirmation occurred when I received the signed form, and I acknowledged the letter of consent attached to the email. Tirgari (2012) suggested that when a researcher interviews one participant, the researcher should ask the participant if he or she might suggest any other potential candidates who may be willing to participate in a study. This type of solicitation is *snowball sampling* (Baltar & Brunet, 2012; Handcock & Gile, 2011).

Upon the receipt of the signed consent forms, I contacted each participant by phone to schedule the interview dates and time. I arranged the interview in a quiet and private setting at a mutually agreed location and time that was convenient for them. Each participant then received a reminder by email and a phone call that participation is on a voluntary basis, and that he or she could withdraw from this study at any time without reason. I provided each participant with a copy for his or her records. Creating a working

relationship with all participants requires establishing trust. I have had no previous contact with any prospective participant or participating organization.

Research Method and Design

Research Method

Three choices of research methods are quantitative, qualitative, and mixed methods (Leedy & Ormrod, 2013). The qualitative research design was suitable for this qualitative multiple case study and was an appropriate means of collecting material to describe certain phenomena accurately. Researchers use the qualitative method to examine real experiences within the natural setting of the phenomenon (Leedy & Ormrod, 2013; Sparks, 2014). In this study, I included an assessment of information with a careful appraisal of the research topic and the organization of procedures about the reliability and validity of research findings.

According to Hermanowicz (2013), the quantitative method is not appropriate when the research question requires the researcher to delve into core motivations, ideas, and inspirations. I used qualitative research to gain an understanding of the phenomena at hand and to explore the personal experiences of the research participants. Qualitative research is, above all, exploratory research (Hermanowicz, 2013; Morse, Lowery, & Steury, 2014; Patterson & Malpass, 2015). Qualitative research also provides insight into the research problem or helps create new ways of thinking and theories (Hermanowicz, 2013; Morse et al., 2014; Patterson & Malpass, 2015). Using qualitative research helps the researcher to reveal movements in thinking and ideas, and probe deeply into the problem (Hermanowicz, 2013; Morse et al., 2014; Patterson & Malpass, 2015). I

attempted to explore strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. Qualitative research was appropriate for this study.

A quantitative method is best suited for research that requires statistical measures to answer the research question (Barratt, Choi, & Li, 2011; Leedy & Ormrod, 2013; Sparks, 2014). Statistical measurements were not required to address the research question for this study and therefore are not appropriate for this research. The outcome would have been incomplete and provided no more than arithmetical descriptions instead of the rich, detailed narratives of research participants and the secondary data analysis.

According to Ostlund, Kidd, Wengstrom, and Rowa-Dewar (2011), exploring the separate facets of individual perceptions helps to determine how individuals relate to their environment. The research method chosen was qualitative because I wanted to gain a thorough understanding of the strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses, with the consideration of real-life experiences (Yin, 2014).

Researchers combine the theoretical features of a qualitative study with the procedural features of a quantitative study to create mixed methods research (Leech & Onwuegbuzie, 2009; Leedy & Ormrod, 2013). In the mixed method framework, researchers use the conclusions or answers from the statistical inquiry to reinforce additional results (Leech & Onwuegbuzie, 2009; Leedy & Ormrod, 2013; Sparks, 2014). Mixed methods research includes both gathering and analyzing quantitative and qualitative data (Johnson, 2015; Leedy & Ormrod, 2013). Quantitative data were not used

to address the research question for this study. Therefore, a mixed method was not appropriate for this research.

Research Design

I examined four separate qualitative designs to evaluate which design suited this study: narrative inquiry, ethnography, phenomenology, and case study. When pursuing an in-depth comprehension of a real-life phenomenon, where such understanding includes significant contextual conditions, the case study design was most suitable (Davis, 2013; Reiter, Stewart, & Bruce, 2011; Yin, 2014). The case study design was appropriate for this study because the case study design gave me the tools to investigate and conduct a thorough analysis.

A case study design is also suitable if the case is characteristic of other businesses in the same industry, and the researcher assumes that the results will shed light on similar incidents involving other companies within an industry (Davis, 2013; Reiter et al., 2011; Yin, 2009). The purpose of this study was to explore what strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. I used the multiple case study design to explore and understand the SME characteristics required for GSCM integration.

Other qualitative research designs available to researchers include phenomenology, narrative inquiry, and ethnography. The phenomenological design is acceptable when exploring the essence of the participant's lived experiences, and when learning about the phenomenon under study (Davis, 2013; Denzin & Lincoln, 2011; Reiter et al., 2011). Bevan (2014) suggested that researchers use the phenomenological

design to generate knowledge about a participant's life and that the participant could realize only in recollection. Reiter et al. (2011) mentioned that phenomenology underscores a way to create knowledge frequently experienced as an experience in a person's life that he or she discovers in recollection.

The phenomenological design entails the inclusion of at least 20 research participants, along with considerable time and effort dedicated to research, beginning with initiation through data analysis (Bevan, 2014). Also, the phenomenological design does not incorporate secondary documentation as a means to employ methodological triangulation (Denzin & Lincoln, 2011; Roberston & Thompson, 2014; Yin, 2014), which is crucial when striving for data saturation. The phenomenological design is most suitable when exploring a complex real world phenomenon over an extensive and lengthy arrangement, which was not the aim of this study. Therefore, a phenomenological design was not well suited for this study. When the researcher is conducting probing and investigative research, analyzing a phenomenon in its natural venue, or establishing when or how it occurred, Yin (2014) recommended that the case study research design is most fitting.

The ethnographic design is informative, and researchers employ ethnography to examine a social group's mutual patterns of activities and communication (Reiter et al., 2011; Ronald, 2011). With an ethnographic design, the qualitative researcher deeply depends on the field notes of communications with research participants as the principal means of collecting information (Davis, 2013; Reiter et al., 2011). The ethnographic design lacked suitability for this study because, according to Davis (2013), Lambert et al.

(2013), and Ronald (2011), the ethnographic design is for collecting observed information about individual groups and ethnicities, including organizational customs. The purpose of this study was not to explore cultural groups or ethnicities. Therefore, the ethnographic design was not an appropriate design for this study.

The narrative inquiry design includes the researcher engaging participants to examine the essence of the stories that influence their lives (Juntunen, 2014). The core of the narrative design is an interpretative style where a researcher acquires specifics about beliefs, passions, and developments that researchers could not discover during quantitative studies (Lambert et al., 2013). This study's purpose was not to explore participant life-stories, passions or beliefs; therefore, the narrative design lacked suitability for this study. The focus of this study was to explore what strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses and sought to interview a small group of participants who share a common experience.

When pursuing an in-depth comprehension of a real-life phenomenon, where such understanding includes significant contextual conditions, the case study design is most suitable according to Reiter et al. (2011), Ronald (2011), and Yin (2009). The purpose of this study was to explore the strategies need by SME supply chain leaders to implement GSCM to increase productivity and decrease losses. A case study design enables the researcher to explore and run a thorough analysis of the experience so that a complete understanding of the phenomenon could take place (Buchanan, 2013; Landrum & Garza, 2015; Yin, 2014). In this case, the in-depth study was intended to explore the strategies

SMEs need to implement GSCM. I could have chosen either the multiple case design or the single case design.

The single case design consists of only one case, whereas the multiple case design consists of two or more case studies (Buchanan, 2013; Yin, 2014). The researcher consciously attempts to examine the settings where other researchers duplicate the same outcomes in multiple case studies (Thomas et al., 2011) Between the two designs, the multiple case study design contributed stronger findings than the single case design because, as Yin (2014) said, single case studies are at risk because the researcher will base his research on data retrieved from a single case possibly resulting in skewed results. Whereas, in multiple case studies, analytical advantages exist when combining the outcomes of two or more cases. According to Yin (2014), a single case study could prove less convincing than that of a multiple case study. Yin also argued that the results from multiple case studies are more gripping and full-bodied than that of the single case study. The researcher could choose either the single case design or the multiple case design. I have selected the multiple case study design. Yin (2014) mentioned that the multiple case method provides a much richer healthy amount of evidence than the single case method. Yin also said that researchers might choose at least two cases when attempting to comprehend and evaluate situations. I have chosen three.

Data saturation occurs at the point in data collection and data analysis when the accumulation of data offers little or no change to the documented themes or codes (Bevan, 2014; Buchanan, 2013; Kolb, 2012). Data saturation ensures that sufficient quality data are collected to strengthen qualitative research (Bevan, 2014). According to

Gandy (2015); Landrum & Garza (2015); and Leedy & Ormrod (2013), before I identified strategies SME supply chain leaders needed to implement GSCM to increase productivity and decrease losses, the study reached data saturation. Yin (2014) argued that using a population sample size of two to three cases could be sufficient to acquire the data needed to develop an understanding of the incident in a real-life setting. Consequently, data saturation occurs when the researcher determines that there is no need for further data retrieval and no new data surface (Davis, 2013; Guest, Bunce, & Johnson, 2006; Leedy & Ormrod, 2013).

Population and Sampling

The population was three SME leaders from three construction companies in Summit County, in the State of Ohio. I sampled SMEs construction companies using a purposeful sampling technique to select the companies and participants for this study. I identified a primary contact person at three SMEs construction companies that have used GSCM strategies to increase productivity and decrease losses. Potential participants from the target population came from the employee roster that meets the eligibility criteria provided by the primary contact. The primary point of contact provided the researcher with the contact information for the potential participants. The researcher must have a detailed objective in mind when seeking a purposeful sample (Davis, 2013). Therefore, the researcher must consciously choose study essentials to realize a precise aim (Carlsen & Glenton; Rowly, 2012; Suri, 2011). Researchers use purposeful sampling to confirm that each participant has the most pertinent, abundant, and useful information possible (MacBeth et al., 2014; Xie, Wu, Luo, & Hu, 2012). Carlsen & Glenton, (2011), Rowley,

(2012), and Yin (2014) mentioned that using a sample size of two to three cases could be sufficient to acquire the data needed to develop an understanding of the incident in a real-life setting.

Suri (2011) mentioned that the purposeful sampling method entails access to select people who can offer secure information related to the issue, condition, or a particular interest. A significant share of the strategy of both analytical and descriptive research is to establish the proper sample size for analysis (Suri, 2011). Each study participant has administered or taken part in strategies and processes relevant to sustainable measures. I requested that each participant in this qualitative case study had a history of implementing or managing GSC activities within the company so that they could provide rich narratives detailing the impact of GSCM.

Managers or employees with GSCM experience included exposure to sustainable events, which could better describe how green interventions influence the Triple Bottom Line (Kumar, Holt, Ghobadian, & Garza-Reyes, 2015). The purpose of sample size was to assess a suitable number of participants for the research (Yin, 2014). The sample size was sufficient to assure data saturation (Haghshenas et al., 2011). Saturation is an important technique used to confirm whether the amount of the data collected validates the research study (Haghshenas et al., 2011; Suri, 2011; Walker, 2012).

Researchers have reasoned that the research study sample size should be considerable and significant enough to create research credibility, but small enough to incorporate as much vigor, detail, and research as necessary to examine the phenomenon in question (Rowley, 2012). Yin (2014) mentioned that a study population size of two to

three cases is sufficient for a case study. Yin contended that when performing multiple case studies, two to three cases are adequate as a forecast of the precise replication of the real-life experience within the context of the phenomenon. Researchers conducting multiple case studies with a population size of two to three can acquire valuable data through interviews and secondary data to obtain a profound grasp of the phenomenon (Carlsen & Glenton, 2011; Rowley, 2012; Yin, 2014). If data saturation did not occur with three cases, I would have continued to interview members of the original sample as well as analyzing relevant company documentation until reaching data saturation.

I used triangulation as a means of increasing the validity and gaining a deeper understanding of the phenomenon at hand (Haghshenas et al., 2011; Suri, 2011; Walker, 2012). The different types of triangulation include (a) environmental triangulation, (b) investigator triangulation, (c) theory triangulation, (d) methodological triangulation, and (e) data triangulation (Haghshenas et al., 2011; Suri, 2011; Walker, 2012). Environmental triangulation occurs when a researcher wants to include other critical elements of a research study such as time-of-day, weekday, or season (Haghshenas et al., 2011; Suri, 2011; Walker, 2012). Environmental triangulation did not meet the requirements of this study.

Investigator triangulation involves using different researchers during an assessment design. Investigator triangulation does not fit this study. Theory triangulation includes using various professional outlooks to understand a single set of data (Haghshenas et al., 2011; Suri, 2011; Walker, 2012). Theory triangulation did not meet the requirements of this study. Methodical triangulation occurs when the researcher uses

several qualitative and quantitative methods to perform research (Haghshenas et al., 2011; Suri, 2011; Walker, 2012). Methodological triangulation did not meet the requirements of this study.

According to Haghshenas et al. (2011); Suri (2011); and Walker (2012) data triangulation occurs when the researcher uses separate sources such as responses to questions, company records, employee records, and profit and loss statements to address the same issue. Carlsen and Glenton, (2011); Rowley (2012); and Yin (2014) also revealed that data from multiple sources point to the same conclusion, more than likely the outcome is cohesive. Data Triangulation involved collecting data from several information sources that happen to support the same conclusion. Data Triangulation is a technique that can be of benefit to this study as an aid to help reach data saturation (Haghshenas et al., 2011; Suri, 2011; Walker, 2012). I used data triangulation to meet the requirements of this study. Data Triangulation helps to establish findings from multiple sources of data by separate analysis (Suri, 2011; Walker, 2012; Yin, 2014). Yin (2014) furthered that data triangulation offers case study support through more than a single source of evidence to strengthen case study findings.

Participants for this study were managers or higher. Each participant had administered or taken part in strategies and processes relevant to sustainable measures. I requested that each participant in this study have a history of implementing or managing GSC activities within the company. Managers or employees with GSCM expertise and experience with sustainable operations can better provide a rich description of how

GSCM impacts the Triple Bottom Line (Mathiyazhagan et al., 2014; Sivaprakasam et al., 2015; Zhu et al., 2005).

Ethical Research

The researcher is responsible for protecting each participant and increasing the validity of the study outcome (Eide & Showalter, 2012). All research study participants had the right to withdraw from this study at any time and for any reason. At no point did any research participant receive incentives to participate in this study. Such an occurrence could negatively influence the outcome of the investigation by affecting the quality of data. There was no fear of retaliation if they decided not to participate. I did not pressure or persuade potential participants to take part in the interview. Ethical research should display reverence and advise study participants of research implications (Yin, 2014). In accordance with the Belmont Report (1979), I abided by the three ethical tenets of research involving human beings (a) the rules of respect of people, (b) beneficence, and (c) justice. Invitations to participate in this research study (see Appendix D) were sent to each chosen potential participant through e-mail. The purpose of the request was to acquaint the potential participant with the researcher and this study project.

To remain ethical and respectful of human rights, data collection did not commence until the Walden University IRB approved this study (Walden IRB approval # 09-02-16-0450557), and a letter of invitation (Appendix D) sent by email to potential participants. According to the U.S. Department of Health & Human Services (HHS), (1979), as part of this study, I complied with the principles of the Belmont Report's ethical guidelines and protected the rights and confidentiality of each research participant

(HHS, 1979). The Informed Consent letter (see Appendix A) outlined the precautionary measures to use when conducting my research. The letter of invitation (Appendix D) included an explanation of the research purpose, and the participant addressed consent form, for the participant's evaluation and electronic endorsement. I did not harm any participant, and I minimized risks by protecting the participants' identification and their respective organizations. The act of being anonymous allowed protection for each participant and their organizations (HHH, 1979). To ensure fairness, selection of each participant reflected the same study participation criteria as other participants (HHH, 1979). According to researchers Carenza (2011) and Sherrod (2011), the use of precautionary measures protects the identity of participants.

Each participant agreed to the conditions of his participation by responding with a signature to the letter of invitation form attached to the email with "*I consent.*" Performing conscientious exploration included certifying that the results are binding, significant, and valid while following ethical guidelines (Leedy & Ormrod, 2013; Yin, 2014). I provided participants with the informed consent form at least 48 hours before conducting interviews to ensure participants had adequate time to review the study information and ask questions before deciding to participate in this study. Subsequently, I called each participant to schedule an interview and advised each participant of his/her rights, as well as address any questions the participant may have had. Ethical researchers should exhibit transparency and inform study participants of research implications (Yin, 2014). Participants could have withdrawn at any time without penalty or notification. Participants could have contacted me by phone or e-mail to opt out without further

explanation. If any participant had wanted to withdraw at any time during, or after this study, I would have honored their request. All participants could request a copy of this study results from the researcher.

All applicants were over the age of 18 years old. Participants in this study were not offered or received any incentive to participate or be subject to any means of coercion. Participants then endorsed their consent forms, and each participant received a copy of the consent form to retain for their records. I excluded all identifying information from interview recordings, interview summaries, and the presentations of findings. The only documents that contained identifying information were the employee roster provided by the participants' and the consent forms. To maintain confidentiality, I assigned each participant and company selected for this study the following pseudonyms *C-1 to C-3* for the companies, and *P-1 to P-3* for each employee.

The act of assigning pseudonyms helped to ensure that participant identities remain protected and no harm came to them or their companies (Buchannan, 2013). I was the sole person to review and access the data. I fully protected the identity of participants. The final analysis and write-up did not identify the participants by name, address, phone number, or business name. I did not include any of the participant's personal information. I protected the names of the participants and the organizations they represented at all times. The researcher provided each participant with a 1-2-page summary of the study results which were hand delivered to the appropriate participants and stakeholders within 4 days of finalizing the research. To further conceal the identities of all participants, I will lock all copies of recorded interviews in a locked safe that only I

can access. I will protect other study information, such as company documents by following the guidelines listed in Appendix E: Consent and Document Release Form. All secondary data, including my reflective journal and business records, will be stored in a safe which only I can access. After 5 years, I will destroy all data by shredding any printed documents and delete any stored files on the computer.

Yin (2014); Murphy and Kiffin-Petersen (2017); and Buchanan (2013) explained that exercising ethical behavior is vital when conducting research. Extreme care used during data collection, storage, and analysis, was of the utmost importance when safeguarding the rights of participants and sustaining their privacy (Murphy & Kiffin-Petersen, 2017). I ensured this by abiding by the rules and standards set forth as guidelines published in the Belmont Report, issued by The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (1979). Taking the maximum amount of care during data gathering, storage, and analysis is foremost in protecting the rights of each participant and maintaining his/her privacy (Barratt et al., 2011). I assured participants, verbally and in writing that they may feel minor nervousness initially about the interview. I also provided a safe, secure, and comfortable environment that was free of distractions to relieve any stress and anxiety. I assured participants that no other person would be present in the interview room and that the researcher posed no threat of harm or danger to them.

Data Collection Instruments

Qualitative researchers collect terms and expressions while conducting a research study. The communication between the researcher and the participant could offer rich

data regarding life experiences (Bailey, 2014; Graebner, Martin, & Roundy, 2012; Hurst et al., 2015). As the researcher, I was the primary data collection instrument in this study (Yin, 2014). According to Graebner, Martin, and Roundy (2012), Hurst et al. (2015), and Yin (2012), among the variety of the tools used can include questionnaires, observation (participant and direct), focus groups, on-site visitation, in-depth interviews, documentation, and a review of archival records.

I collected data using semistructured interviews guided by open-ended questions (see Appendix C), company records, employee records, and profit and loss statements (see Appendix B). This data collection instruments included an audio tape recorder, notepads, and writing tools. Interviewing participants were the primary method of data collection for this study.

I recorded and transcribed all interviews. There are many benefits of recording each interview. The researcher can better focus, listen, and respond to recorded data better. Recordings help to reduce biases that could occur during note taking. The researcher does not have to rely on interview notes or memory when analyzing the data. Recorded interviews offer the researcher a better, complete image of the events. The researcher can go back and review recorded data in their entirety (Yin, 2014). Transcription involves taking notes of an interview and provides a complete script of an interview. Transcription offers several benefits; researchers can swiftly skim and assess the relevance of an interview, transcription simplifies the reliance on tapes used to record interviews (The Library of Congress, 2009).

According to Yin (2014), the interview is a vital resource for obtaining case study data. The interview protocol (see Appendix C) describes the interview steps taken during this study. The case study interview process, according to Jacob and Furgerson (2012), and Potter, Mills, Cawthorn, Donovan, and Blazeby (2014), is a means of achieving an understanding based on research participants' explanations of the significance of the phenomenon of concern.

In qualitative studies, member checking is vital for increasing validity, and the participants help validate the accuracy and credibility of a study when using member checking (Leedy & Ormrod, 2013). Member checking contributed to enhancing the reliability and validity of the data collection instrument and process. Member checking occurs when the researcher (a) conducts the initial interview, (b) clarifies what the participant discussed, and (c) reveals the clarification with the participant to check for validity (Haghshenas et al., 2011; Suri, 2011; Walker, 2012). Member checking is a process for participant verification (Harper & Cole, 2012) by asking the participants to examine the researcher's versions of their statements and evaluation of the company files, as related to GSCM strategies. Member checking occurred after the data collection process and involved conveying initial findings back to each participant, requesting essential feedback on data collection outcomes, and integrating comments into the results of research (Leedy & Ormrod, 2013; Sparks, 2014; Stake, 1995).

Data Collection Technique

The research question for this study asked: what strategies do SME supply chain leaders need to implement GSCM to increase productivity and decrease losses? Lincoln

and Guba (1985) suggested that during a proposed study, the researcher continues collecting data until no new data surfaces to ensure data saturation. I continued to seek new data concerning GSCM and SME construction companies during the entire course of this study. Data collection for this study included semistructured interviews guided by open-ended questions. I intended to develop a rich account of GSCM by collecting and analyzing multiple sources of data for the triangulation.

As the researcher, I asked the participant, during the informed consent process, to furnish relevant documents related to strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. In the case where the participant does not have the authority to release such information, the IRB mandated that I sought a release form from each company representative with authority to release documents. The collection of business documents followed the completion of interviews with participants from each company. There was no breach of confidential information during the data collection process.

Every effort was made to accommodate each participant's schedule by finding times that suited their schedule demands so that there was minimal conflict with their business responsibilities. Also, allowing too much time between collecting data, data interpretation, and member checking may have affected the memory of participants and created lapses in memory or the accidental omission of important information regarding the interview sessions and corroboration of my understanding of their answers (Harper & Cole, 2012; Kelty, Julian, & Ross, 2013; Lincoln & Guba, 1985). After the research participants validated the accurateness of my interview response interpretations, I

examined the data seeking common patterns and to integrate the meanings of the participant experience as they connect to each theme developed from study findings. Each interview took place at a location where the participants were at ease and provided detailed replies to each of the semistructured interview questions (see Appendix C). I precisely followed the interview protocol and asked the same questions of each participant to mitigate bias and increase the validity and dependability of this study.

Interview Protocol

1. Introductions occur between the researcher and participant(s).
2. Give consent forms to each participant, review and address participant(s) questions or concerns.
3. Provide participant(s) with a photocopy of the consent form.
4. Introduce the pseudonyms and remind each participant not to use their name or their company's name during the interview, noting the date and time of interview
5. Activate the tape recording device.
6. Start the interview with question number 1, and conclude with the last question.
7. Supplement with probing questions for clarification of participant responses to questions.
8. Remind participants that I will summarize each interview response and contact them within a specified timeframe to review my summaries of their replies and to ask for any corrections or additions.

9. Thank all participants for taking part in the research study.
10. Repeat all contact numbers for any necessary questions and concerns from the participant(s).
11. End of the interview protocol.

Interview Questions

1. Based on your experience, which GSCM strategies increased productivity and minimized financial losses?
2. Based on your experience, which GSCM strategies did not increase productivity and decrease losses?
3. What parties helped in developing strategies for GSCM, and how were they involved?
4. Based on your experience, describe the difficulties in implementing GSCM practices or strategies along the supply chain.
5. How did you convince supply chain leaders that going green was in their best interest?
6. Based on your experience, please describe what sustainable strategies leaders of your organization look for when implementing new changes.
7. Based on your experience, describe how your company has benefitted from GSCM.
8. What strategies and tools helped supply chain leaders within your organization, who had difficulty implementing GSCM practices?
9. What other information regarding GSCM strategies would you like to share?

I conducted in-depth semistructured face-to-face interviews guided by open-ended questions. I purposely chose participants who had experienced the phenomenon in order to document the common descriptions of the phenomenon. Each participant received information about the interview process, type of interview, the overall plan, and the aim of the research. I increased the data collected from each interview to include secondary data. I requested that each participant submit company documentation about GSCM strategies comparable to the methods used by researchers Gibbons (2015) and Thomas (2015) so that the secondary data would aid in my understanding of the GSCM strategies used to increase productivity and decrease losses while I conducted member checking.

On the date and time of each interview, I restated the purpose of the study, and I also reviewed the consent and confidentiality forms with each participant. I also explained the purpose of recording the interview session for which each participant agreed. Each interview lasted between 45 and 60 minutes with managers or leaders of SME construction companies as previously conveyed to participants by the letter of invitation (Appendix D). There was no pilot study for this study. Throughout the data collection period and interviews, the participants were allowed sufficient time to consider and deliver full responses for every question. Once each participant fully replied to every interview question; I ceased recording. An advantage of using semistructured interview questions (Appendix C) was that each participant provided rich, detailed answers while communicating on his/her terms in a custom that he/she consider most beneficial (Leedy & Ormrod, 2013, 2011; Sparks, 2014; Stake, 1995).

Some of the disadvantages of an interview include the *interviewer effect*. The interviewer effect occurs when the participant focuses only on a researcher's gender, age, and ethnicity (Potter et al. 2014; Winker, Kruse, Menold, & Landrock, 2015). The interviewer effect can affect the degree, type, and the amount of information shared by the participant (Winker et al., 2015). Another potential disadvantage of the interview is *demand characteristics;* this occurs when the participant's response depends on what they think the situation requires and then respond with false answers (Potter et al., 2014; Vassallo, Durrant, Smith, & Goldstein, 2015; Winker et al., 2015).

Advantages of data collection techniques include: low cost, participants can describe the circumstances and what matters to them, and useful for collecting statements or accounts (Houghton, Casey, Shaw, & Murphy, 2013; Leedy & Ormrod, 2013; Street & Ward, 2012). The disadvantages of interviews include (a) interviewer bias, (b) they are time-consuming, and (c) they could be invasive to the participant (Houghton et al., 2012; Leedy & Ormrod, 2013; Street & Ward, 2012). Member checking supplemented the wealth of data and the attainment of saturation (Bekhet & Zauszniewski, 2012; Coulder & Boness, 2011; Munn, Porritt, Lockwood, Aromataris, & Pearson, 2014). Member checking is a vital part of qualitative research. Member checking acts as a quality control device where the aim is to increase accurateness, reliability, and legitimacy of interview data (Houghton et al., 2012; Leedy & Ormrod, 2013; Street & Ward, 2012).

Member checking took place after the data collection process. I paraphrased information from interview responses to questioning and documentation about GSCM. Each participant was asked to verify the accuracy of the researcher's interpretations of

their responses as part of the member checking process (Lincoln & Guba, 1985; Stake, 1995). I altered the summarized interpretations based on participant feedback during the member checking process. I continued the member checking process until no new information surfaced. I also used documentation as the second data source of evidence to corroborate findings. Member checking has other descriptors such as member confirmation, participant response, and informant validation (Houghton et al., 2012; Leedy & Ormrod, 2013).

A researcher conducts member checking after the data collection process by providing the participants with initial interpretations of their question responses and by requesting feedback on the accuracy and completeness of those interpretations, seeking essential feedback on data collection outcomes, and integrating comments into research findings (Leedy & Ormrod, 2013; Sparks, 2014; Stake, 1995). According to (Malviya & Kant, 2015), inviting the participants to review a summary of interpretations of their responses to the interview questions and company documents about GSCM strategies, can heighten the integrity of the completed study and its deductions, and enhance the validity and reliability of research.

Data Organization Technique

According to Anyan (2013), the implementation of proper data organization techniques supports the integrity of the transcribed taped interview, audiotaped copies of interviews, along with additional duplicates of recordings. The groundwork for data organization starts before performing each interview by confirming that every instrument and resource functions as anticipated (Houghton et al., 2012; Leedy & Ormrod, 2013;

Street & Ward, 2012). A researcher may protect the identity of all participants by assigning unique codes or identifiers to each one (Gibson, Benson, & Brand, 2013).

In this study, I assigned a pseudonym or code "P" to conceal participant identities. Each participant gave written consent that includes permission to audio record the interview (See Appendix A). After audio taping each interview, the recordings are transcribed correctly, and the resulting data inserted into a Microsoft Word document.

Once the interviews concluded, I filed all the transcripts into electronic folders on my computer. Filing all transcripts helped to ensure that they do not become missing, misplaced, or modified. The interviewer must preserve transcribed interviews, cassette recordings of each interview, and any backup versions of each interview as instructed in the data storage procedure (Anyan, 2013; Davis, 2013; Gajewski, 2013). Keeping backup copies of all files helps to ensure that if any files become missing, misplaced, or modified, I would not have to begin the data collection process over again. Davis (2013) and Gajewski (2013) advocated using impersonal private labels to preserve confidentiality. Davis and Gajewski cited against disclosing details about the participants during or after the completion of this study. Gajewksi (2013), Davis (2013), and Anyan (2013) suggested the use of a master file filled with company documents, journal notes, and data that include labeling files of the recorded and written transcripts. I created a master file by gathering all of the data material and assembling it into a single electronic file, all appropriately labeled. In the event there is missing material, an archival sheet will explain the occurrence.

I used NVivo 10 software to store data for coding and the exploration of themes while preserving the privacy of all participants. To further conceal the identities of all participants, I locked all copies of recorded interviews in a safe that only I can access. I will protect other study information, such as company documents, by following the guidelines listed in Appendix E: Consent and Document Release Form. All secondary data, including my reflective journal and business documents, will be in a safe where only I can access. After a period of 5 years, I will destroy all data by shredding any printed documents and delete any stored files on disk or the computer.

Reflexive journaling is vital for capturing thoughts and considerations about research (Yin, 2011). Yin revealed that reflexive journaling helps provide evidence of unwanted bias during analysis when used for self-examination and intuitions into individual responses or thoughts concerning ongoing research. Researchers could be unaware of such biases, and maintaining a journal also can help to identify and document methodological or personal trends over time. In a few cases, knowledge of such tendencies fails to appear but recognizing them could result in useful ideas about approaching future explorations.

The information gathered in a reflexive journal will add to critical thinking specifically in the areas of analyses and decision making (Lincoln & Guba, 1985). By using the reflexive journal, I explored and enhanced my personal development as a researcher by improving my critical thinking skills. The information in the reflexive journal helps the researcher become well rounded and less apt to develop bias during research. I implemented reflexive journaling to bracket my personal experiences

regarding the phenomenon under examination. Lincoln and Guba (1985) recommended implementing a journaling process to ensure mitigation of personal bias, ethics, or opinions while conducting qualitative research. Researchers, Lincoln and Guba (1985) and Yu (2014) determined that the complete objectivity of the researcher's private opinions is impossible.

During a qualitative study, the researcher is an essential factor during the entire research process. Significantly, researchers are capable of mitigating biases by implementing reflexive journaling (Lincoln & Guba, 1985). Researcher opinions and beliefs can influence a participant's experiences while under investigation. The use of a reflexive journal can heighten the ability of the researcher to keep a reflexive perspective concerning the phenomenon under study (Ponterotto, 2014; Fields & Kafri, 2009). Lincoln and Guba (1985) asserted that reflexive journaling and bracketing are similar processes. I used reflexive journaling, including bracketing during the complete research process. As I recognized and bracketed my particular viewpoints, I wanted to increase my understanding of the viewpoints of the participants involved in the phenomenon under study (Marshall & Rossman, 2011).

Data Analysis

Resulting from the interviews that had taken place with leaders from the SME construction companies, I performed an analysis of each experience to explore the phenomenon in a real-life setting (Yin, 2014). Qualitative researchers ask open-ended questions as a means of collecting useful data and exploring meanings (Buchannan, 2013; Fielding, 2012; Wilson, 2012). Using a secure interview protocol (Appendix C), I asked

each participant open-ended questions during each interview session (see Appendix C). These interviews with three company managers or leaders from three different SMEs in Summit County, State of Ohio, and relevant business documents provided data for this study.

Data triangulation is the merging of data from different sources to establish the dependability of the results (Buchannan, 2013; Fielding, 2012; Yin, 2014). Using data triangulation helped to provide more than one source of evidence to support the outcomes of this study. I used Yin's (2014) method for data analysis to pinpoint and drew attention to the strategies SME leaders need to implement GSCM to increase productivity and decrease losses. Yin's (2014) process helped the researcher uncover significant themes, patterns, and explanations for the central research question. The descriptions provided by SME leaders contributed to exploring the phenomenon in an actual setting. Data triangulation increases the fruitfulness of qualitative research and facilitates believability (Fielding, 2012). I used Yin's 5-step approach to data analysis to analyze all data (Yin, 2011).

Data from multiple sources such as interviews and company documents come together through data triangulation as a means of backing the study results by use of more than one source of evidence (Yin, 2014). Yin goes on to mention that the act of converging evidence through data triangulation provides a means of strengthening construct validity in research. The goal of data analysis is to identify themes to solve the fundamental research question, and data analysis consists of studying, classifying, arranging, testing, or otherwise recombining evidence to produce empirically based

findings (Yin, 2014). According to Onwuegbuzie and Leech (2006), the most critical phase of qualitative research is data analysis. For this study, data analysis was the outline for understating the strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. After data collection ended, I analyzed all of the collected data.

NVivo 10 software gives researchers the ability to code and identifying relevant themes (Bergin, 2011; Garrett-Howard, 2012; Leech & Onwuegbuzie, 2011). Therefore, the researcher makes use of data analysis software to identify themes that emerge from the data. (Garrett-Howard, 2012). NVivo 10 software enabled me to enter, store, code, and study themes and patterns. The NVivo 10 software was well suited for detecting themes (Bergin, 2011; Garrett-Howard, 2012; Leech & Onwuegbuzie, 2011). Advantages of NVivo 10 software included the ability to store data in a distinct location with trouble-free access to information and the capacity to use a consistent coding scheme (Bergin, 2011; Garrett-Howard, 2012; Leech & Onwuegbuzie, 2011). The use of NVivo 10 software increased precision during qualitative research (Bergin, 2011; Leech & Onwuegbuzie, 2011; Trotter, 2012). The NVivo 10 software helps the researcher align assembled data with previous literature (Bergin, 2011; Leech & Onwuegbuzie, 2011; Trotter, 2012).

Bekhet and Zauszniewski (2012) mentioned that digital records and accurate transcripts of every interview are the foundations for transferring data into software designed for information analysis in the qualitative study. Each participant's response centered on the research question of this study and each semistructured interview

question (see Appendix C). In a further effort to maintain the confidentiality of interview responses and protect the identities of the participants, all study data, and related material will be stored inside a locked and secured safe for a period of 5 years to which I have sole access by use of a key. At the end of 5 years, I will shred all written documents, and all electronic files erased.

This qualitative study included semistructured interview questions (see Appendix C) designed to extract rich data from a sample of three purposefully selected company employees from three SME construction companies. The data obtained from this study were analyzed to identify themes to solve the fundamental research question. According to Leech and Onwuegbuzie (2011), computer-aided qualitative data analysis software (CAQDAS) functions include limitations compared to those intended for quantitative studies. An illustration positioned inside of CAQDAS instruments is that the researcher will import all recorded data from interviews, archival, and economics sources, figures (process triangulation), and transcript review inside software during this study Leedy & Ormrod, 2013)

I uploaded all written transcripts into the NVivo 10 software from Microsoft Word. Afterward, I compiled the data. Compiling is the procedure for categorizing data (Leedy & Ormrod, 2013; Yin, 2011b). Once the data undergoes compiling, the data was disassembled, or broken down into smaller pieces and coded; I repeated this procedure during data analysis (Yin, 2011). Disassembling data requires a strict process of data coding (Leedy & Ormrod, 2013; Yin, 2011b).

Coding is a procedure used to tag data segments with categorical labels or descriptive terms. Afterward, I submitted the data into grouping (Leedy & Ormrod, 2013; Ward, 2012). Coding the data is vital to the identification of themes and patterns (Leedy & Ormrod, 2013; Ward, 2012). Researchers could use the auto-coding feature within the NVivo 10 software to pinpoint likenesses in data and predominant themes. In that way, researchers can observe any consistency between the views of participants. The data analysis method of this qualitative multiple case study was Yin's five-phase qualitative data analysis that comprises: (a) compiling, (b) disassembling, (c) reassembling, (d) interpreting, and (e) concluding (Yin, 2011b).

Compiling

Yin (2011) contended that the purpose of compiling data is to organize all data before beginning any analysis. Compiling is comparable to organizing chapter notes before studying for an exam. Collected data allows for stronger research which leads to sturdier analyzes, and ultimately, to more accurate qualitative research (Yin, (2011). Once the interviews concluded, I filed the transcripts into electronic folders on my computer. Filing research data helps to ensure that the files are in order and that they do not become missing, misplaced, or modified. It is crucial to preserve the transcribed interviews, cassette/diskette recordings of each interview, and any backup versions of each interview; this is the function of the data storage procedure (Anyan, 2013; Davis, 2013; Gajewski, 2013).

Keeping backup copies of all files helps to ensure that if any files become missing, misplaced, or modified, I would not have to begin the data collection process

over again. Davis (2013) and Gajewski (2013) advocated using nonpersonal private labels to preserve confidentiality. Davis and Gajewski debated against disclosing details about the participants during or after the completion of the study. Gajewksi (2013), Davis (2013), and Anyan (2013) suggested the use of a master file filled with company documents, journal notes, and data that includes labeling files of the recorded and written transcripts. I created a master file by gathering and assembling all of the data material and into a single electronic file, all appropriately labeled. In the event there is missing material, an archival sheet would be used to show the occurrence.

As Yin (2012) mentioned, the review will be a very analytical and could last weeks or even months. I searched for any unique attributes in this study, links between the collected data and the research question, and any new insights (Yin, 2011). The components located in the literature review served as the foundation for organizing data gathered for this study. I examined sections encompassing the study sample, then labeled and collected all items with similar terms, expressions, and sentences. Yin (2011b) mentioned that the practice of labeling and assembling data into specific groups leads to advancing a study's database.

Disassembling

Yin (2011) suggested that each phase could become recursive, meaning that I could leave one phase and return to an earlier phase to make adjustments, go to a future phase to preview or emerge a concept, and then revert to the original phase. Once data was compiled and labeled and properly organized, qualitative researchers can further arrange data into smaller groups. I began to code data, such as field activity, actions,

objects, individual views, explanations, and other statements stated by participants (Yin, 2011). These items, according to Yin (2011), have significantly contextualized details such as the time of occurrence, venue, and the individuals involved in the item. These qualities rendered every item distinctive, and the objective was to recognize and categorize data based on emerging patterns and themes (Yin, 2011).

Coding these items allowed the process to transition to a conceptual level (Yin, 2011). Based on the unique attributes of the items, coding emanates from similarities (Yin, 2011). During this increased conceptual level, the coded item can fit into different records in a variety of ways, and in comparable or different groups (Yin, 2011). After coding ends, I examined each group to acquire insight; this was considered Level 1 coding or open coding (Yin, 2011).

While performing Level 1 coding, I examined how each code related to other codes from the same level (Yin, 2011). During this effort, the analysis moved forward to an even greater level by identifying the categories where, in Level 1, the codes have fallen. After identifying the categories of where, in Level 1, the codes fell, the coding effort proceeded and developed into category codes or Level 2 codes (Yin, 2011). Disassembling data can happen faster with the use of CAQDAS or Computer Assisted Qualitative Data Analysis (Yin, 2011). After assigning codes to the items, I used the NVivo 10 software to perform the inspections and reinspections of the coded items, and eventually assign them to the next level of category codes. In the second step of data analysis, my goal was to break down compiled data into smaller fragments, assigning

new labels or codes. The act of disassembling may repeat in the same context as a means of testing codes (Yin, 2011).

Reassembling

After I compiled the data, the reassembling of data began. The use of NVivo 10 allowed the researcher to connect previously coded terms, expressions, and sentences for identification of emerging patterns and themes (Houghton et al., 2012; Street & Ward, 2012). A Microsoft Excel database will contain the organized and labeled emerging themes and patterns for additional analysis. While in the analysis process, the researcher assesses data to diminish pattern/thematic bias. During the reassembling process, items placed in various arrangements and themes, while manipulating each arrangement until themes emerged (Yin, 2011). I then entered the data into arrays and avoided bias during emergent analysis by taking precautions such as rendering ongoing comparisons, checking for undesirable cases, and participating in conflicting thoughts (Yin, 2011). One way to work with data is to arrange them in an orderly manner called arrays (Yin, 2011). Yin furthered that some researchers may avoid creating data arrays and move onto the next phase of interpreting. The use of NVivo 10 allowed me to examine different code configurations, which were then used to create hierarchical arrays. Productive reassembling, accompanied by satisfactory arrays, will provide strong themes or outlines of the entire analysis (Yin, 2011).

Interpreting

During this phase, the researcher offers clarification based on the evidence collected or the underlying ties created during the application of NVivo 10 (Yin, 2014).

Data analysis involves contemplation and scrutiny based on the researcher's instinct and intelligence (Houghton et al., 2012; Street & Ward, 2012; Yin, 2014). The researcher's capacity to draw attention to and justify issues is vital throughout this phase of analysis (Street & Ward, 2012; Yin, 2014). The purpose of this qualitative multiple case study was to explore what SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. Researchers can explain a phenomenon by specifying a supposed series of causal links (Street & Ward, 2012; Walker, 2012). The sequence of events used to clarify or explain the phenomenon stems from the theoretical or hypothetical propositions created for the study (Street & Ward, 2012; Walker, 2012).

Interpreting involves extensive revelatory abilities encompassing the critical sections, possibly the entire research data, and the researcher's inherent meanings (Houghton et al., 2012; Street & Ward, 2012; Yin, 2011). Similarly, interpreting helps the researcher to develop a broad overview, whose central themes develop as the source for comprehending the research study (Houghton et al., 2012; Street & Ward, 2012; Yin, 2011). A precise definition of interpreting does not exist, however (Houghton et al., 2012; Street & Ward, 2012; Yin, 2011).

I synchronized the research findings and created the correct language and concepts (Yin, 2011). I included as many of the following attributes as possible: inclusiveness or the interpretation of the strategies SMEs need to implement GSCM to increase productivity and decrease losses; objectivity, the description of how GSCM impacts SMEs should translate to other SME firms in similar industries; empirical accuracy, the intended research interpretation objectively represents the compiled data;

merit-enhanced perspective, the understanding should provide new insight instead of repeating the literature findings; and credibility, regardless of how creative nature of the interpretation, highly regarded peers must be able to find scholarship in the reading (Walker, 2012; Yin, 2011).

Morse and Coulehan (2015) determined that data collection accomplished during qualitative research incorporates continuous data collection and analysis. New literature that surfaces during the period of the intended research study factors into this qualitative multiple case study. According to Zheng, Guo, Dong, and Owens (2015), the planned research design furthers a way of simplifying qualitative data and entails the formation of patterns and themes from complex data.

As previously stated, the reason for this study was to explore the strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. Hermanowicz (2013) mentioned that qualitative data analysis is sufficient to discover and acquire an understanding of themes, patterns, theories, perceptions, and knowledge of a phenomenon. Zheng et al. (2015) mentioned that the researcher should contrast emergent themes during interviews, the researcher should compare each participant response.

Concluding

This phase involved offering a description by deriving conclusions from the complete study (Street & Ward, 2012; Walker, 2012). Guided by the research question, I developed conceptions, patterns, and themes for the study (Houghton et al., 2012; Street & Ward, 2012; Yin, 2014). I focused on the assembling strategies for SMEs to include

GSCM and decrease losses. Zheng et al. (2015) mentioned that the researcher should contrast emergent themes during interviews, and the researcher should compare each participant response concurrently. The concepts, patterns, and themes created during this study will form the source of interpretation offered at the conclusion of this research study.

At this stage, I summarized the data by a distinctive fundamental account of the participant's experiences. I concluded or summarized the data into a single structural depiction of the experiences. To avoid developing a biased view of the listed phenomenon under study, the participant interviews and company documents about the strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses were coded and led to the same or parallel conclusions (Denzin & Lincoln, 2011). For this study, data saturation occurred when I discovered sufficient information to duplicate this research study, along with participants, including my analysis of company sustainability documentation, employment guides for new hires, company news letters, along with my reflexive journal offered repetitive superfluous information (Guest et al., 2006; Senden et al., 2015).

Reliability and Validity

Validity and reliability are quantitative concepts (Marshall & Rossman, 2011), which are not appropriate measures for describing qualitative research reliability and validity Reliability and validity are essentials that a quantitative researcher must be attentive to while preparing research, calculating case outcomes, and measuring the value of research (Kisely & Kendall, 2011). Quantitative researchers depend on experimental

methodologies and first-hand data to examine all hypotheses (Turner, 2010). As a result, reliability and validity typically relate to quantitative study (Thomas & Magilvy, 2011). The quality measures for qualitative studies include: credibility (equal to internal validity); transferability (equal to external validity); dependability (equal to reliability); and confirmability (objectivity) (Leedy & Ormrod, 2013). The purpose of this study was to acquire a grasp of a specific phenomenon through the process of interviews, observations, and the examination of data. The four quality measures as mentioned by Leedy and Ormrod (2013) characterize the qualitative parallels of reliability and validity.

Credibility

According to Coast and Horrocks (2010), research credibility means that research study outcomes make allowances for every complexity that surfaces during research and explores unexplained patterns. I developed credibility and trustworthiness for this study by implementing the proper strides to uphold the highest degree of scholarly research standards. Progression of this study adhered to the stringent Walden University Institutional Review Board research guidelines to diminish potential bias (Buchannan, 2013). I removed uncertainty and added to credibility; keeping uniformity during research was vital, from the beginning to end (Svensson & Doumas, 2013). A combination of the proper procedures and instrumentation reinforced the dependability of exploring SMEs sustainability through the implementation of GSCM strategies (Frels & Onwuegbuzie, 2013).

During member checking, the participants verified the summary interpretations of their interview responses and determined the truthfulness of each transcription and my

interpretation of the meaning of each response. Ben-Ari & Enosh (2011), and Dyment and O'Connell (2011) mentioned that each participant verifies the synopsized interpretation of their answers to establish the precision of each transcription and the researcher's interpretation of the each meaning. Member checking authenticated the synopsized information acquired while collecting data. Member checking about the truthfulness of received data could present a precise image of the phenomenon represented (Lincoln & Guba, 2010).

Before and during data analysis, participants verified the written interpretation of each interview response. According to Marshall and Rossman (2011), research participants authenticate combined interpretations of emergent themes from interviews and business documents. Research participants had a chance to check the combined interpretation of their perspectives and business documentation, giving them an opportunity to safeguard the precision of research interpretations of their observations concerning the strategies required for incorporating GSCM.

Validity consists of (a) dependability, (b) trustworthiness, (c) credibility, and (d) transferability (Leedy & Ormrod, 2013; Coulder & Boness, 2011; Munn et al., 2014). Mero-Jaffe (2011) maintained that to reach validity is to verify the integrity and truthfulness of research as offered by the anticipated findings. Credibility refers to the correlation of the examination theory with the examination measurements surrounded by authenticity (Drost, 2011; Leedy & Ormrod, 2013; Yin, 2014). Yin (2014) suggested that credibility occurs through collecting data by use of assorted corroborated sources, for example, documents, records, semistructured interviews, and inspections. According to

Yin (2014), credibility must remain a primary concern in the case of exploratory research because qualitative researchers intend to clarify an occurrence.

Producing an erroneous causal relationship jeopardizes the credibility of the case analysis, deeming it necessary for the researcher to inspect all research data very carefully. For Thomas and Magilvy (2011), credibility in quantitative research and credibility in qualitative research are very much alike. Researchers use both to support data to ensure the precision and understanding of individual occurrences to ensure that people with comparable encounters could connect with the outcomes (Coulder & Boness, 2011; Thomas & Magilvy, 2011). Credibility determines if a match exists between the initial source data and the researchers' analysis (Dworkin, 2012; Munn et al., 2014; Mero-Jaffe, 2011).

The leaders chosen for this study had knowledge and expertise of sustainable strategies in GSCM and gave the researcher reliable data to examine and predetermined outcomes (Munn et al., 2014). Seeking out senior leaders with professional experience of the research question as indicated is a clear path when pursuing data saturation (Houghton et al., 2013).

I established the credibility of this study by implementing proper steps to preserve the highest level of academic research standards. To mitigate potential bias, I adhered to the strict Walden University Institutional Review Board research guidelines (Frels & Onwuegbuzie, 2013). Frels and Onwuegbuzie (2013) proposed that a combination of proper methodology and instrumentation increases trust for the strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. All

research participants authenticated the summarized interpretations of each interview to confirm the accuracy of each transcription and the interpreted implications of each response (Ben-Ari & Enosh, 2011; Dyment & O'Connell, 2011). The use of member checking relates to the truthfulness of data collection and may portray that a correct view of the phenomenon has occurred (Lincoln & Guba, 1985). I achieved credibility after triangulation and member checking.

Transferability

Transferability of the research study methods occurs with careful documentation and descriptions of the whole course of research. Marshall and Rossman (2011) mentioned that a researcher should prepare and offer a rich, detailed account of the investigational activity so that another scholar could transfer the procedure in another setting. Marshall and Rossman furthered that the duty of the outside researcher was to determine research transferability.

To support ongoing consistency, the semistructured interview questions remained a significant influence because they became necessary to ensure dependability. Lincoln and Guba (1985) depicted transferability as an accurate gauge used to create illustrative and context relevant accounts that could transfer to additional groups or venues. Donatelli and Lee (2013) proposed that research study transferability denotes the uniformity in the review practices whenever a separate researcher directs the research.

Using semistructured interviews guided by open-ended questions, and the appeal for secondary data from every research participant helps to ensure that an ample quantity of data accumulates to identify when the data reaches saturation (Guest et al., 2006).

According to Gordon (2012), the accurate recording, and transcription of each interview are essential to safeguard accurateness and dependability. Guest et al. (2006) furthered that without using semistructured interview questions and asking each research participant to provide GSCM strategy documentation, approaching the level of data saturation would have been problematic.

Lincoln and Guba (1985) regarded transferability as the trustworthiness criteria used to create descriptive and context linked accounts that may transfer to other populations or settings. Accordingly, research transferability indicates the uniformity of the research procedures whenever other researchers perform the same study (Donatelli & Lee, 2013). I tried to confirm the transferability of this study by meticulously documenting and detailing the entire study. I enhanced transferability by providing a *thick description* of the research data; Marshall and Rossman (2011) mentioned that *thick description* means providing enough detail so that the reader can decide if the results are transferable.

Dependability

The value of qualitative studies interconnects with dependability (Drost, 2011; Leedy & Ormrod, 2013; Onwuegbuzie et al., 2012). Dependability and reliability share a connection (Munn et al., 2014). Reliability means that other researchers can duplicate the results of a study by using the same data and design (Sinkovics & Alfoldi, 2012). Dependability is a similar measure for qualitative research. To mitigate uncertainty and improve dependability, I followed guidelines to enhance dependability throughout the

entire research process, beginning with the proposal and ending with the conclusion (Gordon, 2012; Leedy & Ormrod, 2013; Svensson & Doumas, 2013).

Marshall and Rossman (2011) mentioned that focusing on research dependability is the same as safeguarding the potency of research data. I used identical semistructured interview questions and requested that each participant provides documents about GSCM strategizing while collecting data to boost inner stability. Increasing the internal stability by asking all research participants the same interview questions could enhance the dependability of obtaining a comparable response to the questions that I included in the record of interview questions (Appendix C).

While maintaining uniformity, semistructured interview questions take on a crucial role as such elements are important to ensure the dependability of this study. The correct transcription of research data is significant and, as advised by Gordon (2012), recording every interview helps confirm truthfulness and dependability. In as such, avoiding an individual bias of participants or the researcher, the neutrality of questioning is imperative.

The result of dependability indicates the reduction in mistakes and bias. A researcher who performs the same research and reaches comparable outcomes sustains the conditions for dependability (Kisely & Kendall, 2011; Sinden, Macdermid, Buckman, Davis, Matthews, & Viola, 2013; Svensson & Doumas, 2013). A future researcher must duplicate the specific research, and not just imitate the outcomes of another analysis (Kisely & Kendall, 2011; Sinden et al., 2013; Svensson & Doumas, 2013). The best method of assuring to dependability is by conducting a study built from a research review

that succeeds examination (Leedy & Ormrod, 2013; Marshall & Rossman, 2011; Yin, 2014).

Member checking each interview with each participant supplemented the wealth of data and the attainment of saturation (Bekhet & Zauszniewski, 2012; Coulder & Boness, 2011; Munn et al., 2014). Mero-Jaffe (2011) contended that member checking is a participant confirmation method used to enhance the precision, credibility, dependability, and integrity of a qualitative research study. Mero-Jaffe also mentioned that saturation must support and strengthen any evidence accumulated during the rigors of qualitative research.

Member checking enhances qualitative research because it offers the chance to understand and evaluate what each participant aimed to do through their actions, offers the chance to make corrections and inquire about what they perceive as incorrect interpretations, offers the chance to give added information and summarize preliminary findings, and offers the chance to judge the adequacy of any data and initial findings, and confirm certain aspects of the data (Frels & Onwuegbuzie, 2013).

The archival evidence initiates a point of orientation in research (Kisely & Kendall, 2011). Because the study population is small, recruiting additional participants or repeat interview sessions could have occurred until the offering of new data or saturation happened. Before the second interview, I member checked my understanding of records from the first interview sessions with each participant by phone. A second interview, if necessary, would have added to member checking and increased the wealth of data in reaching saturation (Bekhet & Zauszniewski, 2012).

Using semistructured interview questions and requesting secondary data from every research participant helped to ensure that an ample quantity of data accumulate to identify the point at which the data reach saturation (Guest et al., 2006). According to Gordon (2012), the accurate recording and transcription of interview information are essential to safeguard accurateness and dependability. Guest et al. (2006) also mentioned that without using semistructured interview questions and asking each research participant to provide GSCM strategy documentation, approaching the level of data saturation would have been problematic.

I acquired dependability by ensuring that the research data were reliable (Marshall & Rossman, 2011). I then obtained strong data by using the same semistructured interview questions, and requesting that each participant provided GSCM strategy documentation during the data collection process so that there would be greater internal consistency. Increasing internal consistency by asking each participant the same interview questions may boost the dependability of getting a similar reply to each question I included in the record of interview questions (Appendix C) (Marshall & Rossman, 2011). I collected an adequate amount of data to reach saturation by using semistructured interview questions and evaluating secondary data (Guest et al., 2006).

With no semistructured interview questions or secondary data, the prospect of data saturation would be problematic (Guest et al., 2006). I used data triangulation to improve dependability. The use of data triangulation or multiple data gathering creates overlapping data and increases dependability (Marshall & Rossman, 2011). I achieved dependability after transcript review and member checking.

Confirmability

According to Marshall and Rossman (1995), confirmability addresses whether a different researcher outside of the study can perform the same study and achieve the same results. I mitigated researcher bias by repeatedly inspecting data, bracketing personal assumptions, personal values, and beliefs. Confirmability is the degree of neutrality within a research study finding formed by the researcher with the research participants' awareness (Lincoln & Guba, 1985). I reached confirmability with member checking as well as documenting, examining, and reviewing data during data collection. I requested that each participant carefully review my summarized interpretations of their interview responses as a means of verifying that I captured the true meaning of each response. Confirmability also indicates the neutrality and accuracy of amassed data (Houghton et al., 2013).

The research participants examined their replies to confirm that their intended meanings were correctly transcribed and interpreted. Examining the data for accuracy after analysis and interpretation of data can decrease the incidence of faulty information (Marshall & Rossman, 2011). According to Chronister et al. (2014), allowing participants to member check during the duration of data analysis was perhaps the ultimate advantage of member checking. Member checking gives the researcher the ability to display participant data and researcher interpretations where the research participant can review the data to confirm the integrity, reliability, and accuracy of findings (Marshall &

Rossman, 2011). The confirmability of the data develops when entering the occurrences of words and themes in NVivo 10 for precise analysis (Leedy & Ormrod, 2013).

According to Frels and Onwuegbuzie (2013) and Lincoln and Guba (1985), the participant's approval of the researcher's interpretation of vital themes emerges from the response of research participants to each of the interview questions. The documentation of company GSCM strategies may correlate with the literature and conceptual framework of the qualitative study and could increase confirmability in research (Frels & Onwuegbuzie, 2013; Lincoln & Guba, 1985).

I used reflexive journaling and added daily entries while conducting this study. I recorded decisions and the purpose of making them, research logistics, and my personal reflections of my concerns and ideas. The participant's validation of my summarized interpretations of the central themes that emerged from each response to the open ended interview questions and company sustainability documentation, employment guides for new hires, company newsletters, along with my reflexive journal for which I compared to the conceptual framework and literature helped to increase the confirmability of this research study (Frels & Onwuegbuzie, 2013; Lincoln & Guba, 1985).

Data Saturation

Walker (2012) reasoned that data saturation is a vital working stage in qualitative research. I did not need to conduct follow-up interviews to achieve data saturation. Data saturation is vital to the structure and core of qualitative research (Leedy & Ormrod, 2013; Coulder & Boness, 2011; Munn et al., 2014). According to O'Reilly and Parker (2012), selecting senior leaders with an in-depth understanding of the research problem

as affirmed is a reasonable strategy for pursuing data saturation. Data saturation occurs at the point in data collection and data analysis when the accumulation of data offers little or no change to the documented themes or codes (Bevan, 2014; Buchanan, 2013; Kolb, 2012). I continued collecting data until there was no difference in new data. According to Guest et al. (2006), data saturation occurs when there are no new information or themes to process. For this study, data saturation occurred when I discovered sufficient information to duplicate this research study, along with participants, including my analysis of company sustainability documentation, employment guides for new hires, company news letters, along with my reflexive journal offered unneeded information (Guest et al., 2006; Senden et al., 2015).

Transition and Summary

Section 2 includes a restatement of the purpose of this study and the role of the researcher. Section 2 also includes an outline of this study (a) participants, (b) research method and design, (c) population and sampling, and (d) ethical research. Section 2 also includes the projected study's data collection: (a) instruments, (b) collection, (c) organization techniques, (d) data analysis process, and (e) reliability and validity. I addressed how the qualitative case study research design suited this research study and gathered results. I also used qualitative research methods in the shape of the exploratory case study research design to investigate how supply chain managers used GSCM to increase productivity and decrease losses. I gathered data by using a pre-designed interview protocol with two supply chain managers and the president of a construction company. I also addressed the data collection instrument and data collection technique,

data organization techniques, and data analysis in Section 2. I explained how I authenticated the study's credibility, transferability, dependability, confirmability, and then data triangulation occurred after that. Section 3 includes a thorough outline of this qualitative multiple case study, discussion of the presentation of findings, application to professional practice, and implications for social change. Additionally, Section 3 contains recommendations for action, further research, reflections, and the qualitative multiple case study's summary and conclusions.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple case study was to determine how SME construction company leaders use GSCM strategies to increase productivity and decrease losses. Previous researchers have studied GSCM, but few have studied how GSCM applies to SMEs (Ahemad, Rehman, & Shrivastava, 2011; Muduli et al., 2013). The findings showed the strategies managers used to implement GSCM to improve efficiency and reduce costs. I conducted interviews with three construction company leaders from three different SME construction businesses in Summit County, Ohio. Each participant provided real life experiences in implementing GSCM policies in their SME supply chains (SCs). I arranged each interview in a quiet, private off site setting at a mutually agreed-upon location, and at a time that was convenient for each participant. Each interview session lasted no longer than 60 minutes; I triangulated all of the data to increase the credibility and validity of the research. After completing the initial analysis, I discovered 14 initial themes that I clustered into 4 themes.

Presentation of the Findings

A case study method is an effective means of investigating a phenomenon in various actual settings (Bonneveux, 2012; Stake, 1995; Yin, 2014). The primary research question for this qualitative multiple case study was: what strategies do SME supply chain leaders need to implement GSCM to increase productivity and decrease losses? The sample for Case 1 included a single participant (P1), a supply chain manager representative from the first company (C1). Case 2 included a single participant (P2), a

supply chain manager representative from the second company (C2), and Case 3 included a single participant (P3), the company president of the third company (C3). Two supply chain managers and one company president of three separate SME construction companies contributed their experiences regarding executing GSCM policies.

Each interview took place at a location where the participants were at ease and provided detailed replies to all the semistructured interview questions (see Appendix C). Secondary data for this study consisted of 3 interviews, C1's, C2's, and C3's sustainability strategies, GSCM vendor mandates, company newsletters, financial records, economic performance indicators, environmental performance indicators, employee handbooks, and my reflexive journal (see Appendix F). I triangulated all of the data to increase the credibility and validity of the research findings.

Each participant used business sustainability strategies, economic performance indicators, environmental performance indicators, and GSCM vendor mandates to implement GSCM policies regarding matters related to environmental/legal compliance. Each participant furnished copies of their company's 2016 company sustainability strategies, and when asked, validated findings on issues related to stakeholder awareness, environmental laws, government regulations, safety, and company sustainability. Each business's sustainability strategies showed how each firm contributed to creating a more sustainable, environmentally friendly construction company. Each participant furnished copies of their businesses' 2016 GSCM vendor mandates which provided a general summary description of GSCM, the role each vendor played in GSCM company

expectations, supply chain vendors strategies, and examples of GSCM strategies and outcomes.

Each participant furnished financial reports consisting of three financial statements: a balance sheet, profit and loss statement, and cash flow statement. The financial report data confirmed claims of profitability while implementing GSCM. Each participant furnished company newsletters. C1 published their company announcements in July 2016, and C2 and C3 published their respective company newsletters in August 2016. Each company newsletter provided information about company financial matters, local and national events, issues concerning GSCM, and environmental matters. Each participant gave details of how the company newsletters were available to the public and were retrievable by electronic means to company employees and the public. Each company also provided economic and environmental performance indicators that measured economic and environmental outcomes.

After each participant confirmed the accuracy of their responses, I triangulated all the data. I then performed a hand analysis of the data. Afterwards, I inserted all the interview data into a Word document and inserted it into NVivo 10 software for data coding, and the investigation of themes, while adhering to the confidentiality of each study participant. The conceptual framework serves as a lens through which the researcher views the structure of the study (Galea, 2012). Ayres and Kneese (1969) mentioned that the problem of ecological destruction would continue until an economic resource stream equal to that of the environment becomes available. Vijayvargy and

Agarwal (2014) contended that GSCM is an important tool for mitigating corporate environmental abuse.

SMEs are at the nucleus of the U.S. national economy. For SMEs to achieve lasting sustainability, they must acquire knowledge of capital meaning, collective wisdom, systemic learning, and value creation (Bagnoli & Vedovato, 2014; Muduli et al., 2013; Roxas & Chadee, 2012). I scrutinized this framework as it pertained to the research outcomes so that I could acquire an increased awareness of the GSCM strategies SME leaders need to improve productivity and reduce losses.

The findings of this research study confirmed the premise of the conceptual framework, literature review, and help to answer the central research question. The research findings indicated how SMEs fail because of poor planning, lack of resources, innovation, skills, technology and answers the research question. The findings also show how SME leaders must aid their SC networks to implement GSCM. The existing literature also supports the view that many SMEs cannot innovate and become sustainable on their own and without outside assistance. The participant responses indicated that they play a central role in aiding SC member in becoming sustainable and GSCM compliant. The methods the participants used to help their SCs are also helpful for other SME leaders who wish to develop GSCM in their SCs.

Emergent Theme One: Employee Onboarding

Individual identification with an organization. Each participant furnished their company sustainability strategies, GSCM vendor mandates, company newsletters, and employee handbooks that indicated a high degree of commitment to raising

environmental awareness among staff and SC members. How people view their relationship with the organization they work for is crucial because of the impact on the employee's attitude, happiness, and behavior (Krasman, 2015). The positive results from employee onboarding stem from the successful outcome of GSCM implementation (see Table 2). Employee onboarding, or organizational socialization, consists of a means through which new hires develop the necessary know-how, competencies, and actions to become successful company associates and insiders (Krasman, 2015).

Krasman (2015) went on to mention that organizations use employee onboarding to assimilate, socialize, and create a structured entrance for new hires when introduced to a company's vision, values, and mission. P1 and P3 agreed that sustainability not only acts as a tool for promotion but is also used to attract and nurture the best talent. P1 stated, "becoming a green company has made C1 stand out among competitors and that our employees promote environmental responsibility, and prefer to work at a company that encourages sustainable concerns and strategies." P3 stated, "On our C3 homepage and blog, we stress our emphasis on sustainability, and prospective workers with similar interests are sure to take notice." P2 stated, "our increase in environmental awareness among our employees has led to a boost in ecological knowledge and activism among staff, stakeholders, this has increased ecological awareness and activism." P1 stated,

> Our community sees us as a company driving to protect the environment. What better avenue can one use to promote our agenda while increasing our brand, inspiring those around us, and appealing to others? Our SC leaders also take notice and implement some our strategies. We demand it.

P2 said, “C2 attempts to create a feeling of oneness with our SC leaders because it is a crucial aspect of becoming innovative and fruitful.” P3 mentioned, “organizational identification links with SC commitment, work and career satisfaction, career participation, and company dedication.” Throughout my analysis of C1’s, C2’s, and C3’s employee handbooks, and company sustainability strategies, I verified the claims made by the three participants in that, sustainability plays a significant role in hiring and employee onboarding. Krasman (2015) mentioned that if the employee has successfully gone through the employee onboarding process, the employees will be more engaged. Employee onboarding enhances employee attitude and awareness towards GSCM, it also increases knowledge capital towards green processes. In the conceptual framework, Csigéné and Nagypál (2014) mentioned that the influence of SMEs is related to the LMN's ability to develop and reinforce knowledge capital. SME are directly involved in the knowledge acquisition of their SCs (Csigéné & Nagypál, 2014).

Self-efficacy. Psychologist Albert Bandura identified self-efficacy as the individual’s belief that one can succeed in certain situations or complete a task (Park & Lee, 2015). Litt and Kadden (2015) argued that observing someone who bears a similarity to oneself and who succeeds by persistent effort, increases the individual’s belief that they too can master the skills required to become successful. P3, the sole business owner, mentioned, “self efficacy leads to greater self assurance leading one to approach a difficult task as a challenge worth mastering.” P3 also stated, “environmental strategies have given me the boost to eco mentor and offer guidance on the best eco-practices to adopt for vendors and other stakeholders.” P1 stated,

> the mental aspect of becoming green is 90% percent of the battle. I try to transform the minds of our SC employees so that they believe what they are doing is important. I am a transformational leader in every sense of the term.

P2 said,

> If company leaders act in ways that benefit the environment, employees will work twice as hard to become environmentally responsible. They want to be accepted; this also applies to members of our supply chain. Prospective employees see this endeavor to become a part of our green causes.

P3 said,

> I strive to inspire those around me into believing that anything is possible, and once they believe it, they will rise above the normally expected and become the ultimate sustainable individual. It's about developing an environmental cause, promoting it, getting others to accept it, and then internalizing it. C3 employees and new hires observe this and strive to become team players.

I verified the claims made by participants P2 and P3 by analyzing their company sustainability strategies, GSCM vendor mandates, employee handbooks, and company newsletters which stated that it no longer makes sense to avoid GSCM as part of strategical planning. Throughout the examination of each company's documentation and participant interview responses, the findings of this study revealed the importance of establishing employee onboarding for implementing GSCM.

The findings of this research study confirmed the premise of the conceptual framework, literature review, and help to answer the central research question. The

research findings indicated how SMEs fail because of poor planning, lack of resources, innovation, skills, technology and answers the research question. The findings also show how SME leaders must aid their SC networks to implement GSCM. The existing literature also supports the view that many SMEs cannot innovate and become sustainable on their own and without outside assistance. Individual identification and self efficacy are major barriers for SME SCs who wish to implement GSCM. As mentioned in the conceptual framework, LMNs could be required to assist their SME vendors by furnishing guidance and resources to aid in SC development and innovation; this ties into the conceptual framework of this study and helps answer the central research question. The participant responses indicated that they play a central role in aiding SC member in becoming sustainable and GSCM compliant. The methods the participants used to help their SCs are also helpful for other SME leaders who wish to develop GSCM in their SCs. The employee onboarding characteristics that emerged during data analysis included (a) Individual Identification and (b) Self-efficacy. The frequency of occurrence of core themes exhibited the leadership characteristics for employee onboarding (see Table 2).

Table 2

Frequency of Themes for Employee Onboarding

Theme	*n*	% of frequency of occurrence
Individual Identification	14	87.5%
SelfEfficacy	2	12.5%

Note: n=frequency

Emergent Theme Two: Fiscal Management Strategies

Cost. GSCM strategies have become the core for many companies in today's environmentally conscious market (Vijayvargy & Agarwal, 2014). Vijayvargy and Agarwal (2014) mentioned that intense market coverage along with the convenience of green services at sites that have the key to profit recognition rely on the success of GSCM. In my review of the literature, I found that supply chain vendors often lack the funding, knowledge, or leadership direction to keep up with innovative practices and market competitors. SME providers need guidance and resources to aid in supply chain development and innovation (Laperche & Liu, 2013). P3's financial reports showed fiscal deficits because each company gave funding to their vendors for sustainability adoption.

P3 mentioned, "the balancing between economic, environmental, operational, and financial performance has become increasingly important for all organizations facing competitive hurdles and community pressures." C3's sustainability strategies, newsletters, GSCM vendor mandates, and employee handbooks showed that C3 strives to create an overall balance for their bottom line. P1 stated, "SME SCs can increase profitability by improving how they manage working capital because it allows for freeing up liquidity." P2 said, "the quicker an SME can complete a cash conversion cycle the more they can control any working capital. Improved supervision of inventory is necessary for such improvements. P2 stated, "SMEs can increase profits by effectively managing financial records, more correctly accounts payable and receivable. The efficient management of financial records helps increase customer payments, and in so doing, a company's cash conversion cycle speeds up."

The three participants felt that during the early stages of developing sustainable supply chains, costs were a significant problem for supply chain vendors because they lacked the high upfront fee for sustainable implementation. P2's financial records showed that the cost of acquiring ISO 14001 certification was $18,000, and it took 5 years to achieve. According to Cordeiro and Tewari (2015), the ISO 14001 certification benefits companies by improving business operations and green performance, and possibly, by enhancing the company's financial results. P3's GSCM vendor mandates indicated that GSCM adoption should occur over time to limit the impact of a large upfront cost. P2 stated, "the SC's buyer company and external partnerships with other entities should help mitigate the cost of GSCM adoption and improving overall vendor performance, and the competitive position requires a joint coordination of internal and external GSCM practices." C1 sustainability strategies, financial records, environmental performance indicators, economic performance indicators, and GSCM vendor mandates, show that C1 engages and collaborates with suppliers to improve overall performance and reduce cost.

To alleviate the burdens placed on SC vendors, C1's, C2's, and C3's sustainability strategies, GSCM vendor mandates, and company newsletters lists how forming collaborations with each SC merchant, and aiding them with the following implementations, financial strategies, BRP, product lifecycle management, and SCM helps ease the transition to GSCM. P1 said, "Our company 1 (C1) collaborates with their supplier network to reduce the expense of green innovation." P2 stated, "C2 helps SME leaders cut further costs by providing financial assistance, educational resources, monitoring, and evaluations to make sure that C2's SC vendors were flourishing during

the implementation of GSCM practices." P3 stated, "C3 has formed productive collaborations with suppliers, and as a result, there have been new developments in the performance of our products and increases in other innovations."

In a review of C1's, C2's, and C3's GSCM sustainability strategies and their GSCM vendor mandates, managers are encouraged to collaborate with SC providers by providing mentoring, educational tools, technology, and financial resources to increase GSCM adoption further. P3 said, "vendors are advised to create strategic alliances with other providers as a way of sharing technology and minimizing expenses through shared risk taking." O'Dwyer, Gilmore, & Carson (2011) found that the main success factors for strategic alliances include an applicable value chain and shareholders who make similar offerings in relevant areas. The findings of this research study confirmed the premise of the conceptual framework, literature review, and help to answer the central research question. The research findings indicated how SMEs fail because of poor planning, lack of resources, innovation, skills, technology and answers the research question.

Performance. Successfully evaluating, monitoring, and enhancing the ecological functioning of the supply chain is crucial to achieving increased environmental performance (Li et al., 2012). Green et al. (2012) asserted that adoption of GSCM practices by manufacturing organizations leads to improved environmental and economic performance, which in turn, positively impacts operational performance. SC performance strategies include providing education to SC leaders and studying the environmental performance strategies of successful SC companies, also implementing online training

modules and capacity building drives such as establishing partnerships and employing innovative methods.

P3 mentioned, “partnering with local and international nongovernmental trade organizations, coaching groups, and other stakeholders are critical strategies when trying to improve SC performance.” P2 said, “one of our strategies is to engage considerably with SC leaders to encourage wellness, skill enhancement, and the empowerment of SC leaders to become successful members of their communities.” P1, P2, and P3 also mentioned how GSCM had created a positive long-term net impact on the environmental performance of their organizations. P1 said, “I encourage our SC members to link up because, by networking, our SCs become more reactive to the demands of an unstable economy with increases in operative knowledge.”

P2 stated, “SC networks can lower their overall cost of functioning and total distributed expenses to clients, this provides a great benefit for each SC member and their consumers.” P3 said,

> I realize that to profit businesses must do more than just transfer costs to SCs, this does not create competitiveness because, in the end, the cost will pile on the backs of consumers. The old distant relationship between the buyer and supplier is a detriment to profitability. C3, as a way of increasing performance, has established a relationship based on collaboration, expectation, appreciation, and sound managing principles.

In my analysis of C1’s, C2’s, and C3’s sustainability strategies, GSCM vendor mandates, and company newsletters, I found that implementing GSCM resulted in a positive long-

term net impact on the environmental performance of their organizations. P1 mentioned, "GSCM has led to a reduction in the cost of waste management, and our company has saved money, energy, lowered materials consumption, and distribution costs, and improved corporate image among regulators, customers, and the public."

P2 said, "the most critical enablers of GSCM within our suppliers has been the creation of environmental management systems and a strong commitment from senior management within our SC." P3 stated,

> another approach used for better environmental performance in the construction industry is the creation of an environmentally competitive supply chain consisting of suppliers selected according to the accurate evaluation of their environmental capabilities, and then we collaborate with them while communicating based on the understanding of their environmental capacities.

Environmental performance is one of the most frequently studied nonfinancial indicators in the GSCM context (Hajmohammad et al., 2013; Lee et al., 2012; Martin et al., 2017). In the C1's 2015 sustainability strategies, environmental performance indicators listed a 21% reduction in energy usage, a 30% reduction in GHG Emissions, a 19% reduction in total waste, a 32% reduction in water usage, and a 71% reduction in environmental incidents. Zhu et al. (2005) defined economic performance as commercial profit gained through GSCM.

In 2014, financial records and economic performance indicators showed that the net income for C1 was $154,500, in 2015 financial files and economic performance indicators showed that C1 had an increase in net income of $837, 800. In 2016, financial

files and economic performance indicators showed that C1 had an increase in net income of $ 1,317, 800. P1 mentioned,

> because of sustainable spending, there have been significant savings in overhead costs in the areas of management, finance, and our overall organizational expenses. GSCM has led to overall decreases in spending which have had directly led to higher profits. Sustainability has been our endeavor since 2013, and it is ongoing.

Economic performance indicators represent financial benefits such as growth in profitability, sales, and market share (Mitra & Datta, 2014; Sivaprakasam et al., 2015; Zhu et al., 2005). Green et al. (2012) mentioned that in the industrial setting, stable relationships and secure partnerships with suppliers led to upgrades in environmental performance. Environmental performance is a result of the implementation and fulfillment of green practices. Successfully evaluating, monitoring, and enhancing the ecological functioning of the supply chain is crucial to achieving increased environmental performance (Li et al., 2012).

In the C2's 2015 sustainability strategies, environmental performance indicators and listed a 25% reduction in energy usage, a 34% reduction in GHG Emissions, an 11% reduction in total waste, a 34% reduction in water usage, and an 80% reduction in environmental incidents. In 2014, financial records and economic performance indicators showed that C-2 had earnings of $3,334,100, and in 2015, financial files and economic performance indicators showed that there were earnings of $3,789,200. In 2016, financial files and economic performance indicators showed that C2 had an increase in net income

of $ 4,002, 800. Economic performance indicators represent financial benefits such as growth in profitability, sales, and market share (Mitra & Datta, 2014; Sivaprakasam et al., 2015; Zhu et al., 2005). In the C3's 2015 sustainability strategies, environmental performance indicators listed a 30% reduction in energy usage, a 45% reduction in GHG emissions, a 30% reduction in total waste, a 35% reduction in water usage, and a 75% reduction in environmental incidents.

According to financial records and economic performance indicators, C3 has grown its revenues from $5.3 million in 2014 to $5.7 million in 2015. In 2016, financial files and economic performance indicators showed that C1 had an increase in net income of $ 6,546, 800. Chan et al. (2012) described the economic performance as profitability or market performance. Green et al. (2012) asserted that the inclusion of GSCM policies by manufacturers resulted in improved environmental and economic performance and positively impacts operational performance. Each participant attributes their success to GSCM. P2 and P3 attribute company profits and savings to becoming green companies.

Relative advantage. Relative advantage refers to the level of quality and appeals to consumers of a new product over a current product (Self & Becker, 2016). In other words, it is the degree to which a customer notices that certain characteristics of a new product or service prevail over the current product or service. C1, C2, and C3 have reaped the benefits of adopting GSCM over the standard SC system. Each participant discussed the relative advantages. Upon my inspection of C1's, C2's, and C3's sustainability strategies, GSCM vendor mandates, and various company newsletters, I

was able to verify the accuracy and truthfulness of the following responses made by each participant.

P1 mentioned, “ISO 14001 strategies have enabled C1 to develop environmental strategies, establish objectives and processes to achieve policy commitments, take action as needed to improve its performance and demonstrate the conformity of the system to the requirements of this international standard”. P1 also stated, “a strategy C1 uses to gain advantage includes arranging workshops for SC providers that teach management practices such as waste removal, water conservation, reverse logistics, and health and well being.”

A company's response to the conservational conditions of outside stakeholders depends on its degree of obligation to ecological concerns and operations (Cordeiro & Tewari, 2015; Costen et al., 2014). P2 said, “C2 gains competitive advantage by implementing quality management strategies in their SC’s such as creating a systems approach to management, resource control, management accountability, and overall measurement, scrutiny, and enhancement of GSCM initiatives.”

P2 said, “GSCM has helped C2 address environmental issues such as reduced energy usage, greenhouse gas emissions, construction waste and water reduction, and environmental safety.” With the advantages of GSCM practice, companies can choose from a plethora of suppliers and pull enough resources to remove the ecological impacts of supply chain actions (Sivaprakasam et al., 2015). P3 stated, “our company gains relative advantages by employing ISO 14000 strategies in our SC such as green appraisal, ecological classification, environmental performance evaluation, and life cycle

assessment." P3 stated, "GSCM has led to a reduction in environmental, social and economic impacts, boosted work productivity, minimized the costs of material inputs, energy usage, transportation use, and produced efficiency across our supply chain." GSCM policies have aided C1, C2, and C3 in other ways. P1 mentioned,

> by incorporating ISO 14001 strategies, C1 has decreased our losses and improved productivity by minimizing business disruption from environmental, social and economic impacts, reduced our costs of material inputs, energy, and transportation usage, increased labor output, and created productivity among SC vendors.

ISO 14001 is fitting for any company's strategic planning initiative (Jong, Paulraj, & Blome, 2014). P2 commented, "C2 also uses ISO-14001 which is an environmental management system that contains an assortment of core guidelines, evaluations, ideas and implementation activities affecting the whole organization and its interactions with the ecosystem." ISO-14001 is a major part of greening the supply chain which creates a relative advantage over standard SC (Jong et al., 2014). P3 stated, "ISO-14001 has helped C3 to become more noticeable in the marketplace and has also demonstrated how C3 has met and exceeded the most stringent green building standards set forth by organizations that are at the forefront of sustainable construction."

Relative advantage results in increased business opportunities for companies (Möllers, Meyer, Xhema, Traikova, & Buchenrieder, 2015). P1 stated, "GSCM provides a valuable marketing advantage, leaving green companies more successful and in demand." P1 stated, "nonsustainable businesses are finding themselves left out of the

equation." Without vendor sustainability, the implementation of GSCM practice cannot occur (Wu, 2013).

The literature also mentions that the relative advantage of GSCM includes: (a) less depletion and abuse of our environment; (b) corporate social responsibility (CSR); (c) decreased carbon footprint; and (d) environmental stewardship (Biedenweg et al., 2013). Business leaders who practice corporate social responsibility (CSR) form sound relationships with shareholders, hire dedicated employees, exercise regulatory compliance, and acquire a favorable reputation within their communities (Green et al., 2012). Kim and Rhee (2012) revealed that adopting green technology such as new production systems that deplete fewer raw materials, and less energy is necessary to become more environmentally efficient. P1 mentioned, "by becoming more efficient, C1 has been able to reduce labor supply prices while limiting the ecological footprint of the SC, including reduced usages of power, water, and raw or manmade materials, increased employee well being, inspiration, and productivity."

The findings of this research study confirmed the premise of the conceptual framework, literature review, and help to answer the central research question. The research findings indicated how SMEs fail because of poor planning, lack of resources, innovation, skills, technology and answers the research question. The findings also show how SME leaders must aid their SC networks to implement GSCM. The existing literature also supports the view that many SMEs cannot innovate and become sustainable on their own and without outside assistance. Cost reduction strategies, performance strategies, and relative advantage strategy are major barriers for SME SCs

who wish to implement GSCM. As mentioned in the conceptual framework, LMNs could be required to assist their SME vendors by furnishing guidance and resources to aid in SC development and innovation; this ties into the conceptual framework of this study and helps answer the central research question. The participant responses indicated that they play a central role in aiding SC member in becoming sustainable and GSCM compliant. The methods the participants used to help their SCs are also helpful for other SME leaders who wish to develop GSCM in their SCs.

The frequency of occurrence of the following core themes (a) cost reduction strategies, (b) performance strategies, and (c) relative advantage strategy, demonstrated the fiscal management strategies required for GSCM implementation (see Table 3). Throughout the examination of all company documentation and participant interview responses, the findings of this study revealed the importance of establishing financial management strategies within an organization for implementing GSCM.

Table 3

Frequency of Themes for Financial Management Strategy

Theme	*n*	% of frequency of occurrence
Cost Saving	8	4.9%
Performance	23	14.1%
Relative Advantage	132	80.9%

Note: n=frequency

Emergent Theme Three: Establishing Policy

External strategies and incentives. External strategies and incentives (EPI) refer to a broad construct that consists of external strategies to distribute innovations including

strategies and procedures, outside directives, references and regulations, collaboratives, and community or regular reporting (Möllers et al., 2015). The EPI of C1, C2, and C3 as documented in the company sustainability strategies, GSCM vendor mandates, and company newsletters indicated how every business addressed external agents, SME suppliers, government and nongovernment agencies, and members of the construction industry. P3 mentioned, "the impetus for developing GSCM policies surfaced from the adverse impacts on the environment due to greenhouse gas production, lethal contamination, and biochemicals released in construction waste." P2 said, "C2 leaders consider sustainable fundamentals and a pattern of ecological thought alongside collective firm supervision of our total SC when considering GSCM policies." P1 said,

> GSCM policies are a key economic policy indicator leading to increased performance. Energy savings, waste reduction, toxic waste, and emissions impact our environmental policies. Also, connecting SC performance with the building sector involve reducing air contaminants, water waste, and other forms of waste.

All three companies are limiting their carbon footprints by subscribing to the strategies and standards of environmental regulation groups. The United States Green Building Council (USGBC) created the Leadership in Energy and Environmental Design (LEED) rating system to confirm that structures meet a clear set of criteria for environmentally friendly construction (Freybote, Sun, & Yang, 2015). CI has been Leadership in Energy, and Environmental Design (LEED) certified through the U.S. Green Building Council's LEED system. I confirmed the existence of the LEED certification while analyzing C1 sustainability strategies. P1 stated, "Green construction

refers to the sustainable practice of erecting buildings using processes that are environmentally neutral and resource efficient." P2 and P3 also mentioned that green buildings limit their environmental impact by conserving as much energy and water as possible and are constructed with recycled or renewable materials to achieve maximum resource efficiency. As noted in each company sustainability strategies, GSCM vendor mandates, and company newsletters, each company incorporates the Guideposts for Green Development, from The U.S. Green Building Council's LEED system as part of their ecological design process.

Freybote et al. (2015) furthered that LEED, or Leadership in Energy & Environmental Design, is an environmentally friendly building accreditation program that distinguishes ecofriendly construction strategies and practices. To obtain LEED certification, building projects must fulfill prerequisites and receive points to attain various levels of certification. P2 stated, "although C2 is not entirely LEED accredited, we have taken strict measures to become so." As noted in the company sustainability strategies, GSCM vendor mandates, and company newsletters, C2 had taken significant steps to become sustainable such as acquiring a Leadership in Energy and Environmental Design (LEED) designation. P2 stated, "LEED training had helped C2 stand out in the competitive marketplace." P3 stated, "C3 has met and surpassed the rigorous green construction criteria set forth by businesses who are leaders in the field of sustainable construction."

As confirmed in C2 company sustainability strategies, P2 stated, "C2 has made improvements in areas of SC management, technological capital and educational growth,

transparency, beneficial uses for waste, increased sales and revenue, decreased risks among vendors, and increased product safety and control." As noted in the company sustainability strategies, and GSCM vendor mandates, P3 mentioned, "C3 has not only earned their LEED certification, but we have also received a certification for our construction managers through The National Center for Construction Education and Research (NCCER)." According to Freybote et al. (2015), The NCCER educational foundation initiated in 1996 with the backing of over 100 construction leaders, several organizations, and academic leaders who joined to modernize teaching in the building industry. P3 stated, "by incorporating GSCM thinking through C3's entire business decision making process, C3 can procure natural inputs that can go through the ecologically friendly construction process to manufacture the anticipated physical outputs."

In my review of C1's, C2's, and C3's sustainability strategies, GSCM vendor mandates, and company newsletters, I discovered that each business leader advocates the acquisition of green certifications as a means of decreasing environmental impacts and making their businesses stand out in the marketplace. GSCM provides a sustainable competitive advantage (Verma, 2014). In the review of C1's, C2's, and C3's sustainability strategies and GSCM vendor mandates, each leader received advice and training to form collaborations with SC members. P3 stated, "the strategy of establishing productive partnerships with vendors that have resulted in new developments in the performance aspects of the products and increases in other innovations." P2 stated, "C2 collaborates with providers and allows them to play a pivotal role in the development,

implementation, and sustainability of GSCM." P1 stated, "GSCM encourages working with upstream suppliers and downstream customers."

Leadership engagement. Leadership engagement refers to the dedication, participation, and responsibility of leaders and management, through the application of innovation (Scheepers, & Elstob, 2016). Leadership engagement takes the form of spreading the commitment to GSCM across the organization and its affiliates (Collinson & Tourish, 2015). P1 said, "SC leaders should engage their employees by listing and explaining issues affecting readiness, working capital, expenses, and drive their companies to complete SC benchmarking and best practice breakdown, and then individually examine the results, sadly, a lot of businesses only gauge what comes easily to assess." P2 said, "I establish incentive programs for suppliers such as breaks on direct monitoring and supervision for a determined period. These types of incentives serve to benefit the overall firm."

P3 stated, "as a company leader I keep abreast of technological advancements which are quickly entering into the forefront of SC management." P1 stated,

> C1 leadership engages SC leaders to help ease the transition to GSCM by using the following strategies, assembling a green practicum with vendors, stressing the magnitude of developing vendor environmental plans, inserting ecological conditions in the design requirement of ordered articles, offering information on the rewards of ecologically friendly construction to SC vendors, inspiring suppliers to create green procedures, and choosing certified sellers using the ecological management standards of ISO 1400.

C1's sustainability strategy, GSCM vendor mandates, and the company newsletter mention these events.

P2 stated, "C2 leadership is adamant about incorporating GSCM strategies such as environmentally friendly building development, ecofriendly procuring, natural raw materials purchasing, ecological practice, green manufacturing, and eco-friendly transportation." C2 stated, "GSCM strategies have resulted in sustainable value, decreased expense, active transport, improved customer satisfaction, and enhanced productivity." I confirmed these statements by analyzing C2's company sustainability strategies, GSCM vendor mandates, and company newsletters.

P3 said, "strategizing for SC waste minimization links directly to the procurement of preferred material, suppliers, developmental restructuring for disassembly, and reverse logistics that limit the quantity of waste production enabling recycling and reuse." P3 also said, "environmental planning strategy is an important aspect of leadership management because by implementing green strategies C3 can maintain its environmental responsibility while still focusing on economic performance." I corroborated P3's statements by analyzing C3's sustainability strategies, GSCM vendor mandates, and company newsletters. P3 stated, "I employ a sustainability consultant, SC manager, and other employees with experience in GSCM, but as the owner of C3, I have the final say so in the manner GSCM will operate in this company."

Most SMEs have a centralized organizational structure where a few key individuals conduct most of the power and critical decision making responsibilities (de Sousa & van Dierendonck, 2014). P1 and P2 mentioned that only a few members in

upper management make significant decisions that affect daily business activities. P2, who is the supply chain manager for C2 stated, “I have a tremendous amount of responsibility such as selecting and developing the appropriate green strategies with the objective of improving our Triple Bottom Line (environmental, economic, social performance), as well as gaining a competitive advantage.” P2 said, “there is a strong commitment towards sustainability from senior management within our supply chain.” P1 said,

> my responsibilities include managing the application of environmental management principles across the entire SC cycle, which includes making sure SC vendors are acting in agreement with GSCM requirements and staying engaged with SC leaders, this is a key strategy for sustainable development.

The findings of this research study confirmed the premise of the conceptual framework, literature review, and help to answer the central research question. The research findings indicated how SMEs fail because of poor planning, lack of resources, innovation, skills, technology and answers the research question. The findings also show how SME leaders must aid their SC networks to implement GSCM. The existing literature also supports the view that many SMEs cannot innovate and become sustainable on their own and without outside assistance. External strategies and incentives, and leadership engagement are major barriers for SME SCs who wish to implement GSCM. As mentioned in the conceptual framework, LMNs could be required to assist their SME vendors by furnishing guidance and resources to aid in SC development and innovation; this ties into the conceptual framework of this study and

helps answer the central research question. The participant responses indicated that they play a central role in aiding SC member in becoming sustainable and GSCM compliant. The methods the participants used to help their SCs are also helpful for other SME leaders who wish to develop GSCM in their SCs.

The establishing organizational strategy characteristics that emerged during data analysis include (a) external strategies and incentives, and (b) leadership engagement. The frequency of occurrence of the core themes that demonstrated the most effective strategies for establishing financial management within a supply chain (see Table 4). Throughout the examination of all company documentation and participant interview responses, the findings of this study revealed the importance of establishing organizational strategies for implementing GSCM.

Table 4

Frequency of Themes for Establishing Organizational Strategies within an Organization

Theme	*n*	% of frequency of occurrence
External Strategies and Incentives	116	93.5%
Leadership Engagement	18	14.5%

Note: n=frequency

Emergent Theme Four: Solidifying Infrastructure

Overcoming Obstacles. Overcoming Obstacles refers to the apparent struggle with implementing the innovation, signaled by time, extent, extremism, centrality, difficulty and number of stages needed to execute (Trianni, Cagno, & Worrell, 2013). P1 mentioned, “initially problems occurred during GSCM implementation, including cost implications, a lack of knowledge about ISO 14001 performance standards, a lack of IT

applications, resistance to advanced technology adoption, and a lack of technical expertise." The literature mentions that the ability to innovate requires technical skills that many SMEs do not have (Roxas & Chadee, 2012). Critical environmental issues have emerged in current times because of their urgency and public awareness (Trianni et al., 2013). P3 stated,

> the fear of failure, lack of funding to encourage green standards, lack of corporate social responsibility, the cost of hazardous waste disposal, and poor organization in adopting GSCM are primary reasons for the refusal or inability to innovate among SC vendors.

The ability to innovate requires technological expertise, and many SME supply chain members lack the technical competency of larger companies, leaving those SMEs unable to include green innovation in their processes (Roxas & Chadee, 2012).
When the question concerning the difficulty in implementing GSCM surfaced, each participant mentioned the lack of green supply chain implementation methods, innovation resources, pollution strategies, and the expertise to create and maintain sustainable endeavors that prevent harmful environmental impacts as problems in implementing GSCM among SC vendors. Each participant expressed these concerns in their sustainability strategies and GSCM vendor mandates. Each participant also considered these obstacles vital to inhibiting GSCM implementation.

P1 mentioned, "SC leaders had no knowledge concerning GSCM operation or the degree of benefits. P2 stated, "SC leaders had no commitment or concern for the environment because they misunderstood the environmental impacts of their companies."

P3 said, “because of the lack of GSCM knowledge and the impression that government regulations did not apply to SME vendors, they were very slow to begin the GSCM adoption process.” SME leaders do not realize that they have a severe impact the environment (Luthra et al., 2014). P3 mentioned, “some vendors refused accountability for their carbon footprint, pushing it back to C3's environmental responsibility.”

SME vendors are slow to convert to greening their structures (Dora, Kumar, & Gellynck, 2016). P3 said, “SC leaders lacked adequate environmental measures, market competition, and no awareness of the public's negative perception of companies who neglect their environmental impact.” P1 said, “I encourage our suppliers who were skeptical about implementing information technology (IT) that by doing so will reduce company costs for paper use which aids GSCM policy.” P2 said,

> SC leaders who are hesitant to adopt technology I let them know that their company’s overall costs may decrease while meeting the demand for green merchandise and services. SC leaders told that creating an awareness of new green products also creates an increased demand for environmental merchandise and services.

P3 said, “there has been a reluctance on the part of SC leaders to implement GSCM, I tell our suppliers that executing green strategies promotes innovation, additional market prospects and it enhances value and quality.” Raymond et al. (2014) have described other important barriers to implementing GSCM such as increased expenses, supplier mistrust, information deficits, means and capability of merchants and the absence of government policies. I verified their sustainability concerns by analyzing

C1's, C2's, and C3's sustainability strategies, GSCM vendor mandates, and company newsletters. Collaborating with outside organizations offers a possible key for SME leaders who wish to become innovative, but lack the required resources or proficiencies (Trianni et al., 2013).

Knowledge and belief. Knowledge and belief refer to the feelings about the importance placed on innovation, in addition to knowledge of specifics, realities, and ideals linked to the change. P1, P2, and P3 had strong opinions about the importance of GSCM, as indicated in company financial reports and sustainability strategies. P1 affirmed that by working with suppliers to develop GSCM, decreases in costs occurred and risks were better managed. P2 stated, "GSCM financial reports and newsletters helped to generate new sources of revenue and boosted the value of the C2 brand." As reported in C3's GSCM vendor mandates and company sustainability strategies, P3 mentioned, "it is mandatory to incorporate sustainable materials in the construction of homes, commercial buildings, and other structures." P1 added, "for reluctant SC leaders to adopt GSCM policies I create green awareness among SC leaders while fostering trusting relationships so that we can develop innovative technology that reduces costs and protects the planet."

Each participant suggested that GSCM had become the method of choice for becoming sustainable. Kim and Rhee (2012) asserted that the implementation of GSCM encouraged recycling and reuse of raw materials. In the construction industry, reverse logistics refers to the transport of goods and material from one recovered structures to the new building site (Mathiyazhagan et al., 2014). Green et al. (2012) mentioned that

GSCM means incorporating environmental interests into the infrastructural systems of supply chain management and reverse logistics. Reverse logistics is the upstream advance, return of goods and materials following recycling, reworking, or discarding with a minimal amount of excess which creates increased efficiency in both forward and reverse distribution processes (Green et al., 2012). P2 said,

> reverse logistics (RL) is a strategy that has saved C2 money and expenses for raw materials. The incorporation of RL in our SC has allowed us to recycle, reuse, and remanufacture existing products. C2's sustainability strategies and GSCM vendor mandate confirmed the benefits of RL and its importance.

P1 stated, "we are pleased with the impact of GSCM execution." As indicated in C1's company financial reports, sustainability strategies, and company newsletters, C1 has gained sustainable ecofriendly benefits, efficient delivery, a rise in customer satisfaction, and increased productivity.

P3 said, "C3 has maintained sustainability and increased its brand image by incorporating ISO 14001." P3 also mentioned, "the ISO 14001 standard delivers an effective environmental management system (EMS) to consumers. The green strategies and performance actions of using ISO 14001 have positively affected C3 and its environmental impact." Information in C1's, C2's, and C3's sustainability strategies, company newsletters, and GSCM vendor mandates lists the importance of ISO 14001 and its impact on performance for every business. Bayramoglu and Ton van (2012) confirmed that ISO 14001 certification not only decreases ecological effects but also enhances waste reduction and business productivity in green supply chain practices.

Evidence Strength and Quality. Evidence strength and quality refer to the how stakeholders perceive how the value and weight are upholding the belief that the outcome of the innovation will be as expected (Ahemad et al., 2011). After determining that construction transportation was a major contributor to greenhouse gas emissions, P1 stated, "we have established a strategy of using biodiesel and electricity as the alternative fuels for service, and freight transport C1 currently manages its travel demands and schedules different travel options."

P2 mentioned, "C2 leadership firmly believes in green transportation to reduce its greenhouse gas (GHG) emissions to reduce our environmental impact." Companies can reduce their GHG emissions by collaboratively engaging SC vendors who lead to increases in SC efficiency and improved relationships (Cremmins, 2014). P3 said, "C3 enables innovative strategies by working closely with its suppliers to develop sustainable GSCM policies." P1 said, "sustainable businesses that are encouraged by competitive and environmental reasons can implement GSCM."

P2 said, "C2 must take into consideration the impact of regulatory stakeholders who have a significant influence on government actions concerning environmental laws and technology." P3 said, "C3 operates under strict government sets regulations that center on performance constraints, physical directives, and lengthy manufacturer accountability legislation." C1's, C2's, and C3's sustainability strategies, company newsletters, and GSCM vendor mandates included evidence of a strong commitment from senior management towards GSCM strategy adoption.

P3 said, “we have formed strategic collaborations with suppliers, and as a result, there have been new developments in the performance aspects of products and increases in other innovations.” P1 stated, “senior C1 leaders are so convinced that GSCM is useful that C1 created an environmentally competitive SC consisting of vendors chosen based on the accurate assessment of their environmental capabilities.” P2 stated, “sustainable strategic collaborations offer a key for suppliers to become innovative. Otherwise, many SMEs could continue to lack the skills, resources, and proficiencies required to become sustainable.”

Executing. Executing refers to conducting or completing an implementation as planned (Trianni et al., 2013). Strategies help accomplish the long-term goals of any organization (Srivastava, 2013). C1’s, C2’s, and C3’s sustainability strategies, company newsletters, and GSCM vendor mandates included evidence of a strong commitment from senior management towards strategic execution. Strategic management guarantees that there is substantial placement between strategy, organization, practices, employment, abilities, leadership styles and company values which increase productivity (Mazzarol, Clark, & Reboud, 2014).

P1 stated, “C1 SC leaders use strategic execution as a means of accomplishing specific goals and future planning for goal management, this way our SCs can map out activities for green adoption.” P2 stated, “The number one challenge for SME SCs is selecting the most feasible strategies that coincide with required regulations and consumer obligations.” P3 said, “Our stakeholders demand that C3 shares in their

concern for the environment and we distribute economic, technical, and educational resources to execute GSCM policies.

P1 mentioned, “strategy execution is a process that requires several steps starting with visualization.” P2 stated, “visualization allows me to view the act and weigh the essential elements of a strategy.” P3 said, “I try to understand how each sustainable plan relates to one another.” P1 said, “we measure each strategy by assigning a basic performance measure; we then place each measure into a specific framework so that he can determine the rate of progress.”

P1 stated, “we then report any progress, and frequently check for results.” P3 stated, “our team makes ongoing strategic decisions to maintain strategic growth momentum.” P3 stated, “it is critical for SME leaders to participate in formal strategic planning as a means of survival.” Long-term studies have determined that the failure rate among small to medium sized enterprises (SMEs) that employ formal strategic planning behavior is less than SMEs that do not (McCabe, 2016).

P3 said, “leaders must identify the appropriate strategy projects, there may be several areas where projects are developing at once, but some leaders fail to capture a firm grip on the types and variety of projects.” The first step in creating a successful project-oriented strategy is to secure and structure each project in progress (Mazzarol et al., 2014). P3 said, “C3 aligns its sustainable strategies, and after securing the project, he makes sure that the purpose of the project aligns to the sustainable goals and strategies of C3.” P3 stated, “we compare each project to C3’s strategic targets to establish if an alignment has occurred.” A strategic plan promotes the success of SMEs by developing

the proposed route, structured engagement, and help in reaching goals (Mazzarol et al., 2014). P3 stated, “when we receive a construction project, it must align with the strategies or goals of the organization.”

Project alignment means comparing each project, either planned or ongoing, to the strategic goals to determine if alignment exists and the projects that straightforwardly affect the strategy are resourced and maintained (Mazzarol et al., 2014). P2 said,

> when considering managing projects; businesses must create capable project management to execute strategy successfully. Because situations vary, there may be occasions when a project only garners a modest managerial effort. There are some cases when a project may continue beyond the planned completion date.

P2 stated, “the project department or manager should regulate and monitor the progress and implementation of organizational projects.” P2 mentioned,

> a leader should exercise strategic communication when there are difficulties when attempting to adopt a plan though it is not understood, or the performance expectation is unclear. A leader must also be clear when communicating a visualized strategy so that it resonates with employees.

Innovative growth entails the activities and leadership of people who locate or generate opportunities (McCabe, 2016). P2 mentioned,

> leaders must align individual roles because workers want to feel like they are an asset to the company and that their work is meaningful. Part of execution means that senior level administrators make sure that every employee can speak to and assess their responsibilities toward the realization of individual strategic goals.

Strategic communication is possibly the most significant aspect of executing strategy.

Greater company development happens among SME leaders who implement more complex strategic management performance than SME leaders who practice natural or instinctive approaches (Mazzarol et al., 2014). SC leaders use strategic execution as a means of accomplishing specific goals and future planning for goal management, this way our SCs can map out activities for green adoption." P2 stated, "The number one challenge for SME SCs is selecting the most feasible strategies that coincide with required regulations and consumer obligations." In other words, businesses could be required to assist their SME vendors by furnishing guidance and resources to aid in SC development and innovation. Chanchaichujit, Saavedra-Rosas, Quaddus, and West (2016) mentioned, the change that occurs through positive ecological outcomes may result in reduced SC expenses. Buchannon (2013), a major benefit of employing GSCM is the powerful long-term influence on the economic profitability of a company. Therefore, it is important that SME SCs receive help with making the best decisions.

Engaging. Engaging refers to obtaining and including the right people for the execution and utilization of innovation through a joint plan of social advertising, learning, role development, preparation, and other related actions (Srivastava, 2013). C3's sustainability strategies, company newsletters, and GSCM vendor mandates include evidence of a strong commitment from senior management towards engaging SC providers. P3 was the only participant who addressed engagement, P3 mentioned, "when engaging current vendors on enhancement, current providers must operate by C3

sustainability expectations." Companies can reduce their carbon imprint by collaboratively engaging SC providers (Cremmins, 2014).

P3 stated, "subject to the present status of sustainable management practices among any assigned vendor; it could entail engaging SCs with systems that will result in improved performance." SMEs are beginning to incorporate methods to maintain and support communities by integrating them into their strategic decisions (Mazzarol, 2015). P1 stated, "C1's leadership takes an active role in engaging our SC by seeking and listening to feedback and working on realistic solutions." P2 said, "we make it a point to be transparent with our SC leaders, and we also share sustainable information and technology." P3 said, "C3's goal is to become a customer of choice for our SC companies. We are easy to conduct business with while striving for precision, effortlessness, and reliability."

Tension for change. Tension for change refers to the level in which stakeholders view the present circumstances as unendurable or in need of change. (De Clercq, Thongpapanl, & Voronov, 2015). P1 said, "companies such as C1 have a greater sense of social responsibility which makes GSCM a realistic choice for becoming sustainable." P2, "internal management directives geared towards green policy play a major role in compelling SCs to become more ecofriendly." P3 said, "customer demand that we exercise discretion and prudence during our daily activities, we can no longer afford to avoid our environmental responsibility."

Companies are receiving pressure from different stakeholders, including government regulators, competing organizations, nongovernment groups, the media,

investors, and worker concerns about reducing the risk of environmental hazards in the supply chain, as well as fears of media publicity concerning noncompliance and associated government imposed penalties (Mohanty & Prakash, 2014). P1 stated, “C1 informed each SC vendor that industry analysts, legislators, and citizen action groups, are demanding that all companies become sustainable.” My review of C1's sustainability strategies and company newsletters supported P1's statement and also revealed that stakeholders are holding companies to task for their environmental damages, which includes fines, imprisonment, or both.

P2 said, “because of external and internal pressure to commit to GSCM; vendors that failed to implement GSCM would have their contracts canceled.” A review of C2's company sustainability strategies and company newsletters supported P2's statement by revealing that C2 was transitioning to GSCM and that all SC vendors had to follow suit. C3 sustainability strategies, GSCM vendor mandates, and company newsletters revealed that the construction industry is responsible for the lion's share of the world's environmental degradation.

The construction sector also emits a dangerous amount of greenhouse gas into the environment (Mohanty & Prakash, 2014). P3 said, “because of greenhouse gas emissions, C3 must create environmental safety strategies to reduce ecological impacts.” P1 mentioned, “consumers are also beginning to avoid nonsustainable organizations, which could negatively impact business, and that SME SC leaders can decrease costs by reducing or eliminating environmental protection ventures.”

P3 said,

> buyer companies could work with lenders to offer credit to SME SC leaders with a high degree of environmental compliance by helping banks to create credit and operation risks metrics to assess the creditworthiness of the SME SC heads that secure long term agreements from green supply chain buyers.

P1 stated,

> Increasing the creditworthiness of SME SC leader could encourage more lenders to loan money to vendors who have a high degree of environmental compliance. Such aid could lessen the operating expenses for SC leaders and lead to a substantial financial incentive for SC leaders to boost their environmental performance.

According to Cremmins (2014), SC leaders who choose to disregard environmental issues take the risk of losing clients who demand environmental responsibility and political mandate conformity. P2 stated, "if C2 fails to adopt green strategies, C2 will cease to exist."

The findings of this research study confirmed the premise of the conceptual framework, literature review, and help to answer the central research question. The research findings indicated how SMEs fail because of poor planning, lack of resources, innovation, skills, technology and answers the research question. The findings also show how SME leaders must aid their SC networks to implement GSCM. The existing literature also supports the view that many SMEs cannot innovate and become sustainable on their own and without outside assistance. Overcoming obstacles, knowledge and belief, evident strength and quality, executing, engaging, and tension for

change are major barriers for SME SCs who wish to implement GSCM. As mentioned in the conceptual framework, LMNs could be required to assist their SME vendors by furnishing guidance and resources to aid in SC development and innovation; this ties into the conceptual framework of this study and helps answer the central research question. The participant responses indicated that they play a central role in aiding SC member in becoming sustainable and GSCM compliant. The methods the participants used to help their SCs are also helpful for other SME leaders who wish to develop GSCM in their SCs.

The solidifying infrastructure characteristics that emerged during data analysis included (a) overcoming obstacles, (b) knowledge and belief, (c) evident strength & quality, (d) executing, (e) engaging, and (f) tension for change. The frequency of occurrence of core themes demonstrated the most effective strategies for solidifying infrastructure (see Table 5). Throughout the examination of all company documentation and participant interview responses, the findings of this study revealed the importance of establishing a solidifying infrastructure within an organization for implementing GSCM.

Table 5

Frequency of Themes for Solidifying Infrastructure

Theme	*n*	% of frequency of occurrence
Overcoming Obstacles	62	29.8%
Knowledge and Belief	6	2.88%
Evident Strength & Quality	41	19.71%
Executing	83	39.9%
Engaging	4	1.92%
Tension for Change	12	5.76%

Note: n=frequency

Summary

The research findings incorporated the research purpose, significance, literature review, and the conceptual frameworks. The themes, shown in Tables 3, 4, 5, and 6 provided strategies that SME supply chain leaders can use to implement GSCM to increase productivity and decrease losses. The principals of GSCM requires company leaders to advocate the sustainable strategies and practices that SC vendors need to benefit the organization (Biedenweg et al., 2013). The participants' responses and company documentation aided in my understanding of the research phenomenon and helped to determine the relative efficiency of the strategies supply chain leaders need to implement GSCM.

Applications to Professional Practice

The purpose of this qualitative multiple case study was to identify how SME leaders applied GSCM strategies to increase productivity and decrease losses. GSCM

policies have become the mainstay for many organizations in today's ecologically sensitive circumstances (Roxas & Chadee, 2012). Based on the research question and analysis of interview responses as well as company documents, I identified four main themes: (a) onboarding, (b) fiscal management, (c) policy, and (d) infrastructure.

The findings from this study support the ideas from Ayres and Kneese (1969) who introduced their analysis of business externalities in 1969, and Vijayvargy and Agarwal's (2014) contention that GSCM is an important tool for mitigating corporate environmental abuse. According to Green et al. (2012), adopting GSCM strategies by businesses leads to improvements in ecological output and financial performance, and the result is a positive effect on organizational execution. SME construction company leaders use key strategies to adopt GSCM within their SC vendors (Baumann-Pauly, Wickert, Spence, & Scherer, 2013; Pollach, 2014). Per the findings of this research, I discovered that GSCM execution is not an easy task to accomplish. Many SC vendors had the perception that the ecological impact of their organizations was insignificant (Alam & Kabir, 2013; Digalwar et al., 2013), but at the same time, they claimed to be ecologically conscious and engaged environmentally.

SC vendor's leaders are frequently sluggish or slow to reply to the challenges of increasing their environmental operations (Jesper et al., 2013). Planning, funding, and skill deficits are limitations to environmental action (Ciasullo & Troisi, 2013; Cosimato & Troisi, 2015). SC vendors mindful of green activity maintained that sustainable work is too expensive and lacked any actual benefits (Hall et al., 2012). SME construction company leaders can dedicate more managerial effort and resources to environmental

development. SME construction company leaders are possibly more driven to enhance ecological functioning as the pressure on SME construction companies to become environmentally responsible is acute, while the green effect of SC vendors remains slight with SC vendors and patrons (Hall et al., 2012; Jesper et al., 2013; Luthra et al., 2014). Therefore, SC vendors often consider environmental concerns insignificant to their firm's daily routines (Jesper et al., 2013) and environmental enrichment as an unnecessary expenditure (DiPietro et al., 2013). SC vendors mindful of green activity maintained that sustainable action is too expensive and lacked any actual benefits (Hall et al., 2012).

The lack of sustainability in SC vendors intensifies when SME construction companies are unable to enumerate the real value of investing in activities involving green activities (DiPietro et al., 2013). Overlooking or minimizing the importance of using SME vendors could reduce their ability to receive price reductions and additional values because of environmental engagement (Malviya & Kant, 2015). SC vendor involvement fails when hindered by restricted access to pertinent intelligence and a minimum capacity to design and execute environmental programs.

Most of the instruments and methodology for enhancing environmental enrichment pertains to buyer companies and not the unique features of SC vendors (DiPietro et al., 2013). Such failures could explain the minimal acceptance of environmental management systems by SC vendors (DiPietro et al., 2013). Many SC vendors fail to recognize the significance of having a green methodology for their firms. Consequently, the absence of detailed help and resources that shape the various stages of companies appear as a huge barrier to the implementation of green technology for SC

vendors (Green et al., 2012; Hajmohammad et al., 2013; Hall et al., 2012). Innovative principles and applications help to transform SC vendors into productive GSCM members, and in return, increases their effectiveness as partners under GSCM (Roxas & Chadee, 2012).

Collaborating with outside organizations offers a possible path for SME leaders who wish to become innovative, but who lack the required resources or proficiencies (Green et al., 2012). The buyer company and external partnerships with other entities may mediate the cost of GSCM implementation (Hajmohammad et al., 2013; Lee et al., 2012; Martin et al., 2017). These types of collaborations offer a key for suppliers to become innovative. Otherwise, many SMEs could continue to lack the skills, resources, and proficiencies required to become sustainable (Hall et al., 2012). According to the EPA, companies are reducing their SC vendors, developing partnerships with essential suppliers, and employing lean manufacturing approaches (U.S. EPA, 2000). GSCM enhances the functional and interactive proficiencies of SME vendors. Lee et al. (2012) added that GSCM activities help to create new prospects for attracting customers, as well as fulfilling the buyer organization's requirement.

Buyer company leaders collaborate with SC vendors by providing mentoring, educational tools, technology, and financial resources to further increase GSCM adoption (Hajmohammad et al., 2013). Technology is a great benefit to SMEs when attempting to practice sustainability. Kim and Rhee (2012) revealed that adopting green technology such as new production systems that deplete fewer raw materials and use less energy is necessary to become more environmentally efficient.

At the nucleus of GSCM is the tenet of cutting waste production by improving effectiveness (Amann et al., 2014). Collaborations with sustainable companies can help SC vendors reduce their GHG emissions. Businesses can reduce their GHG emissions by collaboratively engaging SC vendors that can lead to increases in SC efficiency and improved relationships (Cremmins, 2014). Becoming GSCM compliant is a major benefit to SC vendors that not only increases sustainability but proves to be an effective marketing tool (Oxborrow & Brindley, 2013). SMEs, with leaders who have the innovative ability, are recognized in numerous countries as being among the leading globally sustainable firms (Oxborrow & Brindley, 2013; Hall et al., 2012).

Therefore, the influence on SC vendors is in direct relation to the buyer company's ability to develop and reinforce knowledge capital, technology, finances, and expertise (Csigéné & Nagypál, 2014). In other words, SME construction companies assist their SC vendors by furnishing guidance and resources to aid in the adoption of GSCM. According to Buchannon (2013), a significant benefit of employing GSCM is the dominant long range influence on the economic profitability of a company. Kim and Rhee (2012) mentioned that the implementation of GSCM could limit manufacturing expenses as well as encourage recycling and reuse of raw materials.

GSCM helps to reinforce the company's product, name, and status in the marketplace and businesses can appeal to consumers and acquire a competitive advantage (Buchannon, 2013; Wu, 2013; Kim & Rhee, 2012). SME suppliers are vital to the U.S. national economy. SMEs make up 99.7% of all businesses and hire about half of the U.S.

workforce (Mitra & Datta, 2014). SMEs, as defined by the SBA (2015), includes 500 or fewer employees and account for half of the U.S. gross domestic product (GDP).

Therefore, SMEs must succeed for the U. S. economy to prosper (Bressler et al., 2013). Despite the importance of SME vendors, barriers have prevented many SME vendors from achieving sustainability. Buyer companies can help SC vendors implement GSCM by offering educational resources, monitoring, and evaluations to make sure that SC vendors are successful during GSCM implementation (Hajmohammad et al., 2013; Martin et al., 2017).

Implications for Social Change

Commercial establishments vary because of their finances, services, merchandise, and size. Such distinctions frequently separate individual companies from their competitors. Even with these distinctions, there are common threads that link most business together, and that is the need for a well-organized GSC (Mohanty & Prakash, 2014). Company executives and stakeholders alike may use the findings of this qualitative multiple case study to create an improved understanding for successfully cultivating and adopting GSCM policies to increase productivity and decrease losses, in every sector of the SME construction industry.

Selecting and going green can be as simple as recycling paper products or aluminum cans, but there is more to GSCM (Malviya & Kant, 2015). Recycling is an important part of GSCM because recycling can lead to less waste or remanufacturing, and offers more profit potential (Green et al., 2012). Many SC vendors fail to recognize the significance of having a green methodology for their firms. Consequently, the absence of

area detailed help and resources shaped to the various ranges of companies emerge as a huge barrier to the implementation of GSCM in SC vendors' (Green et al., 2012; Hajmohammad et al., 2013; Hall et al., 2012). The lack of sustainability in SC vendors intensifies when SME construction companies are unable to enumerate the actual value of investing in activities involving green activities (DiPietro et al., 2013).

Given the explanation of GSCM strategies considered in this study, SME construction leaders can acquire an in-depth understanding of the numerous challenges to implementing GSCM in their SCs. SME construction managers who research strategies for limiting their firm's environmental imprint can increase their SC vendors' understanding of the importance of GSCM (Hall et al., 2012). GSCM is a complementary approach, meaning that every aspect of GSCM affects different areas of the SC which include reverse logistics or affects various areas of the SC. Leaders direct their attention towards at least one of eight R interventions: reduction; reuse; rework; restore; renew; recycle; revise; reverse logistics; etc. (Verma, 2014). SC vendors need inclusion to understand their role in GSCM sustainability. SC providers need to know what their stakes are and what role SME construction leaders play in GSCM adoption for SC vendors.

Implications for positive social change include the use of GSCM strategies to increase productivity, decrease losses, increase sustainability awareness and enumerate GSCM benefits among SC providers (DiPietro et al., 2013). In other words, GSCM is an important tool for positive social change in a multitude of areas within and outside of an SME construction company. Choosing GSCM can lead to an increase in employee

satisfaction, increased stakeholder loyalty, enhancements in products and services for customers, increased brand value, regulatory compliance, increased employee retention, improved risk management, and increasing competitive advantage by becoming a leader in the construction industry (Verma, 2014).

The real implications of this study mean that SME construction managers can use this research to utilize the strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses. The advancement of GSCM may lead to guidelines and procedures within SME construction companies that improve SC vendor agility, adaptability, and a stronger alignment of business practices and standards between SME supply chain leaders and suppliers. GSCM may appeal to employees who are green aware and increase in the number of customers who share similar concerns for the environment. Social implications are that GSCM adoption enhances the reputation of the SME construction company's image among workers and the community where sustainable organizations contribute to the local financial system. GSCM helps contribute to Earth's ecological balance so the planet's inhabitants can exist and flourish in a healthy environment (Chanchaichujit et al., 2016). Also, by cutting back on pollution and using the Earth's natural resources, the impact on climate change reduces, and the environment is healthier for human beings (Cosimato, Silvia, & Orlando, 2015).

Recommendations for Action

The increase in economic growth has heightened the degree of energy and material depletion, which contributes to escalating ecological concerns and problems concerning the exhaustion of raw materials (Mohanty & Prakash, 2014). It is apparent

that industries are now facing increased competition, governmental interventions, and stakeholder demands to balance their financial, and environmental performance (Rehman & Shrivastava, 2011). The growth in the construction sector in America since the industrial revolution has led to a near depletion of natural reserves (Emeseh & Songi, 2014). These environmental abuses have increased public awareness and outcry over environmental mistreatment (Mohanty & Prakash, 2014). The protests about environmental abuse have compelled construction companies to become more sustainable by limiting their imprint on the environment, but compliance is not widespread within the building industry, particularly in the SME construction sector in Summit County, Ohio.

SME construction company leaders have fewer chances than their larger counterparts for employment opportunities, which increases the level of competition to stand out and become more marketable. The lack of greening among SME construction companies and the pressure to become sustainable has led to the pressure to become green or become ostracized. Some SME construction leaders have chosen to remove their nonsustainable providers from their business roaster, while other SME construction leaders have opted to help their SC vendors become sustainable by developing strategies to adopt GSCM. SME construction companies are using GSCM to market, promote their businesses, and increase profits. The results of this qualitative multiple case study are invaluable to business leaders, supply chain professionals, procurement managers, and management personnel. The execution of GSCM can assist leaders in increasing productivity and decreasing losses.

SME construction leaders should consider environmental abuse as a significant problem and adopt sustainable strategies to limit their environmental imprint by enlisting the aid of professionals who have experience in implementing GSCM. Sustainability conferences, assemblies, and sustainability forums provide the opportunity for GSCM professionals to engage openly with like-minded individuals. GSCM professionals may offer valuable feedback on an assortment of matters related to sustainability such as how the lack of green strategies can harm not only the environment but also threaten the performance and existence of SME companies. The foundation for acquiring GSCM strategies is partially the outcome, but the ultimate desire is to increase performance and effectiveness to achieve maximum profit for the firm.

SME construction leaders should contemplate the results of this research to cultivate additional GSCM policies plus improve the environmental performance of their companies. Additionally, the global focus on environmental sustainability, regulatory compliance, and stakeholder awareness necessitate the review of existing GSCM strategies by leaders and the implementation of new ideas based on the outcomes of this study. Intermittently observing and scrutinizing the GSCM strategies of an SME construction company and their competition may become useful when designing and executing valuable GSCM strategies.

The SME construction company leader who understands GSCM may apply preemptive approaches towards the development and implementation of effective GSCM policies. SME construction leaders who have established transparency and active communication with SC vendors can hold training sessions and forums that involve

outside GSCM professionals. During these events, leaders can gain a full understanding of evolving GSCM approaches and the shifting expectancies of their SC vendors over time. I will use scholarly journals and other business periodicals to share the results of my study. I will also participate in business seminars and educational programs to share the results of my study on GSCM strategies. My concentration will be assisting SME leaders to increase GSCM in their companies.

Recommendations for Further Research

The issue of maintaining a positive business climate while limiting its carbon imprint is a dilemma that affects multiple industries. Thus, exploring what strategies SME supply chain leaders need to implement GSCM led to the emergence of several themes that call for additional study. The GSCM themes can aid industry leaders to develop strategies to implement GSCM to increase productivity, decrease losses, and reduce environmental impacts while maintaining a positive business climate. This study offers an optimistic outlook at current GSCM approaches. A longitudinal study should be conducted on GSCM policies to develop a deeper understanding of these events. Also, since this research study addressed the area of Summit County, Ohio, a comparative analysis should take place in differing geographical regions over long periods of time, researchers should also use a larger study population to understand what adjustments and breaks may occur, and why they exist. Also, it would be of interest to see if there are variations between industry segments (i.e., automobile manufacturers vs. retail sales) in their GSCM pursuits.

Reflections

The results of my research study have had a profound impact on me as an SME sustainability consultant. As an SME sustainability consultant, I am aware of the ambiguity business owners have concerning GSCM and its effects on a business's bottom line. Proactive professionals such as those who were participants in this study tend to internalize the idea of lessening the carbon imprint of a company and in their personal lives, whereas reactive SME construction leaders always seemed left behind and excluded from profitable ventures.

Although there were variations in the participants' viewpoints, I did identify several similarities among the study participants as they sought to improve SC vendor performance. The results confirmed my experiences in trying to develop GSCM policies for SCM companies that would prove effective by increasing productivity and decreasing losses. The participants used both similar and unique strategies to implement GSCM. Thus, the results of this study may help SME construction leaders to develop an understanding of GSCM strategies that increase productivity and decrease losses.

Conclusion

SME construction company leaders should consider GSCM. GSCM involves a general point of view that incorporates merchandise strategy, material tracking, collection, production methods, distribution of final goods to customers, and end supervision of products (Roehrich et al., 2017). The purpose of this qualitative multiple case study was to answer the central research question: what strategies do SME supply chain leaders need to implement GSCM to increase productivity and decrease losses?

SME construction leaders develop situations where either their companies are either sustainably compliant or are noncompliant due to lack of information, ignorance of their company's impact on the environment, or few available resources or models for implementing GSCM (Vijayvargy & Agarwal, 2014).

SME construction leaders are pressed to use the proper strategies to implement GSCM in their companies (Verma, 2014). Ayres and Kneese (1969) mentioned that the success of an SME construction company depends on its ability to employ GSCM strategies to limit their carbon imprint. The GSCM strategies listed in this study address several different areas of SC development. These strategies combine to create an array of instructions for SME supply chain leaders to follow to implement GSCM to increase productivity and decrease losses in their businesses.

While reduced to a limited presentation of GSCM policies, and the outcome of this study, I concluded that these strategies reinforce the company's product, name, and status in the marketplace and can appeal to consumers and acquire a competitive advantage. According to Buchannon (2013), a significant benefit of employing GSCM is the dominant long-term influence on the economic profitability of a company. Each study participant along with their business documentation verified the seriousness of wisely contemplating company productivity and losses while planning GSCM strategies. I addressed the significance of GSCM policies among enterprise development relationships in this study. An additional impact of this research study included the demonstration of how GSCM can affect individual business measures used to increase insight into the beneficial effects of implementing GSCM strategies.

Additionally, this research methodology offers a foundation for those companies currently using a listed GSCM policy which may be unclear, confusing, or perplexing about which GSCM strategies improve productivity and decrease losses. By showing how GSCM may add value to overall business performance, managers may examine these aspects to increase profits and market distribution by reducing their ecological risks and impacts, while enhancing environmental competence (Malviya & Kant, 2015). The green supply chain is the subsequent move in supply evolution, balancing conservational strategies, economic strategies, and what the community wants with client development (Olson & Swenseth, 2014; Yu, Chavez, Feng, & Wiengarten, 2014).

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Appendix A: Participant Consent Form

You are invited to participate in a research study regarding what strategies small business supply chain leaders need to implement Green Supply Chain Management to increase productivity and decrease losses. The researcher is inviting participation by managers with having a minimum of 5 years' leadership experience, who are at least 18 years of age with a bachelor's degree, and experience implementing green supply chain management strategies (GSCM). This form is part of a process for "informed consent" to provide you information about the study and what your participation will entail.

A researcher named Leslie M. Jones, who is a doctoral student at Walden University, is conducting this study.

Leslie Jones, a researcher and doctoral candidate in the Doctor of Business Administration Program at Walden University, is conducting this exploratory multiple case study.

Background Information:

The purpose of this study is to determine what strategies SME supply chain leaders need to implement GSCM to increase productivity and decrease losses.

Procedures:

If you agree to participate in this study, you will be asked to:

- Voluntarily participate in a one on one interview of no more than 45-60 minutes regarding GSCM strategies.
- The interview will be audiotaped to ensure the accuracy of the data collected.

- Verify the accuracy of the researcher's interpretations of your real-life experiences in implementing GSCM strategies.
- Voluntarily participate in a follow-up member checking review to ensure participants' opinions about the findings and associated interpretations are accurate. The duration of the member checking interview will be 30-60 minutes.

Here are some sample interview questions:

- Based on your experience, which of these GSCM strategies increased productivity and minimized financial losses?
- Based on your experience, which of these GSCM strategies did not increase productivity and decrease losses?
- What parties helped in developing strategies for GSCM, and how were they involved?
- Based on your experience, describe the difficulties in implementing GSCM practices or strategies along the supply chain.

Voluntary Nature of the Study: Your participation in this study is completely voluntary. Everyone will respect your decision of whether or not you choose to participate in the study. Forty-eight hours prior to the interview I contact you to explain the study. I will allow you to ask questions before deciding to take part in the research. No one will treat you differently if you decide not to participate in the study. The interview will be no more than 45-60 minutes in length. If you decide to participate in the study, you can withdraw at any time, even after the interview has been completed.

Risks and Benefits of Being in the Study: Participation in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as stress or becoming upset. Your participation in this study will not pose a risk to your safety or well-being. The study could potentially benefit hospitality organizations by providing information that may improve employee retention.

Payment: No incentive will be offered for voluntarily participating in the study.

Results: Participants will be given a copy of the results of this study. Participants will contribute to the body of knowledge regarding the strategies SME supply chain leader need to implement to improve performance and reduce losses.

Privacy:

Any information you provide will be kept confidential. The researcher will not use your personal information for any purposes outside of this research project. In addition, your name or any other information that could identify you in the study will not be disclosed to anyone. Data will be kept secure in electronic files that will only be accessible to the researcher, and will be retained for a period of at least 5 years as required by Walden University. At the end of 5 years, I will erase all electronic files, and all printed material containing data and identifying information on study participants will be shredded.

Contacts and Questions:

You could ask any questions you have now. Or if you have questions later, you could contact the researcher via e-mail at leslie.jones3@waldenu.edu. If you want to talk

privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 612-312-1210. Walden University's approval number for this study is:

Please print or save this consent form for your records.

Statement of Consent:

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By replying to this email with the words, "I consent", I understand that I am agreeing to the terms described above.

Date of consent _____

Printed Name _____

Participant's Title _____

Participant's Signature _____

Researcher's Signature _____

Appendix B: Data Use Agreement

This Data Use Agreement ("Agreement"), effective as of _____ ("Effective Date"), is entered into by and between Leslie M. Jones ("Data Recipient") and _____ ("Data Provider"). The purpose of this Agreement is to provide Data Recipient with access to a Limited Data Set ("LDS") for use in research in accord with laws and regulations of the governing bodies associated with the Data Provider, Data Recipient, and Data Recipient's educational program. In the case of a discrepancy among laws, the agreement shall follow whichever law is stricter.

1. Definitions. Due to the study's affiliation with Laureate, a USA-based company, unless otherwise specified in this Agreement, all capitalized terms used in this Agreement not otherwise defined have the meaning established for purposes of the USA "HIPAA Regulations" and/or "FERPA Regulations" codified in the United States Code of Federal Regulations, as amended from time to time.

2. Preparation of the LDS. Data Provider shall prepare and furnish to Data Recipient a LDS in accord with any applicable laws and regulations of the governing bodies associated with the Data Provider, Data Recipient, and Data Recipient's educational program.

3. Data Fields in the LDS. No direct identifiers such as names could be included in the Limited Data Set (LDS). In preparing the LDS, Data Provider shall include the data fields specified as follows, which are the minimum necessary to

accomplish the research: company financial records, employee records, and profit and loss statements.

4. Responsibilities of Data Recipient. Data Recipient agrees to:

    a) Use or disclose the LDS only as permitted by this Agreement or as required by law;

    b) Use appropriate safeguards to prevent use or disclosure of the LDS other than as permitted by this Agreement or required by law;

    c) Report to Data Provider any use or disclosure of the LDS of which it becomes aware that is not permitted by this Agreement or required by law;

    d) Require any of its subcontractors or agents that receive or have access to the LDS to agree to the same restrictions and conditions on the use and/or disclosure of the LDS that apply to Data Recipient under this Agreement; and

    e) Not use the information in the LDS to identify or contact the individuals who are data subjects.

5. Permitted Uses and Disclosures of the LDS. Data Recipient could use and/or disclose the LDS for its research activities only.

6. Term and Termination.

   a. Term. The term of this Agreement shall commence as of the Effective Date and shall continue for so long as Data Recipient retains the LDS, unless sooner terminated as set forth in this Agreement.

   b. Termination by Data Recipient. Data Recipient could terminate this agreement at any time by notifying the Data Provider and returning or destroying the LDS.

   c. Termination by Data Provider. Data Provider could terminate this agreement at any time by providing thirty (30) days prior written notice to Data Recipient.

   d. For Breach. Data Provider shall provide written notice to Data Recipient within ten (10) days of any determination that Data Recipient has breached a material term of this Agreement. Data Provider shall afford Data Recipient an opportunity to cure said alleged material breach upon mutually agreeable terms. Failure to agree on mutually agreeable terms for cure within thirty (30) days shall be grounds for the immediate termination of this Agreement by Data Provider.

   e. Effect of Termination. Sections 1, 4, 5, 6(e) and 7 of this Agreement shall survive any termination of this Agreement under subsections c or d.

7. Miscellaneous.

a. Change in Law. The parties agree to negotiate in good faith to amend this Agreement to comport with changes in federal law that materially alter either or both parties' obligations under this Agreement. Provided however, that if the parties are unable to agree to mutually acceptable amendment(s) by the compliance date of the change in applicable law or regulations, either Party could terminate this Agreement as provided in section 6.

b. Construction of Terms. The terms of this Agreement shall be construed to give effect to applicable federal interpretative guidance regarding the HIPAA Regulations.

c. No Third Party Beneficiaries. Nothing in this Agreement shall confer upon any person other than the parties and their respective successors or assigns, any rights, remedies, obligations, or liabilities whatsoever.

d. Counterparts. This Agreement could be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

e. Headings. The headings and other captions in this Agreement are for convenience and reference only and shall not be used in interpreting, construing or enforcing any of the provisions of this Agreement.

IN WITNESS WHEREOF, each of the undersigned has caused this Agreement to be duly executed in its name and on its behalf.

DATA PROVIDER	DATA RECIPIENT
Signed: _____	Signed: _____
Print Name: _____	Print Name: _____
Print Title: _____	Print Title: _____

Appendix C: Interview Protocol and Questions

1. Introductions occur between the researcher and participant(s).
2. Give consent forms to each participant, review and address participant(s) questions or concerns.
3. Give participant(s) a photocopy of the consent form.
4. Introduce the pseudonyms and remind each participant not to use their name or their company's name during the interview, mark the date and time of occurrence.
5. Activate the cassette tape recording device.
6. Start the interview with question number 1, and conclude with the last question.
7. Supplement with probing questions for clarification of participant responses to questions.
8. Remind participants I will summarize each interview response and contact them within a specified timeframe to review my summaries of their responses and to ask for any corrections or additions.
9. Thank all participants for taking part in the research study.
10. Repeat all contact numbers for any necessary questions and concerns from the participant(s).
11. End the interview.

Interview Questions

The interview questions are a vital component in qualitative case studies. Yin (2014) posited that the researcher employs listening abilities to adhere to interview protocols. I created each interview question based on the strategies determined during a thorough review of the literature on GSCM.

Interview Questions

1. Based on your experience, which GSCM strategies increased productivity and minimized financial losses?
2. Based on your experience, which GSCM strategies did not increase productivity and decrease losses?
3. What parties, if any that you know of, helped in developing strategies for GSCM, and how were they involved?
4. Based on your experience, describe the difficulties in implementing GSCM practices or strategies along the supply chain.
5. How did you convince supply chain leaders, if needed, that going green was in their best interest?
6. Based on your experience, please describe what sustainable strategies leaders of your organization look for when implementing new changes.
7. Based on your experience, describe how your company has benefitted from GSCM.
8. What strategies and tools helped supply chain leaders within your organization, who had difficulty adopting GSCM practices?

9. What other information regarding GSCM strategies would you like to share?

Appendix D: National Institutes of Health (NIH) Ethics Training Certificate

Certificate of Completion

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

Date of completion: 03/12/2014.

Certification Number: 1427547.

Appendix F: Letter of Cooperation from a Research Partner

Community Research Partner Name:

Official's Name and Position:

Contact Information:

Date:

Dear Leslie M. Jones,

Based on my review of your research proposal, I hereby authorize Leslie M. Jones, a doctoral student at Walden University, to use the premises, names, and subjects within the to conduct a study entitled Small to Medium Sized Enterprise Sustainability through Green Supply Chain Management. I also authorize Leslie M. Jones to reach out to potential participants from the employee roster.

We understand that or organizations responsibilities include:

- Provide the researcher with contact information for the potential applicants.
- Voluntary participate in an interview with the researcher regarding Green Supply Chain Management strategies used to increase productivity and decrease losses. The duration of the interview will be 45 to 60 minutes.
- The interview will be audio taped to ensure the accuracy of the data collected.
- Voluntarily participate in a follow up interview to ensure the researcher's interpretations of the data are accurate. The duration of the interview is expected to last 30-60 minutes in duration.

- Voluntarily provide all company documents relating to the implementation of Green Supply Chain Management strategies.

We reserve the right to withdraw from the study at any time and for any reason.

As part of this study, I authorize you to recruit individual's in this organization to participate. I will provide you a list of names of individuals that meet your inclusion criteria and you may contact them directly or I may forward an invitation to employees directing them to contact you directly if they are interested in participating. Individual's participation will be voluntary and at their discretion.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,

Appendix G: Description of Reviewed Case Study Documents

Description of Reviewed Case Study Documents

Document identification	Description	*n*
Document 1	Company Sustainability Policy	3
Document 2	GSCM Sustainability Mandates for Vendors	3
Document 3	Company Financial Records	3
Document 4	Company News Letters	6

Note: n=quantity

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