



SUSTAINABLE SYNERGY ELEVATING GLOBAL ECONOMIC PERFORMANCE THROUGH SUPPLY CHAIN RESPONSIBILITY IN KARACHI, PAKISTAN

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Abstract

This study examines how Pakistani companies in Karachi perform when they use sustainable supply chain management techniques. The study creates a comprehensive model with both internal and external management components and empirically evaluates it. The results highlight how companies that adopt sustainable supply chain methods see improvements across a range of performance metrics. There is a strong correlation between greater economic performance and enhanced environmental and social performance. According to the study, corporate social responsibility has a mediating effect on both socially conscious management and economic performance. The results bolster the argument that environmentally and socially responsible supply chain strategies are also commercially feasible for companies operating in Karachi, Pakistan. The study contributes to our understanding of the complex relationships that exist between company success and sustainable supply chain strategies. The report highlights the significance of incorporating these principles into company operations in an increasingly sustainable global context. These findings support the idea that sustainable supply chain strategies can be the foundation of sustainable company operations and have important implications for companies trying to strike a balance between economic goals and social and environmental obligations.

Keywords: Firm performance, Sustainable supply chain management, sustainable operations, Economic sustainability, Social responsibility

Introduction

The sustainable supply chain is described as a trade or business that justifies the essentials of the current era without negotiating the capability of the upcoming gentry to facilitate them with their requirements (WCED, 1987, Mol, A. P. (2003). This description identifies the three main factors



on which a sustainable supply chain is dependent, i.e., social, environmental, and economic. It is challenging for stakeholders to integrate sustainability into global supply chain management. Wu and Plagell (2011) argued that dynamic changes in natural resources and environment-friendly businesses have forced companies all over the globe to revamp their business structures. Sustainability in supply chain management (SCM) is now becoming the most discussed topic among researchers. One of the best examples is green technologies, which have created opportunities to reduce pollution in the environment as well as raise the prices of the commodity. Similarly, another example is that some non-governmental companies enforced an organization to reduce the usage of Palm oil in manufacturing goods due to its sustainability (Economist, 2010; Hidayat et al., 2018).

Problem Statement

Sustainable supply change management is challenging for most organizations, and the impact of social, environmental, and economic changes on SCM is creating more challenges for organizations to continue practicing it. The social impact of sustainability on the supply chain is more often neglected. Social impact is less major than environmental and economic, as per previous literature reviews. However, the facts are the opposite nowadays. There are so many live examples, one of which is very exclusive, i.e., COVID-19. The lockdown in several countries has affected imports and exports badly, resulting in consumers' need for more basic needs. The local companies have taken advantage of the shortage of external supplies and are producing the required products for consumers. The brands need to be more attractive to consumers as they need a product that meets their needs, and they might be achievable at a cheaper price. Once this pandemic is over, consumers will become familiar with local market products.

Sustainable Supply Chain

It is described as a trade or business that meets the needs of the present generation without compromising the ability of the upcoming generations to facilitate them with their needs (WCED, 1987). Industries are mostly blamed for their environmental, social, and economic outputs as a result of their internal processes and their vendors' services (Hartmann & Moeller, 2014). From the last few decades, sustainable supply chain management (SSCM), which is concerned with the relationship of environmental, social, and economic achievements across a principal company's supply chain operations, has appeared as the methodology for industries to develop sustainable (i.e., environmental, social and economic) results in their supply chains (Carter & Rogers, 2008; Seuring & Muller, 2008). This description identifies the three main factors on which a sustainable supply chain depends, i.e., social, environmental, and economic factors. It is very challenging for stakeholders to integrate sustainability into global supply chain management. Wu and Plagell (2011), Koberg, E., and Longoni, A. (2019) argued that dynamic changes in natural resources and environment-friendly businesses have forced companies all over the globe to revamp their business structures. Sustainability in supply chain management (SCM) is now becoming the most discussed topic among researchers. One of the best examples is green technologies, which have created opportunities to reduce pollution in the environment as well as raise the prices of the commodity. Similarly, another example is that some non-governmental companies enforced an organization to reduce the usage of Palm oil in manufacturing goods due to its sustainability (Economist, 2010).



Sustainable supply chain management is challenging for most organizations, and the impact of social, environmental, and economic changes on SCM has created many problems for its protection. The social impact of sustainability on the supply chain is more often neglected. Social influence has yet to be taken as seriously as environmental and economic. However, some facts have changed nowadays. There are numerous live examples, one of which is exclusive, i.e., COVID-19. The lockdown in several countries has affected imports and exports badly, resulting in consumers' need for more basic needs. The local companies have taken advantage of the shortage of external supplies and are producing the required products for consumers. The brands are no longer attractive to consumers as they need a product of their need, and they might be getting those at a cheaper price, too. Once this pandemic is over, consumers will become familiar with local market products. SSCM has embedded in entities and administrations with the perception of justifiable progress and better responsiveness of environmental defense and social accountability. Administrators need to reflect the community's environmental and social duty approaches and standards. Sustainable Supply Chain Management could be appreciated as a fragment of the business's invention processes with vigorous corporate expansion. It links with the existence and positive acceleration of the business. Moreover, Rao and Holt (2005) and Kovács (2008) argued that supply chain companies normally proceed with the obligation to get undesirable results in all of the associates competing in the supply chain field.

Triple Bottom Line Theory

Corporates frequently operate according to Elkington's (1998) triple bottom line (TBL) philosophy, which advocates for the virtually complete equilibrium of social, environmental, and economic concerns. According to the TBL model, corporations must engage in supply chain presentation valuing in addition to meeting social, economic, and environmental performance standards. Enhancing the environmental and social performance of supply chain companies is the goal of sustainable supply chain management. The three organizational components that Wittstruck and Teuteberg recognized corporations as being essential to a sustainable supply chain are ecological, operational, and social (Zhu et al., 2005). The resource-based concept explains why valuation does not always result in better performance as relationships progress in the triple bottom line (Barney, 1991). Together, suppliers and buyers can enhance their social and performance, creating some of the unique, valuable, and hard-to-copy aspects (Carter & Rogers, 2008). Eco-friendly clients argue that global enterprises should present comprehensive, inclusive impressions in today's corporate environment when the discourse of globalization is becoming more and more prevalent. Accordingly, it can be said that a greater number of companies have been successful in implementing the "Triple Bottom-line" ideas, indicating their impact on the global economy, society, and environment (Glavas & Mish, 2015; Hussain et al., 2018; Onat et al., 2014; Wilcox et al., 2016; Rambaud & Richard, 2015).

Objective of the Study

This study will cover sustainability in SCM procedures and how it affects the financial performance of the business. The impact of both internal and external sustainable management on the business's financial performance will also be covered. This research will assist companies in evaluating their financial results while taking into account external and internal environmental influences.



Justification

This study aims to develop Pakistan's supply chain management strategy for sustainability, with a focus on specific industries. Being a developing nation, Pakistan must gain from the TBL factor's contribution to sustainability in its sectors. It talks about how Pakistani businesses' supply chain management must incorporate sustainability. In conclusion, it strongly advises Pakistani businesses to begin implementing sustainability on a broad basis. The deficiency of research in Pakistan in this area will motivate educators and students to introduce fresh perspectives and innovative ideas to the business world. Businesses will be more profitable if their supply chains are sustainable, and this will motivate them to pass on the savings to customers in the form of lower pricing and stronger market competition.

Scope of Study

This study will take into account the supply chain field in Karachi; any particular industry will be picked for further research. It will help investors to find the Pakistani market beneficial for sustainability. This can further help Pakistani industries to make strategies on how to practice sustainability to reap its extensive benefits. It will also improve the environment and economy of the country once the supply chains of the companies are considering social factors.

Academic Contribution of the Study

The objective of this study is to investigate the sustainability management of the Karachi industry and its accountability. The findings can be useful in applying sustainability management to the existing market for improved outcomes in the future. The industrial practices of sustainability in supply chain management systems in Karachi are the main subject of this study. Finding the environmental factors and how they relate to the social and economic spheres is intended to answer how significant climate change is for regional industrial strategies. Industries can adopt diverse techniques to meet their goals and improve their business sustainability by leveraging the interaction between the TBL variables. It explores how corporate sustainability influences a company's financial results. Businesses can further benefit from the interaction between socio-environmental factors in order to expand their chances for sustainability.

Problem Statement

Sustainable supply chain management is challenging for most global organizations, seeing their impact on economic, environmental, and social changes, which in supply chain management is creating more challenges for organizations to continue it. Social, environmental, and economic consequences are being brought about by the internal operations of the companies and their suppliers (Hartmann & Moeller, 2014). Global supply chains have faced difficulties with sustainability in addition to individual ones. While Apple was appalled by the news of employee suicides at its supplier firms in the 2000s (Clarke & Boersma, 2017), Nike was addressing the issue of child labor in its suppliers' firms in the 1990s (Lim & Phillips, 2008). In order to overcome the challenges posed by sustainability, the social and environmental aspects of production were constantly assessed Grimm et al. (2008). Accompanied by economic considerations. In order to address these concerns, Murphy and Schlegelmilch (2013) provided nine distinct definitions of CSR. Following this, a conceptual framework for social impacts, actions, and performances was proposed by Hameed et al. (2017). Sustainability professors identify the significant interplay between ecological and socioeconomic phenomena. For example, Lester Brown's life work (who founded both the organizations focused on sustainability), Worldwatch and the Earth Policy



Institute almost totally combined the two themes' extents. For example, Lester Brown's "World on the Edge Tour de Force" structures sections on soil erosion, water tables, and climate interference in addition to environmental immigrants, failed nations, eradicating poverty, and stabilizing population. Occasionally, this model and others divide sustainability into "economic, social, and environmental" (also known as "the TBL") or, for quick fixes, "the 3-Ps," or people, planet, and profit (Fisk, 2010). Since people constitute both the measure and composition of the natural situation, the most understandable theoretical and practical connections between these variables are that people are entangled with them all (Isaksson et al., 2015; Starik & Kanashiro, 2013). As well as create "societies" and "economies" by exchanging values. The most recent investigation of the sustainability thesis revealed that few authors took into account all supply chain sustainability metrics in their study, according to Elcio and Wong (2014). Comparatively speaking, there are fewer research studies on the impact of internal and external administration on a firm's financial performance at the same time (social, economic, and environmental). Internal and external management have a relationship that is similar to that of the other elements.

Research Questions

This research will attempt to answer the questions below after analysis:

Do internal environmental management procedures improve a company's financial success?

Do socially conscious internal management techniques have a good effect on the financial performance of the company?

Does supplier monitoring and assessment have a positive effect on a firm's economic performance?

Does supplier collaboration have a positive effect on a firm's economic performance?

Does the adoption of proactive socio-environmental practices is positively associated with a firm's economic performance?

Does Corporate sustainability performance mediate the positive relationship between smart technologies and the firm's economic sustainability?

Literature Review

SSCM is a relatively new field of research for researchers, and lots of work needs to be done on this topic. One of the challenges faced by a few researchers is the diversity of both concepts, i.e., sustainability and SCM (Touboulic & Walker, 2015). Businesses are adopting the practice of sustainable supply-chain management more frequently due to the rapid growth of these businesses. It has forced researchers and stakeholders to focus on its forecasting. The main theme, though, is to evaluate the factors influencing sustainable supply-chain management and the world economies. The organizations practicing sustainability in supply-chain management were given less focus to put them in any limelight, whether their revenue was affected or not (Touboulic & Walker, 2015). The approach of most of the researchers and analysts had been qualitative in finding the feedback of Sustainable supply-chain management practices. There are few quantitative research studies on this matter to conclude with some stats-based theory, i.e. (Paulraj



et al., 2015 & Huang, A., Lin, A. P., & ZANG, A. (2020)). Somehow, authors and researchers are on the same page regarding the main variables on which Sustainable supply chain management depends, i.e., environment, social, and economic. In the literature before 2008, the researchers mostly discussed green technologies, recycling technologies, and processes of supply chain management's integration with the earth's environment and population-related matters. However, they do not discuss the impacts of social issues on Sustainable supply-chain management (Brandenburg et al., 2014). The recent literature on the Sustainability of supply chain management can be categorized into general research, quantitative models, and empirical research. Empirical research is research based on the contribution of someone's real-time observation and experiences, which has already been done. Brandenburg et al. (2014) have argued to have found via literature review that there is less literature with a quantitative approach on this topic, while more often, there are empirical research studies. Several scholars (Alvesson & Kärreman, 2007; Colquitt & Zapata-Phelan, 2007; Hambrick, 2007; Van Maanen, Sorensen, & Mitchell, 2007) acknowledged the fact that the impacts of three factors on sustainable supply chain management are validated through empirical literature. This also challenges the credibility of this research without any statistical approaches. On the other hand, the authors and the publishers who contributed to the research are credible enough to support its conceptual framework. Researchers believe that this topic does not need any explanation for credibility.

They believe the authenticity of sustainability will force future stakeholders to implement it in supply chain management. Carter and Easton (2011) stated that the subject of this paper has motivated companies to innovate and introduce such tools, which have enabled them to nourish their performance in sustainability, socially, environmentally, and economically. The stakeholders and managers increasingly asked their vendors, including their companies, to practice it (Vachen & Klassen, 2006; Ortas et al.; I., 2014 & Carter et al. (2015) describe the initial theoretical framework of the supply chain shown in Figure 1 and a summary of its literature. It shows the focus of current studies on environmental and economic firstly, then their outputs plus the chain of the materials. This research model was comprised of several previous theories on supply chain management. There were some good proposed materials and approaches to calculating the TBL factor's relationship. However, their structural presentation is not yet available properly to the stakeholders for any implementation in the industry (Searcy, 2012 & Sholihah et, al 2019). Moreover, the existing models and procedures had failed to expose the full scope of the TBL in sustainability. Focusing on ecological issues is the first step towards achieving sustainability. In addition, there are many studies on green supply chain management (GSCM). Gilbert Well, another author, likened it to the fusion of supply chain management (SCM) and environmental philosophy. Srivastava defines it as the inclusion of a "green" module in SCM. According to Zhu and Sarkis, GSCM covers every phase of an item's life cycle, including strategy, production, and distribution, as well as end consumers' use of the commodities and their eventual disposal. According to Wantao, in order to maximize performance across the board, SSCM integrates CSR and GSCM into SCM. This paper will conduct a discussion on the relationship between internal and external management and its influence on the firm's economic performance.

Sustainable Supply Chain Practices

According to Nathalie et al. (2014), corporate development and business philosophy should include ecological considerations at every stage of the process, including proposal, engineering,



circulation, and removal. Numerous publications examining the particular phase influences (project, engineering, distribution, and reprocessing) on environmental routine are included in the investigations. King and Lenox (2001), for example, computed the relationship between lean benefits and environmentally friendly presentation using engineering techniques Huo, B., Gu, M., & Wang, Z. (2019). Azzone and Noci (1998) developed a system for evaluating new products' ecological performance. Rothenberg & associates (2001). The study conducted by Quariguasi Frota Neto et al. (2010) aimed to develop a framework for evaluating sustainable logistics networks. The findings demonstrate that environmental influences and efficacy are suitably balanced when it comes to logistics. Yercan, F., and S. Baştuğ (2021). Other reporters have looked into how reprocessing programming affects the economy. Businesses are impeded from implementing environmentally sustainable practices by the growing customer knowledge of products and industrial circumstances. Social sustainability features in the supply chain industry have gained greater responses in recent years due to the knowledge of justice, healthiness, protection, education, merging labor, and included moral practices (David & Svensson, 2015).

Rather than traditional and ethical difficulties, the use of social sustainability in the supply chain has mostly brought attention to governmental, health, and safety issues. Individual enterprises determine firm-to-firm supply chain social sustainability. A supply chain over and over again has many companion members, including producers and providers. It will help a firm to attain extraordinary benefits, or else it may be unfavorably exaggerated by reduced social accountability management (David & Svensson, 2015). The conclusion will encourage Pakistani firms to start practicing sustainability on a large scale. The lack of research in this field in Pakistan will encourage teachers and students to contribute to this research and move forward with new facts and figures for the industry. Sustainability in the supply chain will increase business profitability and motivate them to pass this benefit along to customers through competitive pricing and market dynamics.

Research Variables

The company's economic performance will be the DV of this study. There will be three independent variables in this study, i.e., Supplier Collaboration, socially responsible Management, and Supplier monitoring and assessment. There will be a mediating variable in this study, i.e., CSR, whose role between socially responsible management and a company's economic performance will be analyzed.

Environmental Management Practices

The view that shows the relationship between environmental performance and environmental practices is described as a resource-based view (RBV). Zhu and Sarkis (2004), Beske et al. (2014), and Zhu et al. (2005) did some empirical research. They found that the application of eco-friendly activities, some of which include management of waste material, systems that manage the environment, good quality management, and structure of the product. These activities could show a way to more convincing environmental enactment Mbasera, M. (2015). The focus of Social sustainability is clearly on in-house and outside entities of the company. The practices designed for better Environmental management might show a constructive impact on both external and internal entities. We explain it via an example: an eco-friendly manufacturing streak cannot only reduce the emissions of pollution, but it can also address the operational circumstances of the company's employees and their civil environment. Additionally, it improves the organizational



social status. A few of the authors stated that more investment in environmental safety activities could result in substandard economic performance for the company. There are more works of literature, like strategic research studies, that highlight the corporate strategy with environmental accountability and its impact on the economic strategy of the firm. It also shows that it can decrease the usage of funds, which can improve shareholder relationships and the product image. This practice can grow the revenues of the firms. Zhu et al. (2005), Zhu and Sarkis (2004), and Rao and Holt (2005), in their studies, stayed with the fact that environmental management practices will have a positive impact on economic performance. The usage of more ecologically pleasant resources and procedures improves the efficiency of production. It will surely reduce the usage of extra resources, resulting in the ultimate reduction of companies' manufacturing costs. Weizsacker, E. U. (2013). The above discussion forms the below hypothesis.

H1: Internal environmental management practices have a positive impact on firm economic performance.

Supplier Collaboration

The collaborative supply chain has much domain that involves but is not limited to operations and information strategy, etc. (Lamming & Hampson, 1996 & Vanpoucke, E., Boyer, K. K., & Vereecke, A. (2009)) focuses on the long-term mutual relationship instead of short-term goals, scarce resources and capacity, giving the company an edge over its competitors and also adds an intangible advantage in the company (Hart, 1995). According to Carter and Rogers (2008), intangible competitiveness like cooperative learning and understanding of customer behavior can bring enhanced environmental indicators. Pagell et al. indicated that higher collaboration will increase the trust level of the company and supplier, which leads to an improved understanding of social issues and subsequently brings sustainment to the supply chain. Firms could achieve higher productivity and minimize waste by collaborating with their suppliers and their regular monitoring. With the help of a holistic, optimistic, and synergized collaborative approach, firms can attain an active feature of collaboration with suppliers (An et al., 2014). For sustainable organization development, collaborative innovation is the prime factor (Bai et al., 2015).

Areas that influence the collaboration between foreign suppliers and local companies can bring innovation with industry associations, technology intermediaries, venture investment enterprises, and performance. These factors can have a positive impact on innovation speed, innovation frequency, and innovation degree. Those organizations have a strong base of absorptive capacity and have higher learning abilities. Outside knowledge can be better transformed into collaborative innovation with the help of absorptive capacity (Leiponen & Helfat, 2010 & Lichtenthaler, U., & Lichtenthaler, E. (2009)), according to Kotsiopoulos et al. (2011). External knowledge inflow is directly proportional to absorptive capacity. Mutual trust, openness, risk, and benefit-sharing are the basic pillars for establishing collaborative innovation. In collaborative innovation, firms intend to develop long-term and strategic relationships with their customers and suppliers. By this, the firms share information in each domain of the supply chain, and this reduces overall supply chain cost, resulting in a competitive advantage. This discussion forms the hypothesis for the study below.

H2: Supplier collaboration has a positive impact on firms' economic performance.



Social Responsible Management

Social and Socio-economic Impact Valuation (SEIA) is a unified method used to identify and accomplish the social and economic issues related to decent rehearsals concerning the homegrown procurement project. SEIA was established to increase the investment outcome of events developed in divisions like transport, mining, oil, and setup. It provides accommodations to the observations, benefits, and needs of the objective communities and other involved shareholders (Arora & Tiwari, 2007) in a directive to improve the awareness of local procurement development. Esteves and Barclay (2011) applied SEIA within the quarrying sector for the development of the social reimbursements that exaggerated the projects, which included the local public. This tactic can be used with the sourcing approach, considering the native community and small- to medium-sized business enterprises in the supply chains of international companies. The other sources identified, Esteves et al. (2012) analyze the state of the art concerning the Social Control Assessment, which they express as a procedural tactic to analyze, validate, and achieve the social concerns of planned mediations or actions of projects diagonal to the life cycle (Esteves et al., 2012). CSR Environmental improvement is related to management, employee involvement, and favorable preparedness (Florida, 1996). Kolk (2016) asserted that a company's environmental routine and public awareness of environmental protection may be enhanced by increased CSR supervisory involvement, including internal workers and external societies. We assume that there has been an improvement in environmental performance that is driven by enterprises' social responsibility performance based on the findings of Marshall et al. (2005) and Florida (1996).

The two components of CSR management practices are internal personnel and external communities. Firms' social reputation and social execution can be enhanced by both external (for the network or client) and internal (for representative well-being, working conditions) practices. Walker, Helen (2012) argued that firms should promote worker security and working circumstances because these can boost representative fulfillment, keep accidents at bay, and ultimately increase productivity and decrease bad luck. Thus, we anticipate that businesses will implement socially responsible management to increase innovation competence. Kassinis (2012) observed that poor financial execution would result from the excessive speculation of ecological insurance activities. By highlighting corporates and coordinating ecological responsibility with financial strategy, the writing of a key examination can reduce asset utilization, enhance partner interactions, and boost brand image—all of which can increase revenue. Sarkis and Zhu (2004) that internal socially responsible management is a second-order variable, including human rights and philanthropy. Social rights can be dignified by a six-item scale, embraced by Carter and Jennings (2002) and Emmelhainz and Adams (1999). A four-item scale can calculate philanthropy and orientation by Carter and Jennings (2002). Here, we come to form another hypothesis.

H3: Internal socially responsible management practices have a positive impact on a firm economic performance

Supplier Monitor and Assessment

Supply chain theory and sustainable practices are not attuned to each other (Bowen et al., 2001 & Touboulic, A., & Walker, H. 2015). With time, more businesses have realized that the supplier is the most crucial external partner, which will affect supply chain performance emotionally as it grows (Christian Busse et al., 2016). Numerous companies have started implementing supplier



corporate development or supplier valuation systems in an effort to strengthen the supply chain's social responsibility and environmental protection standards. We shall examine the relationship between them using the transaction cost theory (TCT) and RBV. Transaction cost, according to TCT, is a significant consideration when choosing a business model for dealers and enterprises. These expenses include potential opportunity costs from decision management as well as direct expenditures from relationship supervision. In addition to their environmental and social duty, certain sellers could act immorally or violate the law. To lessen the threat of such crimes, companies must implement costly supplier monitoring, management, and valuation tools.

The monitor exercise keeps an eye out for the vendor's potentially illogical behavior while emphasizing the evaluation of the performance of the actual supplier. It will be essential for all contractors to disclose any safety storage systems or guarantees that their operations comply with the SA8000 standard for labor civil rights, among other things. For the supply chain, a supplier's monitoring and calculations about social and environmental factors are important. Gimenez pointed out that seller evaluation and observation have a positive impact on the presentation of the surroundings. As a result, businesses could improve ecological and social enactment by reducing supplier danger through the use of monitoring and assessment techniques. Gimenez Cristina and Sierra Vicenta (2013) proposed that cooperation and supplier assessment improve a company's financial performance. Organisations can gain from monitoring suppliers' and contractors' cooperation by increasing creation competency and reducing waste production. Lower-income consumption could lower the cost of production. Supplier monitoring and value are measured using a nine-item scale. Scholarly works by Krause et al. (2000) and Carter et al. (2000) project and validate comparable metrics.

H4: Supplier monitoring and assessment has a positive impact on a firm economic performance

Relationship between Internal and External Management Practices (Socio-Environmental)

By engaging in proactive socio-environmental initiatives, contemporary businesses refocus the actual battle to implement corporate sustainability in order to address the issues posed by the growing internal and external reach of corporations as well as the demands of significant investor clusters (Spiller, 2000; Kassinis & Vafeas, 2006; Delmas & Montiel, 2009). The external assessment of the businesses impacted by socio-environmental practices includes supporting initiatives for job readiness and education, providing funds to the community, participating in planning initiatives, conserving energy and water, etc. Even while more initiatives are focusing on internal issues like recycling, supporting regional vendors, securing employment, reusing organic and packaging materials, etc., The integration of sustainable business practices has positive effects on social and environmental cultures; yet, the authors express doubt that the economic benefits of this approach are universally accepted (Wagner, 2015). Numerous scholarly investigations have explored the correlation between company sustainability policies and economic success (Hart & Dowell, 2011; Russo & Fouts, 1997; Molina-Azorín et al., 2009).

The earlier research yielded some findings, but it was unable to draw firm conclusions (Russo & Fouts, 1997; Baker & Sinkula, 2005; Hart & Ahuja, 1996). Subsequent research confirmed that official business ecological management systems have a positive effect on both economic and environmental performance. (Barnett and Salomon, 2012; Melnyk et al., 2003). By distinguishing between internal (pollution prevention and clean technology) and external (product stewardship



and sustainability vision) environmental performance, some recent studies have found a positive correlation between corporate ecological practices and financial performance (Miroshnychenko et al., 2017). Researchers are increasingly very interested in finding out how a company's practices affect its ability to reduce social, environmental, and internal impacts on its financial success. The preceding discourse serves as a foundation for the contention that the implementation of proactive socio-environmental initiatives by corporations positively influences their financial outcomes, and the ensuing hypothesis is put forth.

H5: The adoption of proactive socio-environmental practices is positively associated with a firm's economic performance.

Corporate Sustainability Performance Mediating role

The Extended sustainability practices and corporate business approaches reflect the generosity and behavior of the opportunities associated with ecological expansion as it looks to the regeneration of significance for the business Lloret (2016) & Landrum, N. E. (2018). Baumgartner Rauter 2017 stated that the reason for taking a stance for sustainability is to lessen the destructive environmental and social impacts of organizational operations during the enhancement of the economic enactment of the Company. Baumgartner and Rauter 2017 suggested in their research that corporate sustainability practices join the social and environmental features of the procedure for strategic management and emphasize the premeditated attitude of an organization in terms of development in a sustainable environment. Corporate sustainability strategies can be reflected as the tactics that give an opinion of "corresponding the social, environmental and economic requirements for both the company and society" (Epstein & Roy, 2001; Engert & Baumgartner, 2016; Baumgartner, 2014). The amalgamation of social and environmental aspects into the company's development time and long-time delusions states that judicious firmness is obtained by the necessities of internal and external shareholders (Baumgartner, 2017). This study's corporate sustainability strategy is defined as the incorporation of sustainable growth principles into business operations. As time goes by, the requirements for cleaner manufacturing have increased because of the issues related to environmental, economic, and social sustainability. Discussing the research of Caputo et al. (2018), it can be found that research on both mechanical and vibrant proportions must be directed to achieve sustainability. The above discussion proposes the below hypothesis:

H6: Corporate sustainability performance mediates the positive relationship between smart technologies and the firm's economic sustainability

Research Methodology

The impact of sustainability on a company's financial performance in supply chain management will be covered in this study. The impact of both internal and external sustainable management on the company's financial performance will also be covered. Businesses will find this study useful in analyzing their financial results while taking into account external and internal environmental influences. The study's dependent variable will be the business's financial performance. This study will comprise three independent variables: environmental management practices, socially responsible management, supplier collaboration, and supplier monitoring and



assessment. This study will include a mediating variable, or CSR, whose function is to act as a bridge between the company's economic performance and socially conscious management.

Survey Questionnaires and Measures

The study's instruments are justified by citing pertinent literature, and they are pertinent to the research at hand. Each individual component has several items in the questionnaire. The literature provided the Likert scales that were employed for the study's questions. A modest amount of change has been made to account for social and environmental factors as well as to reduce the likelihood that each scale will have the same number of items. The results of the calculations are obtained as follows. An internal socially responsible management variable is assessed using a 5-item scale that was adapted from Emmelhainz and Adams (1999) and Carter and Jennings (2002). A scale measure evaluates the assessment and supervision of suppliers. Carter et al. (2000) and Krause et al. (2000) have published papers proposing and justifying the same metrics. Supplier collaboration is also calculated using a 5-Likert scale metric. The literature from Bowen et al. (2001), Claudia et al. (2016), and Krause et al. (2000) suggest and validate the same measures. Sustainable practices have been linked to improved firm economic performance. Utilizing a 5-Likert scale that was adapted from De Giovanni et al. and Green et al., economic performance will be assessed. An eight-item scale that was adopted by Zhu et al. and Daily et al. (2007) can be used to measure environmental performance. A 5-Likert scale that was taken from Gimenez et al. (2012) and Kassinis and Soteriou (2003) will be used to gauge social performance.

Data Collection

To ensure that respondent organizations have accepted and implemented SSCM activities at the corporate level and that the sampled population was restricted to businesses in the Karachi industry. Prior research indicates that organizations adopting SSCM initiatives do so because of their exposure to implementing ISO14001 and ISO 9001 schemes (Zhu et al., 2008; Chiappetta Jabbour et al., 2015). Data were gathered from a sample of supply chain managers and executives employed by Karachi-based companies with an eye toward this particular corporate emphasis. Data has been collected through the use of survey methodology. The 29 businesses that comprised the initial sample employed 200 people in the supply chain. Their main office is in Karachi. For this study, detailed and useful information was provided by 96 individuals in total. This study found that the 48% measured response rate was sufficient to assess the research hypotheses. The descriptive analysis of the sample is shown in Table I. A t-test has been conducted.

Data analysis

The conceptual model's hypotheses were tested using empirical data using partial least squares in SPSS (Peng & Lai, 2012). The SPSS software was used to analyse the study model. We select SPSS because of its minimal demand measurement scales, distribution assumptions, and capacity to analyse complex conceptual frameworks. Structural equation modelling is a second-generation multivariate statistical analysis technique that has gained popularity in both operations management and green management (Peng & Lai, 2012). To test the conceptual model, an outside model for measurement and an inside model for structure must be obtained.

The Conceptual Framework of the Study:

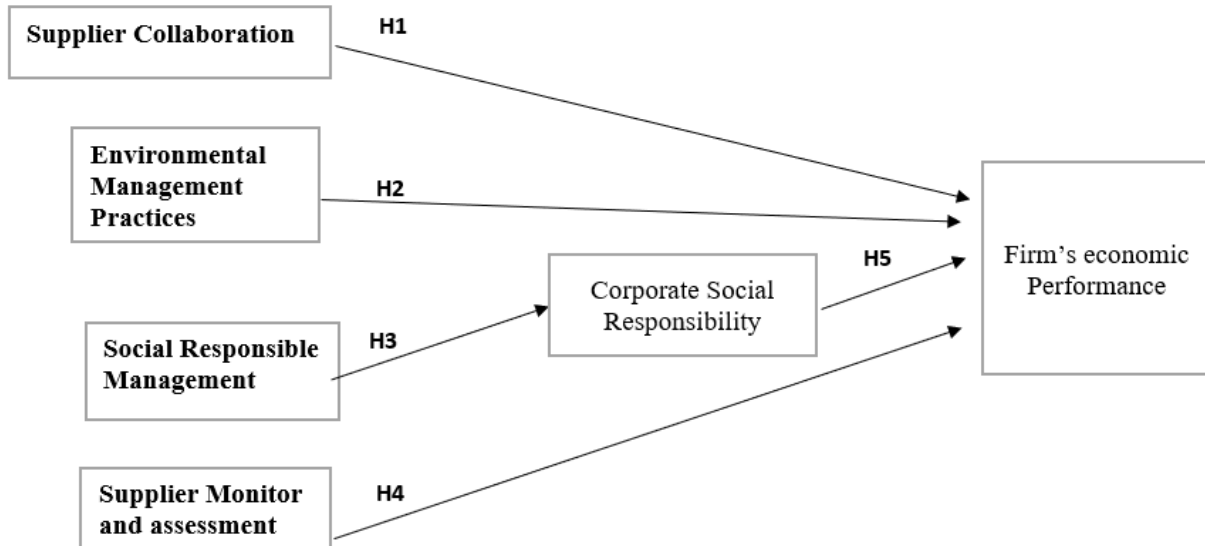


Figure 1: The conceptual framework for the economic performance of the firm with sustainability practices.

Results

This study evaluates the effects of sustainable supply chain methods and socially conscious management on a company's financial performance using corporate social responsibility (CSR) as a mediator.

Table 1: Descriptive Statistics

VARIABLES	MEAN	ST.DEV	MIN	MAX	SKEWNESS		KURTOSIS	
					Statistic	Std. Error	Statistic	Std. Error
Supplier Collaboration	3.0114	1.05585	1.00	5.00	-.143	.257	-.475	.508
Environmental Management Practices	2.8636	1.05244	1.00	5.00	.279	.257	-.634	.508
Social Responsible Management	2.5455	1.23091	1.00	5.00	.328	.257	-.889	.508
Supplier Monitor and Assessment	2.8977	1.05089	1.00	5.00	.087	.257	-.456	.508
Corporate Social Responsibility	2.8636	1.19560	1.00	5.00	.352	.257	-.961	.508
Firm's Economic Performance	2.8068	1.16321	1.00	5.00	.298	.257	-.810	.508

Table 2: Correlations Matrix

VARIABLES	SC	EM	ARM	SMA	CSR	FEP
SC	1	.715**	.632**	.685**	.648**	.713**
EM	.715**	1	.795**	.652**	.725**	.748**
SRM	.632**	.795**	1	.595**	.738**	.765**
SMA	.685**	.652**	.595**	1	.702**	.708**
CSR	.685**	.652**	.595**	.702**	1	.791**
FEP	.713**	.748**	.765**	.708**	.791**	1

Table 3: Measurement of Variables & Reliability Statistics

VARIABLES	SOURCE	ITEMS	CRONBACH ALPHA
Supplier Collaboration		6	.870
Environmental Management Practices		6	.857
Social Responsible Management		5	.907
Supplier Monitor and Assessment		7	.903
Corporate Social Responsibility		4	.910
Firm’s Economic Performance		6	.901

Table 4: Statistical Results

Direct Relationships	Coefficient	T Stat.	P Values	Result
Supplier Collaboration -> Firm’s Economic Performance (H1)	.201	2.179	0.00	Accept H1
Environmental Management Practices -> Firm’s Economic Performance (H2)	.140	1.269	0.00	Accept H2
Supplier Monitor and Assessment-> Firm’s Economic Performance (H4)	.374	3.815	0.00	Accept H3
Social Responsible Managements ->Corporate Social Responsibility (H3)	.256	3.003	0.00	Accept H4
Indirect Relationships				
Social Responsible Managements ->Corporate Social Responsibility-> Firm’s Economic Performance (H5)	0.4971	5.6170	0.00	Accept H9

Data collection

The data was also gathered via emails and the What app. Researchers sent URLs to Google Forms, where the questions were assembled for research participants. Due to scheduling issues, only 90 and 88 responses—out of the original target sample of roughly 150—were received.

Descriptive statistics

The descriptive average scores of all items by individual participants were calculated. Table 1 shows the results of the descriptive analysis of the study.

Reliability



The reliability of the chosen question is determined by calculating the internal consistency and Cronbach alpha. The Cronbach alpha results are displayed in Table 3. With the subsequent reading, the incremental criteria were used to evaluate the alpha values. The findings demonstrate that every variable has an alpha value of more than 0.8, indicating a very high level of reliability for the scale employed to assess the correlations.

Statistical Results

The study's statistical findings are displayed in Table 4. The economic performance of enterprises is positively impacted by supplier collaboration, as evidenced by the 0.000 p-value and 0.201 coefficient value, which support hypothesis H1. The firm's economic performance is positively impacted by environmental management methods, as evidenced by the p-value of 0.000 and the coefficient value of 0.140, which support hypothesis H2. Since the p-value is 0.000 and the coefficient value is 0.374, indicating support for H3, supplier monitoring and assessment have a favorable effect on the firm's economic performance. Given that the p-value is 0.000 and the coefficient value is 0.256, indicating support for H4, socially responsible management has a favorable effect on the firm's economic success. Given that the P-value is 0.000 and the coefficient value is 0.04971, we may conclude that H5 is supported. Corporate social responsibility has a mediating influence on businesses' economic performance and socially responsible management.

Conclusions

This research explores the complex relationships that exist between firm performance in Karachi, Pakistan, and sustainable supply chain management (SSCM) methods. The extensive model created and empirically evaluated in this study shows that sustainable practices have a major positive influence on a number of performance-related dimensions. The results highlight how businesses that adopt sustainable supply chain methods see gains in the social and environmental aspects of their operations in addition to their financial performance. The study emphasizes how better economic success is closely linked to improved ecological and social performance. In the context of sustainable supply chain activities, this highlights the interdependence of internal and external management elements. Additionally, the fact that corporate social responsibility has been identified as a mediating factor clarifies the critical role that it plays in influencing socially conscious management as well as economic performance. By proving that they are commercially feasible for companies in Karachi, Pakistan, this study dispels the myth that sustainable supply chain strategies are only humanitarian undertakings. The study serves as a guideline, particularly for medium and small companies, illuminating the significance of prioritizing sustainable business practices. The results strongly advocate that sustainable practices should be kept from a secondary role if firms aim to enhance their revenues and profits. Rather, organizations must fully comprehend that SSCM practices are integrated and contribute to an overall improvement in firm performance. In the context of a global landscape increasingly emphasizing sustainability, the insights derived from this study hold valuable implications for businesses. The research underscores the importance of integrating sustainable supply chain practices into the very fabric of business operations. It reaffirms the notion that such practices can serve as a cornerstone for sustainable business operations, aligning economic objectives with environmental and social responsibilities. This study contributes a nuanced understanding of the multifaceted relationship between sustainable supply chain practices and firm performance, providing practical insights for firms seeking a balanced approach to economic, environmental, and social objectives. As businesses navigate an era of heightened awareness and commitment to sustainability, the



findings of this research emphasize the transformative potential of sustainable supply chain practices in shaping the future of business operations in Karachi, Pakistan, and beyond.

Theoretical Contribution

The study provides a deeper understanding of the implications of sustainable supply chain management (SSCM) strategies on corporate performance, particularly in the setting of Karachi, Pakistan. The research develops a comprehensive model that incorporates the internal and external management components of SSCM. Based on an empirical evaluation of this model, the study discovers that businesses that use sustainable supply chain practices have notable improvements in organizational, social, and environmental performance.

Limitations of the Study

The study admits some limitations that should be taken into account. Initially, the research's exclusive concentration on the Karachi industry would limit the applicability of its conclusions to wider geographic settings. Due to scheduling constraints, the sample size could have been more comprehensive. The sample included mostly supply-chain experts within a given timeframe. Although extensive, the questionnaire was limited in time, which might have affected the quality of answers. Moreover, the study was restricted by resource limits to particular businesses, such as the automotive and industrial sectors, implying that the results may not be broadly applicable to a variety of industries. Notwithstanding these limitations, the report highlights the need for more research to improve comprehensiveness and offers insightful information for Karachi's business community.



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