

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/376174081>

# Factors Influencing the Adoption of Green Supply Chain Management: A Comprehensive Empirical Study on Pressures and Practices

Article in *Journal of Logistics Informatics and Service Science* - November 2023

DOI: 10.33168/JLISS.2023.0402

---

CITATION

1

READS

209

1 author:



Abdikarim Mohaidin Ahmed

SIMAD University

7 PUBLICATIONS 7 CITATIONS

SEE PROFILE

## **Factors Influencing the Adoption of Green Supply Chain Management: A Comprehensive Empirical Study on Pressures and Practices**

AbdikarimMohaidin Ahmed

Faculty of Management Sciences, SIMAD University, Somalia

*muhudiin@simad.edu.so*

**Abstract.** This study examines the adoption of environmentally sustainable supply chain practices in Somalia, a region that lacks regulatory frameworks for eco-friendly policies and practices. Employing a quantitative research design, the study performs a descriptive statistical analysis of collected data. The findings of the study augment the existing scholarly literature on the subject of green supply chain management practices and provide policymakers, practitioners, and academics with valuable perspectives to enhance environmental sustainability within supply chain management. The study reveals that small and medium-sized enterprises (SMEs) in Somalia have instituted environmental policies to encourage the enforcement of green supply chain practices. Nonetheless, limitations in resource allocation and funding impede the development of green supply chain practices. Additionally, the study uncovers the adoption of procurement practices aligned with environmental goals and the creation of waste management techniques that aim to diminish adverse impacts on the environment. Importantly, the study highlights the absence of regulatory frameworks mandating the implementation of green supply chain practices in Somalia, with external influences such as competition and supplier obligations playing crucial roles in encouraging the adoption of green supply chains.

**Keywords:** Green Supply Chain, green procurement, sustainable environment.

## **1. Introduction**

Green Supply Chain Management (GSCM) seeks to maximize the efficiency of material and data exchanges across the value chain while taking into account environmental and social concerns that are critical factors in the decision-making process. The overarching objective is to achieve efficiencies that are not only economically viable but also environmentally and socially responsible.(Srivastava, 2007). The imperative to align supply chain management with environmentally sound practices is increasingly pressing. Companies must integrate these factors into their activities so that judgments are guided by principles rather than solely based on expenses. By prioritizing environmentally responsible choices throughout the supply chain, businesses can ensure that their practices are in alignment with their larger organizational mission and contribute to a sustainable future.

According to Shultz and Holbrook (1999), In today's competitive landscape, organizations are under pressure from a variety of external forces, including the need to achieve a balance between financial and ecological performance arising from pressures imposed by regulations and the community. However, the current literature on green supply chain management (GrSCM) lacks a comprehensive frame of reference. This poses a challenge not only to organizations seeking to implement environmentally sustainable practices but also to regulatory bodies that seek to foster economic growth while meeting ecological concerns.(Srivastava, 2007).

There is a growing research interest in green supply chain management (GrSCM) among both researchers and practitioners of operations and supply chain management. The growing focus on this issue is primarily due to the deteriorating state of the environment, emphasizing the significance of embracing environmentally sustainable measures across the entire supply chain(Srivastava, 2007).

There is a significant gap in research examining the implementation of sustainable practices in least-developed countries. Since regulatory frameworks mandating environmentally-friendly business practices are absent in Somalia, it is expected that only a few SMEs have adopted such practices. Therefore, the primary objective of this study is to investigate the current state of green supply chain management practices in Somalia, analyzing the regulations and practices that influence the adoption of sustainable initiatives. The study's main aim is to offer valuable perspectives for policymakers, practitioners, and academics on green supply chain practices and their implementation. The findings from this study will contribute to the existing knowledge on sustainable, green supply chains, adding to the scientific understanding of green supply chain management practices across the globe. Moreover, the research will offer insights into the current state of sustainable practices in Somalia, producing information useful to a broad range of stakeholders. The study results will address the knowledge gap in the literature relating to green supply chain management practices in Somalia and contribute meaningful insights into the wider scientific discourse on sustainable supply chains.

## **2. Literature Review**

### **2.1. Overview of Green Supply Chain Management**

The origins of green supply chain management can be attributed to both environmental management and supply chain management. This involves taking into account the impact of supply-chain management on ecosystems and their interplay with it, to make it more environmentally friendly. Like traditional supply chain management, the limits of green supply chain management are established based on the aim of the research. Green Supply Chain Management has been approached in various forms in literature, from green purchasing to entirety green supply chains that span from supplier to manufacturer to consumer.(Zhu & Sarkis, 2004).

Green Supply Chain Management refers to a set of interrelated initiatives aimed at promoting environmental sustainability. It involves the planning and control of the entire supply chain, from the acquisition of raw materials to the delivery of finished products to customers. The objective is to safeguard the environment and facilitate future collaboration between suppliers and customers across

the supply chain.(Wang, Chen, Lee, & Tsai, 2013).

Supply chain management (SCM) is focused on meeting the end customers' needs and desires. This requires a synchronized and integrated approach to all business operations, as well as the alignment of supply chain strategies.(Green, Whitten, & Inman, 2008). Business operations like procurement, manufacturing, marketing, logistics, and information systems need to be linked and harmonized. There must also be consistency between strategic goals such as customer satisfaction, efficiency, quality, responsiveness, and, more recently, environmental sustainability.(Green, Zelbst, Meacham, & Bhadauria, 2012). As a result of increasing customer demand for environmentally sustainable goods and services, as well as governmental regulations, manufacturing firms have begun to adopt green supply chain management practices. This involves ensuring that eco-friendly products are manufactured using environmentally sustainable methods.(GSCM) practices (Murray, 2000).

Vachon (2007), argues that when it comes to internal health and environmental sustainability, supply chains actively work to preserve both by leveraging the capacity to self-correct depending on inputs from the external environment. It should be noted that institutional pressures, driven by market and regulatory demands, have played a significant role in increasing the prominence of environmentally sustainable practices(Kumar & Putnam, 2008).

There has been a lot of discussion on the roles that government agencies and other regulatory entities play in GSCM. Government engagement in various nations has resulted in the development of effective green legislation and incentive schemes (Chung & Wee, 2011). GrSCM has the potential to lessen the negative effects that industrial activity has on the environment while simultaneously maintaining quality, cost, reliability, performance, and energy use efficiency. It requires a paradigm change, moving away from controlling emissions at the end of the pipe to comply with environmental rules and toward a condition that not only reduces the amount of ecological harm but also results in an increase in total economic profit(Srivastava, 2007).

## **2.2. Green Procurement**

Purchasing now plays a pivotal role in the environmental initiatives of businesses as a direct result of a rising emphasis placed on environmentally responsible purchasing practices in companies as part of supply chain management and corporate sustainability (Seuring & Müller, 2008). Green procurement refers to environmentally responsible buying practices such as waste minimization, product repurposing, and material recycling. In addition to being a solution for businesses that are both environmentally conscious and fiscally conservative, the notion of green procurement refers to the process of purchasing a range of goods and services that affect the environment that is as little as possible (Verma, Dixit, & Singh, 2018).

The terms "sustainable procurement," "green procurement," and "socially and environmentally responsible procurement" are most often used to refer to green procurement (M. A. Mosgaard, 2015). Green procurement practices are concerned with how green procurement occurs in businesses in certain circumstances. Even though an alternative approach is called for in the procurement rules, a customary practice may be maintained. For instance, if there is a history of using local suppliers, this practice may be maintained. (M. Mosgaard, Riisgaard, & Huulgaard, 2013).

## **2.3. Pressures of green supply chain management**

One of the elements that are crucial to the presence of green procurement in an organization is the pressure that is placed on the supply chain. This pressure might take the form of an organization having to meet the needs of its consumers. Preuss (2002), asserted that a significant driver for businesses to improve their environmental performance is the aim to sell to overseas clients and to export their products. Businesses are coming under increasing pressure from green restrictions when trying to export their goods. The harvest in many countries is subject to certification requirements to demonstrate that it does not negatively impact the environment or sustainable

development(Christmann & Taylor, 2001). It has become clear that the backing and encouragement provided by management, in the form of a consistent evaluation of green procurement methods, is essential to the continued operation of green procurement procedures (M. Mosgaard et al., 2013).

Consumer demands and drives might potentially be a driving factor for the deployment of environmentally friendly supply chain management methods, even though these practices are still in the process of evolving(Chan & Lau, 2002). Pressures might originate from a wide number of sources, such as governmental authorities in the form of rules, partners in the supply chain, competitors, and the market as a whole(Zhu, Sarkis, & Geng, 2005). Wu, Ding, and Chen (2012), argue that Companies undertake GSCM-related activities due to several factors, the most prominent of which are stakeholder pressure and institutional pressure.

One way to facilitate green buying is to educate the local environmental department so that they understand the significance of green procurement and can therefore help buyers. Buyers are more likely to make sustainable changes if they get consistent feedback and encouragement from knowledgeable parties. In addition, having assistance from local management makes it easier for customers to engage in environmentally responsible purchasing habits (M. A. Mosgaard, 2015).

#### **2.4. Theoretical Framework**

Companies throughout the globe have become more environmentally conscious over the last several decades in response to pressure from regulators, consumers, and rivals (Govindan, Kaliyan, Kannan, & Haq, 2014).To meet the demands of this obstacle, businesses have been steadily incorporating environmentally responsible practices into their overall strategic planning. Many companies look to environmental initiatives built into their organizational and technology projects as a means to achieve or retain an edge in the market(Hollos, Blome, & Foerstl, 2012). Numerous studies have discovered that organizations have been motivated to implement Green Supply Chain Management practices due to a variety of factors, with institutional pressure being one of the most noteworthy as per the research.Mohanty and Prakash (2014), argue that Green supply chain management is becoming more and more important because of pressures from stakeholders (government regulations, international and domestic clients, communities, competitors, non-governmental organizations, investors, media, and employees). Hence, the overall theoretical foundation of this study is based on institutional theory.Institutional theory refers to a framework used to understand how organizations respond to and are influenced by institutional pressures, regulations, and norms (Peters, 2022). This study aims at examining the green supply chain management practices and pressures adopted by the SMEs in Somalia.

### **3. Research Design and Methodology**

The purpose of this study was to gather quantitative data that would enable a comprehensive understanding of the green supply chain management practices and pressures encountered by small and medium-sized firms (SMEs) that import goods into Somalia. The participants who took part in this study received written questionnaires, which were designed based on a five-point Likert scale to ensure the collection of all the required data. The questionnaires were structured, self-administered, and intended to obtain quantitative information. To ensure the reliability and validity of the data, the accuracy and consistency of the methods and tools used in collecting it were examined.

Moreover, descriptive statistics were employed to assess, examine, and make sense of the obtained data, which in turn produced a condensed overview of the data collected from the respondents. Before the actual data collection, a pilot test was conducted to establish the validity of the questionnaire. to gather the data for the study. To help the researcher understand the current green supply chain management practices as well as the challenges faced by SMEs in Somalia, the study sampled 150 business managers and HoDs of logistics departments. The Statistical Package for Social Scientists (SPSS) software was used to organize and code the collected data before it was analyzed in

a structured format. This approach allowed the researchers to get accurate and reliable results that could be compared and contrasted with the existing literature.

## 4. Results and Discussion

### 4.1. Respondents' Personal Information

The study found that the majority of the respondents were male. The study revealed that 70% of respondents had between 5 and ten years of experience. Table 2.0 presents both the frequency and the percentage distribution of the respondent's personal information.

Table 1: Demographic Data

Characteristics	Frequency	Percent
Gender		
Male	112	75
Female	38	25
Position		
General Manager	25	17
Department manager	54	36
Procurement Officer	32	21
Other	39	26
Experience		
1 year	23	15
5-10 year	105	70
>10 year	22	15
Educational background		
High school	35	23
College	45	30
Undergraduate	40	27
Postgraduate	30	20

Source: Author (2023)

### 4.2. Characteristics of the Firms

According to the findings of the study, the majority of businesses, 78%, were found to have fewer than 100 workers. Almost two-thirds of these corporations import food and agricultural products from other countries. Table 3.0 displays the frequency and percentage distribution of the company characteristics:

Table 2: Characteristics of the Firms

Characteristics	Frequency	Percent
Employees		
Below 100	117	78
Above 100	33	22
Type of Business		
Manufacturing	25	17
Wholesale trading	95	63
Construction	30	20
Commodities		
Raw material	39	26
Food, Agricultural products	65	43
Construction Materials	46	31

Source: Author (2023)

### **4.3. Internal Green Supply Chain Management Practices**

To achieve a competitive advantage by embracing sustainable development, organizations can employ diverse strategies including the adoption of environmentally-friendly policies, minimizing the environmental effects of their service and production operations, advocating green marketing, and utilizing agile systems to promptly address any environmental apprehensions expressed by their customers. Besides, organizations can introduce innovations in their production processes that take into account environmental considerations, adopt environmental protection procedures that comply with international regulations such as ISO-14001 certification, and continuously improve these procedures according to the latest standards. These strategies have numerous potential benefits, including cost savings, improved customer satisfaction, enhanced reputation, and compliance with ever-changing environmental regulations. As a result, many businesses are increasingly adopting sustainable practices and prioritizing sustainable development as part of their long-term strategic planning (Zhang, Gao, & Luqman, 2022).

The primary objective of this study is to investigate the internal green supply chain management practices that SMEs in Somalia utilize to minimize the adverse environmental effects associated with their internal supply chain operations. To gather relevant information, respondents were asked to describe their enterprise's current environmental mission. Moreover, the participants were asked to provide their views on the extent of support from senior management toward the execution of sustainable supply chain management methods. They were also required to detail their company's policies and approaches for procuring eco-friendly products and services, which are aimed at advocating for sustainability. Finally, the survey sought information about the effectiveness of waste management practices and measures implemented by the organization to recycle, reuse, or dispose of materials in an environmentally responsible manner.

The purpose of collecting all of this data was to acquire a complete understanding of how organizations implement and execute their internal green supply chain management practices. The views of respondents for each component are shown as part of the study's findings, which were generated through a survey. The results will be described in more depth in the sections that follow, giving a thorough picture of how internal green supply chain management strategies are being implemented in different firms.

#### **4.3.1. Environmental Mission**

To assess the extent to which organizations prioritize preserving the environment and practice green supply chain management, the study's respondents were asked several key questions. First, they were asked about the presence of an environmental mission statement or policy within their organization. Second, the respondents were questioned about the degree to which their organization communicates with concerned parties, including customers, employees, and suppliers, about the environmental policy. Finally, participants were asked whether environmental concerns are prioritized in their organization's decision-making processes. The results of this study are presented in Table 3.0, which displays the mean and standard deviation of each factor analyzed. Notably, the majority of respondents recognized the existence of an environmental policy within their respective organizations. Additionally, respondents agreed that these policies encourage the implementation of green supply chain management practices to preserve the environment.

The study also found that organizational policies toward the environment are effectively communicated to key stakeholders, such as employees, customers, and suppliers. However, the vast majority of respondents noted that environmental concerns are not prioritized in decision-making processes within their organizations. Indeed, the mean score for prioritizing environmental concerns in organizations' decision-making processes was only 2.23, indicating that there is significant room for improvement. Given the critical importance of sustainability and promoting environmentally responsible practices in modern business operations, organizations should consider integrating environmental concerns more fully into their decision-making process. By doing so, they can foster a

more robust and trustworthy green supply chain that not only benefits the environment but also increases consumer trust and loyalty.

The findings of this study reveal that organizational policies concerning the environment are communicated effectively to relevant stakeholders such as employees, customers, and suppliers. This is an encouraging development as it can help in promoting a company's reputation and brand image as environmentally responsible, which is crucial in today's business world where sustainability is a prominent concern. However, the respondents reported that environmental concerns are not given a high priority in decision-making within their organizations. This indicates that there is a need for organizations to adopt a more comprehensive approach to environmental considerations in their strategic decision-making processes. By incorporating environmental concerns into the decision-making processes, firms can advance the cause of environmental sustainability while also reaping economic benefits. One implication of these findings is that companies need to re-evaluate their decision-making processes and strengthen their commitment to environmentally friendly practices. They should prioritize ways of reducing the environmental impact of their operations while maximizing profits.

Table 3: Environmental Mission

Statement	N	Mean	Std. Deviation
The organization has an environmental mission statement or policy	150	2.97	1.414
Employees have been communicated regarding the environmental mission	150	2.73	1.483
Customers are aware of the organization's environmental mission	150	2.93	1.329
Suppliers are informed to align with the organization's environmental mission	150	2.63	1.531
Environmental concerns are prioritized in organizations' decision-making process	150	2.23	1.457

Source: Author (2023)

#### 4.3.2. Top Management Support

The purpose of this study was to investigate the level of top management support for the creation and implementation of organizational environmental policies. To achieve this objective, respondents were asked several questions about their organizations' approach to sustainable supply chain management. The study sought to determine whether top management publicly endorses and promotes the adoption of green supply chain practices and whether they allocate sufficient resources and funding to support sustainable supply chain initiatives. Additionally, respondents were questioned on the extent to which top management collaborates with supply chain teams to integrate sustainable practices into decision-making and operations. Another key aspect that the study sought to explore was the availability of training or education for employees to promote their understanding of sustainable supply chain practices. The study also examined the extent to which top management incentivizes and rewards employees who work towards achieving sustainable supply chain goals.

The resulting data from the study were tabulated in Table 4.0, which displays the mean and standard deviation values for each factor analyzed. The findings from the survey revealed that the top management of the respondents' respective organizations generally endorsed and promoted the adoption of green supply chain management practices. Furthermore, the respondents confirmed that there was a collaboration between top management and supply chain teams to integrate sustainable practices into the decision-making process and operations. However, the study also exposed that there was a significant gap in how top management allocated resources and funding to support sustainable



supply chain initiatives. The data obtained from the survey indicated that the mean score for allocating appropriate resources and funding was only 2.21, which creates a compelling case for improvement in this area.

A noteworthy finding of the survey was that top management in Somalia's SMEs does not provide training or education to employees to promote their understanding of sustainable supply chain practices. Interestingly, the survey also established that top management in these organizations incentivizes and rewards employees who contribute towards achieving the company's goals on sustainable supply chain practices. Overall, the results of the study provide crucial insight into the areas where top management can enhance their support for the creation and implementation of organizational environmental policies. The findings also reinforce that taking a holistic approach to sustainable supply chain management, including providing employee training and allocating adequate resources, will enable organizations to achieve their sustainability goals.

The findings of the study highlight the importance of top management support for the adoption of sustainable supply chain practices in organizations. It is encouraging to see that the top management of the respondent organizations generally endorsed and promoted the adoption of green supply chain management practices. However, the study also revealed a significant gap in how top management allocated resources and funding to support sustainable supply chain initiatives, which points to the need for improvement in this area. The lack of training or education provided to employees in Somalia's SMEs about sustainable supply chain practices is an area that requires attention. Providing such training can help employees understand the importance of sustainable practices and how their actions contribute to achieving the company's sustainability goals. It is also noteworthy that top management incentivizes and rewards employees who contribute towards achieving the company's goals on sustainable supply chain practices. This is an effective way to encourage employees to embrace sustainable practices and align their actions with the company's sustainability goals.

Table 4: Top Management Support

Statement	N	Mean	Std. Deviation
Top management publicly endorses and promotes the adoption of environmentally sustainable practices in the supply chain	150	2.52	1.355
Top management allocates appropriate resources and funding to support sustainable supply chain initiatives	150	2.21	1.149
Top management collaborates with supply chain teams to integrate sustainable practices into supply chain decision-making and operations	150	3.25	1.281
Top management provided training or education to employees to promote their understanding of sustainable supply chain practices	150	2.37	1.228
Top management incentivizes and rewards employees who work towards achieving the company's sustainable supply chain goals	150	2.61	1.289

Source: Author (2023)

### 4.3.3. Green Procurement Policies

This study aimed to assess the degree to which organizations have been implementing green procurement policies, by focusing on various factors related to environmentally-friendly supplier selection. To achieve this goal, the study surveyed individuals from relevant organizations. Respondents were asked about their organizations' criteria for selecting suppliers based on

environmental considerations, whether their green procurement policies were being extended throughout all levels of the supply chain, the incentives for environmentally responsible suppliers, the alignment of procurement practices with environmental objectives, and whether suppliers were required to disclose environmental data for compliance verification.

Upon analyzing the results of the study, it was found that while respondents recognized the importance of selecting environmentally friendly suppliers, more than half of them revealed that their organizations had not yet established clear criteria for this purpose. This is a significant finding, as it signals a lack of proactive and strategic behavior in this area. On a positive note, most respondents agreed that procurement practices in their organization were aligned with broader environmental goals and that suppliers were required to disclose environmental data for compliance verification. This suggests a growing awareness of environmental issues and a willingness to take proactive steps to mitigate them. However, it was also noted that, despite these efforts, green procurement policies had not yet been extended to all levels of the supply chain.

This finding is particularly important, as it suggests that while some efforts are being made to create a more sustainable supply chain, there is still a great deal of work that needs to be done. Given the critical importance of environmentally responsible supplier selection in achieving a sustainable supply chain, organizations must take steps to establish more rigorous and comprehensive criteria for supplier selection to align with their green procurement policies. This will, in turn, help to support their environmental mission and ensure that their procurement practices uphold standards of social responsibility. By doing so, organizations can take meaningful steps toward achieving a more sustainable future.

Table 5: Green Procurement Policies

Statement	N	Mean	Std. Deviation
Criteria to select environmentally friendly suppliers have been developed	150	2.06	1.038
The organization's green procurement policies have been extended to all levels of the supply chain	150	2.43	1.333
Incentives are offered to suppliers who demonstrate environmental leadership	150	2.51	1.437
Procurement practices are ensured to align with the broader environmental goals and objectives	150	3.25	1.568
Suppliers are required to disclose environmental data or information to verify their compliance with green procurement policies	150	3.23	1.171

Source: Author (2023)

#### 4.3.4. Waste Management Practices

To determine the effectiveness of waste management practices in organizations, respondents were asked a series of questions to identify specific waste management practices that have been developed to minimize environmental impact. In addition, they were asked about the implementation of programs for waste reduction and recycling, the steps taken to ensure appropriate disposal of hazardous waste materials, and the degree to which employees are involved in waste reduction efforts. Finally, the survey measured whether or not organizations have implemented incentives to encourage

material reuse instead of disposal.

The results indicated that organizations have developed specific waste management practices to minimize environmental impact and have taken steps to ensure proper disposal of hazardous waste materials. However, it was also revealed that more than half of the organizations did not have incentives for material reuse, despite acknowledging the involvement of employees in waste management efforts. The survey data revealed that the mean score for incentives for material reuse was alarmingly low, with a score of only 2.01 out of a possible 5. This indicates a significant need for improvement in this area. The study underscores the urgent need for organizations to prioritize incentivizing material reuse, along with other waste management practices, to reduce their environmental impact.

Effective waste management practices should not only focus on reducing waste but also on creating and implementing sustainable solutions to address the growing concerns of environmental pollution. Therefore, organizations should implement comprehensive programs that encourage material reuse and eliminate waste disposal as much as possible to achieve sustainable business practices that positively impact the environment. Organizations risk facing severe economic and environmental consequences if neglecting waste management initiatives, making it critical for companies to take necessary measures to minimize waste and adopt sustainable environmental practices.

The findings of this study reveal the need for organizations to prioritize incentivizing material reuse and implementing comprehensive waste management programs. The fact that more than half of the organizations did not have incentives for material reuse despite acknowledging employee involvement in waste management efforts highlights a significant gap that needs urgent attention. The mean score of 2.01 out of 5 for incentives for material reuse is concerning and suggests that organizations need to take more proactive measures to promote material reuse and reduce waste disposal. Implementing sustainable solutions that address environmental pollution should be a key focus for organizations to achieve sustainable business practices that positively impact the environment. Neglecting waste management initiatives comes with severe economic and environmental consequences, making it critical for companies to take necessary measures to minimize waste. Organizations need to prioritize incentivizing material reuse and implement comprehensive waste management programs to reduce environmental impact. Overall, this study underscores the need for organizations to adopt sustainable environmental practices that prioritize waste reduction and material reuse. It is crucial to take action now to minimize the negative impact on the environment before it is too late.

Table 6: Waste Management Practices

Statement	N	Mean	Std. Deviation
Specific waste management practices have been developed to minimize its environmental impact	150	2.73	1.553
A waste reduction and recycling program has been created	150	1.53	.887
Steps to ensure the proper disposal of hazardous waste materials have been developed	150	3.12	1.456
Employees are involved in waste reduction efforts	150	2.68	1.516
Incentives are in place to encourage the reuse of materials instead of disposing of them	150	2.01	1.003

#### 4.4. External Pressures

Several elements comprise supply chain competencies, among which are management of customers and suppliers, collaboration within the supply chain, and implementation of integrative technologies (Utama, Hurulaini, & Airlangga, 2022). Different external pressures can drive organizations to implement green supply chain management practices, such as regulatory compliance and reputation management. Regulatory bodies are increasingly imposing legal requirements on companies to use sustainable practices and reduce environmental impact. Organizations face regulatory pressure and potential sanctions if they don't comply. To avoid such losses, decision-makers are adopting Green Supply Chain Management (GSCM) practices to reduce environmental harm, optimize resource utilization, and streamline waste management.

However, the adoption of Green Supply Chain Management is not solely motivated by the intention to avoid penalties. Companies also face institutional pressures from customers, shareholders, and local communities to adopt sustainable practices. This environmental focus fosters organizational learning that leads to improved resource efficiency and competitiveness. Ultimately, companies that implement GSCM gain economic advantages and reputation benefits from being environmentally responsible (El-Garaihy, Badawi, Seddik, & Torkey, 2022). According to Zheng, Bulatenko, Bykov, Sakulyeva, and Bozhko (2022), government involvement in supply chain management is essential in ensuring the security of goods and services that flow through the supply chain networks.

The purpose of this research was to examine the external pressures that compel small and medium-sized enterprises (SMEs) in Somalia to adopt green supply chain management practices. To acquire pertinent data, the study entailed asking participating individuals to describe the current federal and regional environmental regulations in place. Furthermore, they were queried about the extent to which their competitors had made progress in creating environmentally-sustainable products. Respondents were also invited to delineate any environmental partnership requirements from their suppliers. Lastly, the survey sought to obtain information regarding consumer demand for environmentally-friendly products. All of this data was compiled to determine the external factors that motivate Somali SMEs to establish green supply chain practices.

The respondents of the study revealed some crucial findings that policymakers in Somalia need to consider. Firstly, the majority of the respondents agreed that federal environmental regulations do not mandate the adoption of green supply chain management practices. There is a significant absence of rules that dictate the implementation of green supply chain practices in Somalia. This finding indicates a grave concern that policymakers must urgently address as green supply chain practices are instrumental in preserving the environment. Moreover, the study also revealed that regional environmental rules that require green supply chain management methods are lacking, which is alarming and demands immediate attention from regional administrations. Ignoring such demands may lead to severe consequences for the environment and people's health, which ultimately jeopardizes the development and prosperity of the country.

Interestingly, the study found that organizations adopted green supply chain management techniques because of the competitive pressures exerted by their competitors. The majority of the organizations discovered that their competitors were making more eco-friendly products, motivating them to adopt green supply chain practices to remain competitive. Therefore, to encourage the implementation of green supply chain practices, federal and regional administrations should encourage open and free competition among business entities and encourage the trading of eco-friendly products. This serves as a crucial factor in achieving a milestone in the implementation of green supply management practices in the country. The study also uncovered that suppliers' mission towards the environment serves as a significant driving force in implementing green supply chain practices. The majority of the organizations adopted these practices due to supplier requirements for environmental partnerships. This finding states that suppliers can play a crucial role in ensuring that SMEs in Somalia adopt green supply chain practices.

However, the study revealed that the demand for environmentally friendly products among customers is not growing well in Somalia. Customers do not have the necessary awareness to demand products favourable to the environment. This is a significant concern that requires immediate attention to promote the adoption of green supply chain practices by SMEs. Overall, the study's findings highlight that although there are no regulations mandating the adoption of green supply chain practices in Somalia, external pressures such as competition among businesses and supplier requirements can serve as a driving force in their adoption. Policymakers in Somalia must develop sound environmental policies and strategies to address these challenges, which will pave the way for the successful implementation of green supply chain management practices across SMEs in the country. Table 7.0 displays the mean and standard deviation values for each factor analyzed in the study, providing a clear understanding of the factors that influence the adoption of green supply chain practices.

The findings of this study raise important implications for policymakers in Somalia. The absence of federal and regional regulations mandating the adoption of green supply chain practices is a significant concern that must be addressed urgently. Policymakers need to develop and implement policies and strategies that foster the adoption of green supply chain management practices, which are instrumental in preserving the environment and promoting sustainable development. The study's finding that organizations adopt green supply chain practices due to competition among their competitors highlights the crucial role of free and open competition in promoting the implementation of green supply chain practices. Policymakers must encourage and support open and free competition among businesses and encourage the trading of eco-friendly products to promote the adoption of green supply chain practices. Moreover, suppliers' mission towards the environment plays a significant role in driving the adoption of green supply chain practices. Policymakers need to work with suppliers to encourage and support the adoption of environmentally friendly practices among SMEs in Somalia.

However, the study's finding that customers in Somalia do not have the necessary awareness to demand environmentally friendly products highlights the need for policymakers to raise public awareness about the importance of eco-friendly products. Policymakers need to implement education and awareness-raising campaigns to promote the adoption of green supply chain practices among SMEs in Somalia. Overall, the study's findings provide valuable insights into the elements that impact the incorporation of environmentally sustainable methods in the supply chain among SMEs in Somalia. Policymakers must use these insights to develop and implement sound policies and strategies that promote the adoption of green supply chain practices, promoting environmental preservation, and sustainable development in the country.

Table 7: External Pressures

<b>Statement</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
Green supply chain management practices are compulsory as per the environmental rules and regulations imposed by the federal authorities	150	1.51	.599
There are regional environmental rules that call for the use of green supply chain management methods.	150	1.57	.755
Green supply chain management techniques are needed because competitors are making more eco-friendly products	150	3.43	1.292
Suppliers typically mandate environmental partnership requirements	150	3.01	1.376
The desire among customers for items that are favorable to the environment is growing	150	1.63	.847

Source: Author (2023)

## 5. Conclusion and Recommendations

This study aimed to examine the factors that affect the adoption of green supply chain practices in Somalia, in the absence of regulatory frameworks that mandate environmentally-friendly policies and practices. The findings of the study reveal that SMEs in Somalia have developed environmental policies, and their top management generally endorsed and promoted the adoption of green supply chain practices, but there is a significant gap in resource allocation for sustainable supply chain initiatives. Procurement practices were aligned with broader environmental goals, and specific waste management practices were developed to reduce environmental impacts. The study found a lack of regulatory frameworks mandating the implementation of green supply chain practices in Somalia, highlighting the need for policymakers to develop sound environmental policies and strategies.

External pressures such as competition and supplier requirements were identified as significant factors that can drive the adoption of these practices, but there is a lack of customer awareness and demand for environmentally friendly products. To encourage the adoption of green supply chains by SMEs in Somalia, policymakers and practitioners must take a holistic approach to sustainable supply chain management, including employee training and adequate resource allocation. The study's recommendations suggest that policymakers must prioritize the development of sound environmental policies and strategies to address the challenges of green supply chain implementation. Practitioners should adopt a holistic approach to sustainable supply chain management, including employee training and adequate resource allocation to achieve their sustainability goals.

The lack of customer awareness and demand for environmentally-friendly products represents a significant concern that requires urgent attention. The study findings offer valuable insights into the factors influencing the adoption of green supply chain practices in Somali SMEs, highlighting the need for policymakers and practitioners to take a holistic approach to sustainable supply chain management. By prioritizing the development of sound environmental policies and strategies, providing adequate resources and training, and raising customer awareness and demand for environmentally-friendly products, Somali SMEs can successfully implement green supply chain practices, contributing to broader environmental sustainability efforts in the region. Finally, it is important to note that the study was limited to Somalia and its findings cannot be extrapolated to the broader East African region. Further research is needed to fully explore the impact of these variables on the introduction of supply chain traceability systems and other sustainable supply chain practices in the region.

## References

- Chan, R. Y., & Lau, L. B. (2002). Explaining green purchasing behavior: A cross-cultural study on American and Chinese consumers. *Journal of international consumer marketing*, 14(2-3), 9-40.
- Christmann, P., & Taylor, G. (2001). Globalization and the environment: Determinants of firm self-regulation in China. *Journal of international business studies*, 32, 439-458.
- Chung, C.-J., & Wee, H.-M. (2011). Short life-cycle deteriorating product remanufacturing in a green supply chain inventory control system. *International journal of production economics*, 129(1), 195-203.
- El-Garaihy, W. H., Badawi, U. A., Seddik, W. A., & Torkey, M. S. (2022). Investigating performance outcomes under institutional pressures and environmental orientation motivated green supply chain management practices. *Sustainability*, 14(3), 1523.

- Govindan, K., Kaliyan, M., Kannan, D., & Haq, A. N. (2014). Barriers analysis for green supply chain management implementation in Indian industries using analytic hierarchy process. *International journal of production economics*, 147, 555-568.
- Green, K. W., Whitten, D., & Inman, R. A. (2008). The impact of logistics performance on organizational performance in a supply chain context. *Supply Chain Management: An International Journal*, 13(4), 317-327.
- Green, K. W., Zelbst, P. J., Meacham, J., & Bhadauria, V. S. (2012). Green supply chain management practices: impact on performance. *Supply Chain Management: An International Journal*, 17(3), 290-305.
- Hollos, D., Blome, C., & Foerstl, K. (2012). Does sustainable supplier co-operation affect performance? Examining implications for the triple bottom line. *International Journal of Production Research*, 50(11), 2968-2986.
- Kumar, S., & Putnam, V. (2008). Cradle to cradle: Reverse logistics strategies and opportunities across three industry sectors. *International journal of production economics*, 115(2), 305-315.
- Mohanty, R., & Prakash, A. (2014). Green supply chain management practices in India: an empirical study. *Production Planning & Control*, 25(16), 1322-1337.
- Mosgaard, M., Riisgaard, H., & Huulgaard, R. D. (2013). Greening non-product-related procurement—when policy meets reality. *Journal of Cleaner Production*, 39, 137-145.
- Mosgaard, M. A. (2015). Improving the practices of green procurement of minor items. *Journal of Cleaner Production*, 90, 264-274.
- Murray, J. G. (2000). Effects of a green purchasing strategy: the case of Belfast City Council. *Supply Chain Management: An International Journal*, 5(1), 37-44.
- Peters, B. G. (2022). Institutional theory *Handbook on Theories of Governance* (pp. 323-335): Edward Elgar Publishing.
- Seuring, S., & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. *Journal of Cleaner Production*, 16(15), 1699-1710.
- Shultz, C. J., & Holbrook, M. B. (1999). Marketing and the tragedy of the commons: A synthesis, commentary, and analysis for action. *Journal of Public Policy & Marketing*, 18(2), 218-229.
- Srivastava, S. K. (2007). Green supply-chain management: a state-of-the-art literature review. *International journal of management reviews*, 9(1), 53-80.
- Utama, D. N., Hurulaini, M. D., & Airlangga, A. F. F. I. (2022). Supply-Chain-based e-Business for Small Medium Enterprise. *Journal of System and Management Sciences*, 12(6), 239-251. doi: 10.33168/JSMS.2022.0615
- Vachon, S. (2007). Green supply chain practices and the selection of environmental technologies. *International Journal of Production Research*, 45(18-19), 4357-4379.
- Verma, D., Dixit, R. V., & Singh, K. (2018). Green Supply Chain Management: A Necessity for Sustainable Development. *IUP Journal of Supply Chain Management*, 15(1).
- Wang, Y.-F., Chen, S.-P., Lee, Y.-C., & Tsai, C.-T. S. (2013). Developing green management standards for restaurants: An application of green supply chain management. *International journal of Hospitality management*, 34, 263-273.

Wu, G.-C., Ding, J.-H., & Chen, P.-S. (2012). The effects of GSCM drivers and institutional pressures on GSCM practices in Taiwan's textile and apparel industry. *International journal of production economics*, 135(2), 618-636.

Zhang, Q., Gao, B., & Luqman, A. (2022). Linking green supply chain management practices with competitiveness during covid 19: The role of big data analytics. *Technology in Society*, 70, 102021.

Zheng, Y., Bulatenko, M., Bykov, A., Sakulyeva, T., & Bozhko, L. (2022). Effective Dairy Supply Chain Management in Big Cities. *Journal of System and Management Sciences*, 12(6), 131-146. doi: 0.33168/JSMS.2022.0609

Zhu, Q., & Sarkis, J. (2004). Relationships between operational practices and performance among early adopters of green supply chain management practices in Chinese manufacturing enterprises. *Journal of Operations Management*, 22(3), 265-289.

Zhu, Q., Sarkis, J., & Geng, Y. (2005). Green supply chain management in China: pressures, practices and performance. *International journal of operations & production management*, 25(5), 449-468.