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Sustainable Supply Chain Management Drivers and Barriers in the Ethiopian Manufacturing Sector

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Abstract

The prime essence of this paper is to identify the drivers of Sustainable Supply Chain Management (SSCM) and determine the barriers to its implementation in the Ethiopian manufacturing sector. Studies related to SSCM mainly from 2010 onwards are reviewed, analysed and discussed using exploratory and meta-synthesis analyses. The findings indicate that there is an absence of a clear connection between SSCM practices and performance among the manufacturing industries in Ethiopia. This creates a hindrance for manufacturing firms in Ethiopia seeking to implement SSCM.

Keywords: Sustainability, Supply Chain Management, Triple E, Manufacturing.

1. Introduction

In the past few decades, manufacturing firms are greatly concerned about sustainability due to the immediate impact on their performance (Ortas et al. 2014a). Sustainable supply chain management (SSCM) helps businesses raise productivity, enhance product quality, comply with regulations, achieve competitiveness, gain access to new markets, boost employee satisfaction and motivation, enhance public relations, and enhance brand recognition (Hsu et al. 2013). Ortas et al. (2014a) argue that the usefulness of SSCM practices in financial terms promotes the implementation of sustainable practices in companies' supply chains. Ortas et al. (2014a) further highlight a conflicting assessment of the relationship between sustainable supply chain performance and companies' financial performance. One of the assessments is that the best financial performers have more resources available to invest in improving their sustainable supply chain performance. Another differing assessment is that companies that increase their sustainable supply chain performance through their commitment to environmental, economic, and social concerns improve their financial performance. This assessment validates addressing environmental, economic, and social issues as part of corporate strategy can generate new opportunities for competition, as well as new ways of adding value and improving long-term financial performance.

For supply chain participants or actors to stay part of the supply chain, environmental sustainability and empowerment (social) sustainability criteria must be met, while competitiveness is expected to be the outcome of satisfying consumer wants and doing associated economic sustainability actions (Seuring et al. 2008). SSCM performance is highly dependent on the provision of dedicated leadership and employees (Pandey et al., 2021). Support from the managerial level, as well as employees' motivation, drives internal organizational procedures to implement effective SSCM strategies (Emamisaleh and Taimouri 2021). The study from Emamisaleh and Taimouri (2021) shows that if SSCM practices are amalgamated with the strategies of a company it yields positive impacts on the firm's operational performance.

According to Nayak and Dhaigude (2019) financial constraints, organizational management support, competition, culture, infrastructure, and planning and execution are the most influencing independent variables while people, customer acceptance, government support, supplier acceptance, and external stakeholder are identified as outcome variables in the implementation of SSCM. Govindan et al. (2020) examined the Natural Resource Based View (NRBV) on the supply chain and argues that environmentally sensitive operations and practices in the supply chain

will result in better firm performance. They further explain using the instrumental stakeholder theory that firms that have high ethical relationships with stakeholders achieve high levels of trust and cooperation.

Gavronski et al. (2011) indicate that the improvement in firm performance is the result of increased operational performance by improving collaboration between suppliers. Vachon and Klassen (2008) depict that the introduction of environmental-specific capabilities potentially results in the improvement of operational performance. The improvement in firm performance can also be due to better margins obtained through sales of environmentally friendly products to environmentally conscious customers (Kim and Han 2010, Sheu and Choi 2019). Govindan et al. (2020) conclude that socially responsible practices lead to improved firm performance through a reduction in risk along the supply chain and improved stakeholder involvement. Most developed nations are increasingly integrating the principles of sustainability into their supply chain compared to under-developed nations (Rajeev et al. 2017). Morali and Searcy (2013) have reviewed SSCM practices in developed nations and found that the 62% of corporations in manufacturing and financial sectors disclose their corporate sustainability initiatives. Whereas in developing countries in general and in Ethiopia in particular the current understanding of the drivers that encourage the implementation of SSCM practices is still limited (Cristina and Fernández 2015). Therefore, this research aims to review the literature and published information in the area of SSCM to pinpoint the factors that encourage and inhibit its adoption among large and medium manufacturing industries in Ethiopia.

To this end, the paper identifies the drivers of SSCM and barriers to implementation among manufacturing industries in Ethiopia. To address the objective, the paper is structured in five sections; Section 1 provides a brief introduction and defines the aim and objectives of the article. Section 2 presents the research methodology adopted, Section 3 presents the literature review, Section 4 presents results and discussions, and Section 5 presents the conclusion and future research directions.

2. Methodology of the Literature Review

This article adopts a spectrum of review from Nadeem et al. (2018), as portrayed in Table 1, it simplifies the review and is vigorous in methodological aspect. The literature review adopted a screening methodology using a keyword that includes sustainable supply chain, stakeholders, resources, drivers, Triple E, sustainable practices, and environmental practices. The study used a relevant database i.e. Science Direct, Web of Science, Scopus, Emerald and Ethiopia base databases to look up pertinent literature. Despite the researcher's interest to use only recent articles, the lack of mature studies in the case of Ethiopia has forced the researcher to use articles published in an extended range of time and focus on relevant articles on the sustainability of supply chain management (SCM). For the review, the study focuses on the title, keywords, abstract, finding, and conclusion of each article.

Table 1. Review phases and methods (adapted from Nadeem et al. 2018).

Phases	Objectives	Method
1 Scope Formulation	Formulating the scope	Defining the overall scope of the study and outlining the aim and objectives of this literature review
2 Locating and selecting the studies	Locating and selecting the relevant literature/data	**Inclusion Criteria:** Published reports, literature and articles on the topic of Sustainable supply chain, drivers of sustainable practice, Triple E, and sustainable practices. **Exclusion criteria:** Any report that is not linked to or relevant to Sustainable supply chains. **Search Strings:** Sustainable Supply Chain, Triple E, Manufacturing **Data Bases Explored -** Science Direct, Web of Science, Scopus, Emerald and Ethiopian databases.
3 Analysis	Analyzing the information/data	Exploratory and meta-synthesis types of literature review **A.** Exploratory literature review **B.** Meta-synthesis literature review
4 Reporting the findings	Discussing the key findings	Presenting the discussion

The analysis of the review has adopted exploratory and meta-synthesis literature review. An exploratory literature review aims to provide a broad approach to the topic area and requires a pre-existent knowledge of the topic in the investigation. Focusing on the breadth, this study uses peer-reviewed articles to support the study. An exploratory literature review creates an opportunity to further fill the gap in the body of knowledge as it is based on different bodies of literature using theories. In addition, the Meta-synthesis literature review focuses on non-statistical analyses from the findings of qualitative studies, and it involves broad conceptualizations and interpretations.

3. Literature Review

3.1 Conceptualization of Sustainable Supply Chain Management

The term sustainability integrates environmental, economic and empowerment into a firm's operations (Wang and Dai 2018). To understand sustainability in the context of SCM, (Govindan et al. 2020) define SSCM as the set of practices that improve a firm's overall performance during the development, production, procurement, and distribution of a product or service to current and potential customers along the supply chain. Oktem (2014) further decomposed the term sustainability to include consideration for profit, people, and the planet into the firm's culture, strategy, and operations within the perspective of the triple bottom line (TBL) approach, which includes environmental, social, and economic perspectives to achieve supply chain sustainably.

According to Nogueira et al. (2022) the TBL is central to the progress of the economic development of nations and the concerns about improving social, environmental, and economic living standards. Ortas et al. (2014a) define SSCM as skills and leverages that capacitate firms to structure their business processes to achieve sustainable performance. A sustainable supply chain integrates environmental, economic and social issues into SCM to improve the firms' linkage and bondage with its suppliers and customers without compromising its economic performance. According to Seuring et al. (2008) SSCM is the management of material and information flows as well as cooperation among companies along the supply chain with goals of improvement in dimensions of sustainable development, i.e. economic, environmental and empowerment.

The unprecedentedly growing globalization and continued outsourcing in various industries have triggered firms and organizations to function and compete on a supply chain. At the same time, these vigorous supply chain activities have made organizations responsible for the environmental and social performance of their suppliers and partners. These pressures are derived from several internal and external factors including employees and management, social responsibility, communities, governments, and nongovernmental organizations (Seuring et al. 2008).

There is a low level of SSCM adoption among developing nations; Baig et al. (2020) argue that the main reason for the low adoption of SSCM practices in developing countries is the result of their emerging economy that the supply chains face relatively more barriers to sustainability in comparison to those in developed nations. The developing nations' status as a latecomer to global trade has impacted their sustainability practices. However, there has been a growing effort to sustainability due to the global climate change impact (Gavronski et al. 2011). According to Diabat et al. (2013), green SCM has emerged as an important organizational philosophy to achieve an organization's profit and market share objectives by reducing environmental risks and impacts while improving the ecological efficiency of these organizations and their partners. Wang and Dai (2018) state that the term ''sustainability'' in the manufacturing industry creates a sustainable community that can influence and support firms to excel in SSCM; as a result, it is important to reduce barriers that directly affect the integration of SSCM practices into traditional supply chains, with sectorial and economic factors being the most important.

The scope of the body of this literature review on SSCM is displayed in Table 2. It highlights the factors that influence and obstruct SSCM implementation and the link between SSCM practices and business performance. The following three parameters have been used to select the articles. First, the articles are highly cited articles in the area of SSCM; second, the selected articles investigate sustainability in all three dimensions (environment, economic and empowerment); third, the articles took sample which is similar to the existing status of manufacturing industries in Ethiopia. Using the meta-synthesis technique, findings from numerous relevant studies on the subject of SSCM have been combined, key findings are discussed, and conclusions are drawn.

Table 2. Key findings from relevant studies on driver and practice of sustainable supply chain management

No	Author	Method	Year	Key Finding
1.	(Baig et al. 2020)	Survey	2020	Sectoral and economic, managerial, and supplier-related barriers directly impact the adoption of SSCM practices in either a negative or positive way.
2.	(Diabat et al. 2013)	Survey	2013	Design for the environment, cooperation with customers, and reverse logistics are the top three main SSCM practices and can bring better SSCM performances.
3.	(Emamisaleh and Taimouri2021)	Survey	2021	Employees' motivation and managerial attitude have positive impacts on strategic sustainability orientation.
4.	(Gavronski et al. 2011)	Survey	2011	Managers seeking to implement greens SCM because they believe internal investment in green process management is a step toward environmental management of their external supply chains.
5.	(Govindan et al. 2020)	A psychometric meta-analysis	2020	A positive association exists between aspects of sustainability and firm performance, and a stronger relationship between sustainability-firm performances in the manufacturing sector than in the service sector.
6.	(Rajeev et al. 2017)	Literature review	2017	Studies in developed economies were far more mature than those from emerging markets. Moreover, there is an increase in the study of SSCM after 2011 due to the growing concern for the environment.
7.	(Morali and Searcy 2013)	Survey	2013	Stakeholder pressures are the major drivers of sustainability initiatives. Moreover, firms focus on the economic and environmental dimensions of sustainability.
8.	(Narayanan et al. 2019)	Survey	2019	Lack of benchmarking and government initiatives are the major challenges in implementing SSCM.
9.	(Nayak and Dhaigude 2019)	Survey	2019	Financial constraints, top management support, competition, culture, infrastructure, and planning and execution are identified as independent driving factors, while people, customer acceptance, government support, supplier acceptance and external stakeholder are dependent driving factors.
10.	(Nogueira et al. 2022)	Survey	2022	The social dimension of TBL improves economic development while the environmental dimension limits economic development. The economic dimension contains conflicting synergies in economic development.
11.	(Oktem 2014)	Survey	2014	Individuals' decisions on environmental issues affect the agenda of firms on the issue.
12.	(Ortas et al. 2014)	Survey	2014	Sustainable supply chain performance and companies' margins and revenue are bidirectional, and firms' profitability and sustainable supply chain performance are unidirectional.
13.	(Bag et al. 2014.)	Survey	2014	Sustainable supply chain practices are mainly influenced by market pressure, market Share and Profit.
14.	(Pandey et al. 2021)	Survey	2021	Senior management support followed by government support and the environmental team are the most critical success factors for SSCM
15.	(Seuring et al. 2008)	Literature Review	2008	Environmental and social standards play a crucial role in economical supplier evaluation.
16.	(Wang and Dai 2018)	Survey	2018	A firm's internal SSCM practices have a positive impact on the firm's environmental and social performance
17.	(Hsu et al. 2013)	Survey	2013	Regulatory measures, competitor pressures, customer pressures and socio-cultural responsibility are the main drivers for a sustainable supply chain.
18.	(Schrettle et al. 2014)	Literature Review	2014	Knowledge capacities must be aligned with the changing market requirements and market dynamics.
19.	(Saeed et al. 2017)	Literature Review	2017	External drivers of a sustainable supply chain are more important than internal drivers to implement sustainability practices.
20.	(Saeed and Kersten 2019)	Literature Review	2019	Regulatory and market pressures are the most dominant drivers of SSCM practice
21.	(Alzawawi 2014)	Survey	2014	Financial benefits are the greatest influence in the adoption of sustainable practices into supply chain systems followed by government regulations.

4. Results and Discussion

In line with the aim of this article which is to identify drivers of SSCM and barriers to its implementation among manufacturing industries in Ethiopia, this section discusses the most important literature in the field of SSCM.

4.1 Drivers of Sustainable Supply Chain Management

SSCM drivers are pressures, triggers, and enablers that demand a firm to adopt/implement sustainable practices/ initiatives across its supply chain. Usually, the pressure emanates from internal and external stakeholders (Hsu et al. 2013). Moreover, according to Saeed and Kersten (2019), the digitalization of the global economy and the expansion of information communication has made consumers aware of the sustainability of the products they purchase.

Alzawawi (2014) points out that financial benefit have the greatest influence on the adoption of sustainable practices in the supply chain followed by government regulations. The study also indicated suppliers as the least influential driver and lack of knowledge was found to be a major obstacle to a sustainable supply chain practice. Saeed and Kersten (2019) argue that both drivers of SSCM and decision-making concerning sustainability are interlinked, and this enables firms to lead other firms towards improved sustainable behaviours. They further find out that external drivers like market pressures, regulatory pressures, and societal pressure have more significance for adopting sustainability practices than internal drivers. Along the supply chain, suppliers, management, and customers can influence organizational practices to make future development more sustainable. Therefore, this study discussed the drivers of SSCM under two broad categories of external and internal drivers, as portrayed in Figure 1.

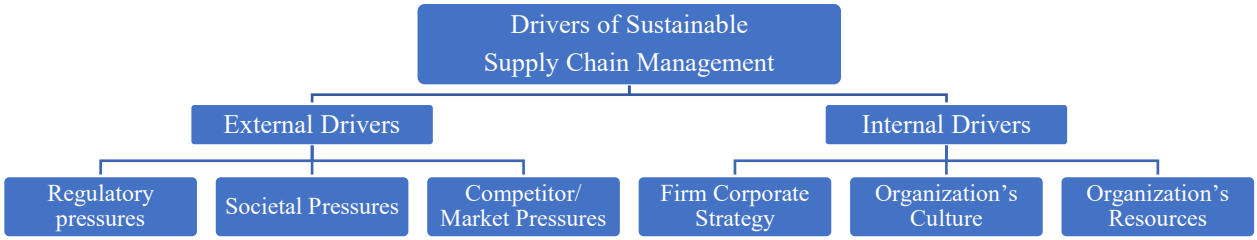

Figure 1. Drivers of sustainable supply chain management

4.1.1 External Drivers

The external drivers emanating from outside the firms are considered to be more influential than internal ones (Saeed and Kersten 2019). These external drivers include regulatory, societal, and competitor/market pressures.

4.1.1.1 Regulatory pressures

Regulatory pressures exist in the form of standards, laws, procedures, and incentives set by regulatory institutions to promote sustainability practices and are imposed by the government and regulatory bodies (Hsu et al. 2013), trade associations, and other international and national institutions. According to (Schrettle et al. 2014 and Beamon 1999). Legislations have a strong outcome in creating awareness and influencing firms to implement sustainability practices and the imposition of legislation can differ from a certain nation to another. Saeed and Kersten (2019) identify professional and trade associations as having significant pressure in enforcing sustainability practices. International standards and guidelines like International Organization for Standardization (ISO), and Occupational Health and Safety Assessment Series (OHSAS) encourage firms to implement sustainability (Beamon 1999). Firms are also influenced by financial incentives by external organizations like tax exemption, moreover, some firms act proactively in practicing sustainability as part of their corporate social responsibility (Caniato et al. 2012).

4.1.1.2 Societal Pressures

Societal pressures are expectations and demands of interest groups to adopt sustainability practices in their operations. These pressures improve public awareness of sustainability issues such as scarcity of resources, environmental and climate damages, human rights, and health and safety issues (Schrettle et al. 2014). The societal pressure includes pressures from NGOs, media/press, local inhabitants, value-based networks, consumer organizations, and the community (Saeed et al. 2017). Both NGOs and media/press develop consumer awareness regarding social and environmental practices by organizations operating in the market. Furthermore, value-based networks such as scientific communities can also influence organizations to adopt innovative approaches towards achieving sustainability goals. According to Weldemichael and Gebremichael (2017), firms are acting unilaterally in reducing

environmental impact and this has led to ignore the interest of community in the environmental issues. This finding substantiates the essentiality of interest group in forcing firms to address sustainability issue.
To comply with societal expectations, norms, and codes of conduct that specify proper corporate activity, a company may feel a voluntary commitment to society. These businesses consequently implement environmentally friendly techniques to create a socially acceptable brand that is in line with the duties and ideals of the society in which they operate. Researchers have also observed that businesses have a duty to manufacture environmentally friendly products to fulfil their corporate goal of social responsibility (Hsu et al. 2013).

4.1.1.3 Competitor/Market Pressures

Large manufacturing firms face intense pressure from the market and competitors to induce sustainability initiatives to respond to competition and gain competitive advantages. Understanding pollution prevention, product stewardship, and sustainable strategies is essential to achieve competitive advantage in firms (Zhu et al. 2012b). The pressure from the market and competitors significantly shape the actions of market players. According to Govindan et al. (2016) and Zhu et al. (2012), the competitors/market pressure originates from customers, competitors, shareholders, suppliers and buyers, investors, financial institutions, and the supply chain network.

4.1.2 Internal Drivers

Internal drivers are pressures emanating from within the firm; these drivers include corporate strategy, the organization's culture, the organization's resources, and the organization's characteristics. (Zhu et al. 2008, Tay et al. 2015, Hsu et al. 2013, Schrettle et al. 2014, Saeed et al. 2017, Fields et al., 2009, Beckert, 2010, Govindan et al. 2016, Saeed and Kersten 2019).

4.1.2.1 Firm's Corporate Strategy

The prerequisite for the successful accomplishment of the organization's sustainability goals is the strategic integration of sustainability principles. Such drivers comprise top management commitment, cost-related challenges, operational performance, and organizational sustainability plan (Schrettle et al. 2014, Hsu et al. 2013, Govindan et al. 2016). According to Zhu et al. (2008), internal environmental management is one of the major drivers for organizations to improve their environmental performance. The lagging internal environmental management practices for firms implies numerous challenges, this includes the regulations in the export-receiving countries, for example, the regulations stated in the EU leads firms to take measure to close the loop in their supply chains.

According to Wang and Dai (2018), a firm's corporate strategy includes specific objectives in green procurement, including recruitment, purchasing materials that have fewer polluting elements, using fewer materials, and using renewable and recyclable resources to reach the end users. A firm's corporate strategy also boosts employees' commitment to environmental issues and sustainability adoption (Tay et al. 2015). As SCM spans from the initial processing of raw materials to delivery to the final customer, a corporate strategy must include broader adoption and implementation of sustainability. The strategy also looks at exploring new business models with suppliers, including co-branding opportunities, such as companies must continue to develop sophisticated new tools to measure and share the benefits of sustainable practices among supply chain stakeholders. This allows users to assess the entire business ecosystem, including sustainability when assessing the total cost of economic activity (Tay et al. 2015).

4.1.2.2 Organization's Culture

A company's culture directly affects its drive for sustainability (Schrettle et al. 2014). This includes communication of information, originality, concerns with health and safety, and codes of behaviour (Govindan et al. 2016). According to institutional theory, a firm's logical desire to copy behaviours that it considers to be technically useful is what causes cultural-cognitive isomorphism (Fields et al. 2009, Beckert 2010). The activities in the green SCM, such as green purchasing and reverse logistics, are significantly impacted by sociocultural responsibility (Hsu et al. 2013). Socio-cultural responsibility is an organization's moral duty to the community in which it operates, demonstrated through voluntary attempts to conform to social norms and expectations (Hu and Hsu 2010, Hsu et al. 2013). The desire of an organization to alter and enhance the current sustainability practices requires the creation of fresh concepts to achieve sustainability objectives and practices (Gualandris and Kalchschmidt 2014)

Using a code of corporate behaviour as a driver, an organization can make decisions, follow procedures, and implement systems that are consistent and match stakeholder expectations (Alzawawi 2014). Furthermore, putting sustainable practices into effect requires the exchange of information on sustainability both internally and externally. It fosters cooperation within the supply chain and fosters the generation of fresh ideas (Govindan et al 2016). Firms

are under pressure to report and reduce work-related health and safety accidents from a variety of stakeholders (including NGOs and the media) (Saeed and Kersten 2019, Govindan et al, 2016).

4.1.2.3 Organization's Resources

Resource sufficiency is an important driver in achieving sustainability goals by an organization. This category includes resource depletion, human capital, organizational capabilities, and the development of new technological solutions (Schrettle et al. 2014, Saeed et al. 2017). This internal driver can also include working with suppliers to discover ecologically friendly goods and equipment. To generate business profits, every company aspires to lower costs which can be achieved by incorporating sustainability into supply chain activities (Alzawawi 2014).

An organization's sustainability initiatives are driven by the availability of sufficient resources, which also promotes the adoption of sustainable policies. Organizations are under pressure to use natural resources as efficiently as possible due to resource depletion, which is a factor in the adoption of sustainability measures (Rajeev et al., 2017). Organizations that have already embraced sustainable practices improve their professional competence and managerial capacities, which motivates them to continue putting sustainability-related measures into practice (Govindan et al. 2016, Schrettle et al. 2014, Zhu and Sarkis 2004). Employees exert internal pressure on firms either on their own or through their unions. Additional forces include the development of new technology and apparatus as well as training and development (Govindan et al. 2016, Saeed and Kersten 2019).

4.2 Barriers to Sustainable Supply Chain Management in Ethiopia

The current practice of SSCM (with a due emphasis on the Triple E performance) in the whole supply chain system of the Ethiopian manufacturing industry is very elusive. In Ethiopia, Manufacturing firms are considered very vital to economic growth because, by virtue of their nature, they create forward-backwards linkage in promoting growth. These firms are believed to be the potential growth channel in contributing to the country's export and employment creation. Medium and large manufacturing enterprises play a crucial role in job creation, innovation, import substitution, ensuring income equality, and poverty alleviation. According to the National Bank of Ethiopia ("Ethiopia: Macroeconomic and Social Indicators," 2020/21), the Industrial sector showed a 7.3% annual growth and constituted a 29.3% share of total GDP and it contributed 33.6% of the overall GDP growth. With 5.1% growth, manufacturing accounts for 23.4% of the industrial output in 2020/21. According to the National Bank of Ethiopia's Annual economic report of 2020/21, in the distribution of operational investment capital by sector in 2020/21; the manufacturing sector accounts for 36% ("Ethiopia : Macroeconomic and Social Indicators" 2020/21).

The Ethiopian government has set out a green manufacturing strategy in 2019 with its economic development partners (Green Manufacturing Strategy for Ethiopia, 2019) The strategy aims at improving the green and sustainability performance of the manufacturing sector and outlines environmental, empowerment (social), and economic impacts from the manufacturing industries in Ethiopia, as summarized in Figure 2.

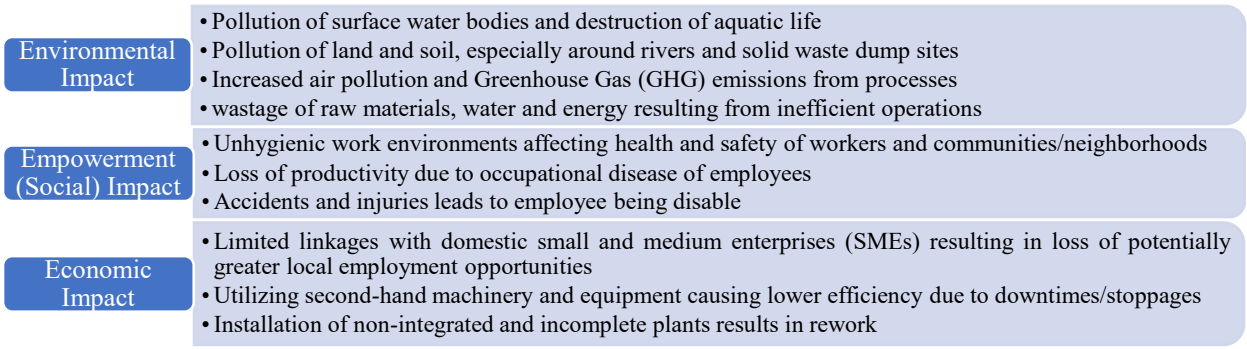

Figure 2. Environmental, empowerment (social) and economic impacts on the manufacturing industries in Ethiopia (Source: Ethiopian green and sustainable manufacturing strategy, 2019)

The Ethiopian green and sustainable manufacturing strategy ("Greening Ethiopian Manufacturing," 2019.) indicates that the undesirable environmental and social impacts of many decades in Ethiopia's manufacturing sector can be addressed through proper strategic goals and specific objectives. Wakjira et al. (2018) in their study on the overall scenario of the metal industries in Ethiopia, found that there is a problem in acquiring, disseminating, and expanding

SSCM among the employees as well as raising awareness of how to adopt sustainability. Furthermore, it was discovered that the leadership is not doing its part to promote effective SSCM systems and awareness. According to Balda and Singh (2022), the three main internal driving forces (see Figure 3) for SSCM in manufacturing industries in Ethiopia are social responsibility, the drive to control reputational and environmental risk, and a desire to reduce costs. Customers, competition, international standards (ISO certifications) requirements, and government regulations are also the top four main external drivers. Balda and Singh (2022) further indicate that green purchasing practices are not well-considered in Ethiopia's manufacturing sector.

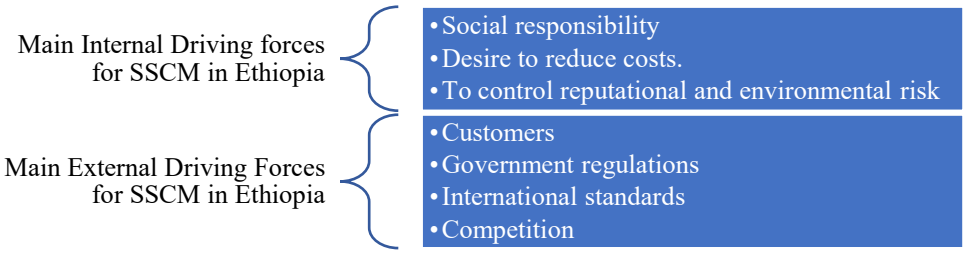

Figure 3. The main internal and external driving forces for SSCM in manufacturing industries in Ethiopia (Source: Balda and Singh, 2022)

The Table below (see Table 3) lists the main existing challenges for sustainability in the manufacturing sector in Ethiopia, as per the Ethiopian green and sustainable manufacturing strategy 2019.

Table 3. Challenges for sustainability in the manufacturing sector in Ethiopia

No.	Challenges for sustainability
1.	Low level of concern for the environment and lack of awareness
2.	Limited social concern and lack of awareness
3.	Low level of enforcement of regulations of environmental and social standards
4.	Lack of technical support addressing environmental issues
5.	Lack of technical support addressing social management issues
6.	Low level of institutional capacity and capability for implementing environmental and social protection tools
7.	Lack of institutions or bodies that provide technical services leading to certification of environmental and social management systems
8.	Government prioritization thwarting regulatory steps
9.	Lack of mechanisms for green financing

Warasthe et al. (2020) in their study, make a distinction between SSCM of textile and apparel in German and Ethiopian industries. The finding shows that different approaches in the practices between Ethiopian and German industries emanated from their internal business capability and less from their geographical advantages. Abebaw Worku et al. (2019) have also discussed the major barriers facing green SCM in Ethiopia's leather & leather product industry and found that environmental issues, cost of implementation, lack of customers awareness, and lack of capable professionals were the significant challenges in the implementation. Furthermore, Abebaw Worku et al. (2019) founds that poor sustainability planning, resistance to new technology, loose government rules and regulations, weak organizational culture pertinent to sustainability, and lack of management commitment are moderate challenges in the adoption of green SCM. In the past decade, it is observed that the development of sustainability is one of the most prominent business concerns and SSCM is also believed to be a promising area to achieve sustainability (Ahmad et al. 2017, Morali and Searcy 2013, Mitra and Datta 2014). An increasing number of firms have reassessed their supply chains and moved forward in their effort to build a more sustainable supply chain, by not only monitoring their suppliers' compliance but also by promoting their capabilities to suitably address various environmental and social challenges (H. et al. 2017). The triple E indicates the combination of economic, empowerment (social), and environmental criteria must be integrated into performance objectives for the management of the entire supply chain. Therefore, the management of economic, environmental, and social issues in the supply chain, namely SSCM has become a critical issue (Gong et al. 2019).

Similarly, Bayu et al. (2022) in their study of the system dynamics model for dynamic capability-driven sustainability management in Ethiopia emphasizes the economic, empowerment, and environmental criteria. To this end, Bayu et al. (2022) found that waste management practice, minimum wage concerns, sustainability training efforts, ethical management and supervision are the crucial elements of sustainability. Moreover, they indicate that an innovative approach is a crucial component in setting fair wages and incentives, innovative waste management and empowering managers with soft skills in leadership pertinent to local culture and norms.

Pagell and Wu (2009) argued that SSCM is the managerial decisions and behaviours designed to ensure that a supply chain performs well in the TBL or Triple E dimensions to create a truly sustainable supply chain. Therefore, these managerial decisions and behaviours should be intended at assuring firms in their supply chain as a whole to perform well economically, environmentally and socially. This can be done through strategic integration of key business processes like management of resources, conversion of resources, and/or the delivery of products and services (Pagell and Wu 2009). Nowadays, the aim of supply chain sustainability is not only integrating environmental, social, or economic considerations in a linear manner where raw materials sourcing, production/processing, and delivery to the market are major aspects/activities. Instead, it goes beyond these basic supply chain activities to plan and execute the reuse, recycle, and retire strategies (Stranieri et al. 2019). As a result, Manufacturing companies in developed countries are nowadays benefiting by practising SSCM which enables them to enter the global markets, increase customer loyalty, reduce waste, and attract and retain qualified employees who have a strong commitment towards sustainability, unlike the manufacturing companies in developing countries in general and Ethiopia in particular (Bag 2014, Bag et al. 2014, Stranieri et al. 2019, Gong et al. 2019).

In support of the previous arguments Hart and Dowell (2011), also indicated that a sustainable supply chain strategy that involves all Triple E aspects will lead to improved competitive advantage and performance in developed and emerging economies. According to Haller et al. (2020) and World Economic Forum (2020), 60% of customers are willing to change their shopping behaviour to lessen environmental impact, and 70% of workers prefer to work at a company with a solid environmental sustainability program. So, sustainability is becoming a critical factor even in the decision of employees whether they choose and stay at a given business organization or not. According to Haller et al. (2020), investors also give due attention and prioritize sustainability while making investment decisions. Similarly, sustainability and profitability can coincide, corporations that plan with climate change for instance can secure an 18% higher Return on Investment than companies that do not (Haller et al. 2020, World Economic Forum, 2020). The competitive strategy will be derived, either explicitly or implicitly, from the efficient alignment of sustainable supply chain integration and performance.

SCM is one of the most productive research fields in management sciences and business development for a long time (Laengle et al. 2017). Empirically, however, the sustainability in SCM per Triple E dimensions and within the whole supply chain is less addressed in developing nations like Ethiopia (Balda 2020Jia et al. 2018b, Balda et al. 2019, Sancha Fernández and Thomsen 2015, Sánchez-Flores et al. 2020). Current understanding of the drivers that encourage the implementation of SSCM practices is still limited in developing countries in general and in Ethiopia in particular (Cristina and Fernández 2015.).

Supply chain sustainability is being viewed in the context of three large areas interacting with each other to maintain humanity-centric problems, this aspect is widely referred to as the Triple-E model, also referred to as TBL, which comprises three large areas: Economics, Environment, and Empowerment. Despite growing research interest in SSCM for a long time (Laengle et al. 2017) there is a gap in merging TBL in a single analytical framework and assessing them. Consequently, many of the studies have investigated the integration only between two sustainability dimensions that is social and environmental sustainability (Moneva and Álvarez 2014). Furthermore, the argument on whether economic benefits can be attained through successfully implementing social and environmental sustainability is still an ongoing discussion in the field of SCM (Sudusinghe and Seuring 2018). Therefore, due attention is needed to study the holistic perspective of sustainability to comprehend the economic consequences of these sustainability practices. The work of Tarek and Zailani (2015) also vividly showed socially and environmentally rigorous practices across the supply chain bring strategic economic benefits.

5. Conclusions and Future Research Directions

The amalgamation of social and economic sustainability dimensions in TBL is critical, predominantly due to the following reasons. Firstly, an inadequate number of studies have focused on this amalgamation, especially from a supply chain perspective. Secondly, it is an open question of how being socially, environmentally, and economically sustainable supply chain affects the economic performance of a firm. From a scholarly perspective, the causality of

this interrelation has been a recurring debate. This argument originated on doubt whether the economic performance of a company is a direct result of embracing sustainable practices or the companies that are performing well in adopting these practices (Sudusinghe and Seuring 2018, Jia et al. 2018a, Gong et al. 2019, Elkington 2001, Winter and Knemeyer 2012, Ortas et al. 2014b, Sudusinghe and Seuring 2020 Eltayeb 2009).

Reviewing various findings of previous researchers shows that, it remains unclear if manufacturing firms that more expansively adopt SSCM performs well (Zailani et al. 2012). According to Movahedipour et al. (2017), Balda et al. (2019) and Jia et al. (2018b), the absence of a connection between SSCM practices and performance enhancements is a hindrance for manufacturing firms in Ethiopian as the nation is seeking to justify SSCM implementation.

As is vividly seen in the findings of this review, there are no sufficient empirical findings in the case of the Ethiopian manufacturing industry that look into the practice of sustainability in the whole supply chain system and within all manufacturing subgroups. Thus, much research is needed to investigate the current practice of SSCM (with a due emphasis on the Triple E performance) in the whole supply chain system in the Ethiopian manufacturing industry, to determine the factors affecting the practice, to investigate the driving forces for its practice and the impact of this practices on individual firm's performance and in the industry's performance in general.

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