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THE IMPACT OF SUPPLY CHAIN COLLABORATION ON SUPPLY CHAIN VISIBILITY, STAKEHOLDER TRUST, ENVIRONMENTAL PERFORMANCE, AND FINANCIAL PERFORMANCE: IN A RETAIL INDUSTRY OF PAKISTAN

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ABSTRACT

In today's business world, companies need strong supply chains to stay competitive and successful. This study reveals the opportunities of developing improved financial performance and environmental sustainability if companies work closely with supply chain partners, share real-time information, and build trust with stakeholders.

The research shows that business organizations which operate effectively with their suppliers and partners perform better in their operations. Clear visibility in the activities in the supply chain ensures that companies minimize risks, make proper use of resources available and are well rated by the stakeholders, including customers, investors, and regulators. Also, sustainability becomes essential for firms since it implies not only meeting the set environmental standards but also financial gains from cost reduction and image enhancement.

The integration of collaboration, transparency, and sustainability into supply chain management will be emphasized. The findings would provide practical recommendations for businesses on adopting smarter strategies, using technology effectively, and building ethical and responsible supply chains for long-term success.

INTRODUCTION

In the modern business world, the supply chain dynamics have become absolutely vital for the competitiveness and long-term viability of the company. Recent companies stress open and cooperative supply chain systems for efficiency, improved financial results, and higher stakeholder satisfaction. This will contribute to depicting a complete picture of the actual impact of all these factors together on company success as this study identifies critical supply chain cooperation visibility relationships that enhance environmental, financial and stakeholder trust to performance portfolio. Now, the big deal making life competitive in dynamic modern business world today is Supply Chain Management (SCM) that need all-props to fight, for you will find yourself so far behind the rest. In more complex international markets, companies narrow to supply chain visibility and collaboration to achieve operational efficiency, superior financial results, as well stakeholder affairs. Supply chain cooperation allows for simpler operations and faster decision-making because of close interface with suppliers, producers, retailers and so forth. With the risk monitoring in mind of every partner, that is accompanied by real-time data is known as supply chain visibility which grant businesses to manage risks and increase performance overall. On one side of the spectrum, businesses think cautiously about operations improvements and on environmental or financial performance for long-term success. To comply with standards, minimize waste and change theirs more eco-friendly image Companies will use green technologies. At the

same time, financial results are the most important foundation of growth as well as stability. Stakeholder trust is another key element since it is founded on close ties with strong investors, consumers, suppliers, and regulatory bodies that in the end add credibility to the company and smooth operations. The link among supply chain partnership, supply chain visibility, environmental performance, financial performance, and stakeholder confidence is discussed in this essay. By so doing, one gains knowledge on how these elements fuel commercial success and hence it is practically relevant for comprehending supply chain management techniques supporting financial growth and sustainability.

BACKGROUND OF THE STUDY

Supply chains are no longer transactions that involve relations but strategic partnerships where firms work together to attain mutual goals. As defined, supply chain collaboration would refer to the process where "two or more independent firms work together to plan and execute supply chain operations" (Panahifar et al., 2018). Such interdependence would involve common resources, knowledge, and decision-making for the management of risks, cost reduction, and higher performance. Empirical studies show that collaboration is essential for operational efficiency, sustainability, and competitive advantage in terms of better inventory management, demand forecasting, and customer satisfaction (Chen et al., 2017; Zhang & Cao, 2018). Moreover, collaboration enhances stakeholder trust and visibility in the supply chain for all participating firms. While collaboration lay the groundwork, supply chain visibility ensures accurate, real-time, and actionable information sharing among partners (Busse et al., 2017). Technologies like enterprise resource planning (ERP) systems and electronic data interchange (EDI) help to make smooth information exchange with reduced uncertainty, thus enhancing decisions. Improved visibility also enhances stakeholder trust, improves environmental practices, and adds to supply chain resilience and sustainability (Dubey et al., 2020).

Along with operational dimensions, supply chains are now being measured for their environmental impacts. Environmental performance is action taken by an organization to minimize its impact on the environment through sustainable practices, including eco-design, green supply chain management, and reduction of waste throughout the product life cycle. Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS), will inform with the proof that how much a company attached to its sustainability. Instead of simply meeting the stringent requirements of regulated institutions, such activity also treat with the consumer needs and demand for green products and make the sustainability a new point.

Financial performance is the key indicator of a any successful companies. That shows how company efficiently and profitably is performing. Such positive activities indicate reflects return on equity (ROE), (ROA) return on assets, and growth percentage in terms of profit, among others. Organization have sufficient investment plans and made constructive utilization of assets have performed good in such economies due to superior financial performance.

Another factor is Stakeholder trust that vital dimension; the trust on stakeholders have is an organization to perform ethically and responsibly. Trust can be increase through transparency, positive performance, and ethical and legal decision-making. In a supply chain, visibility and collaboration increase ethical behavior and mutual gain among partners. Trust is not only one term to extends long-term relationships with customers, suppliers, and investors but also in today s expectations of organizations to maximize environmental and social responsibilities along with financial objectives.

Supply chain collaboration is a basic policy for operational increment and competitive advantage in today's business environment. Orgnization do not compete as indvidual firms but as interconnected elements of supply chain networks. Supply chain collaboration authorize firms to improve the allocation of resources, improve visibility, and make a trust among stakeholders.

The relational view (RV) and the resource-based view (RBV) are a few of the theoretical perspectives emphasizing collaboration. The firm partnership, which shows characteristics of joint planning, shared information, integrated decision-making, and risk sharing among firms, is another way to define supply chain collaboration. Firms can increase the transparency of their supply chains, as well as decrease operational uncertainty, by building an effective relationship with suppliers, manufacturers, and distributors. Empirical studies

show that effective collaboration enhances supply chain visibility, which ensures real-time access to critical information, thereby improving decision-making and responsiveness. Stakeholder trust is also significantly influenced by collaborative practices because transparent and ethical supply chain operations strengthen long-term partnerships.

Supply chain collaboration is even more prominent in emerging economies as the companies are trying to overcome infrastructural challenges and market uncertainties. Companies that actively participate in collaborative supply chain practices demonstrate environmental and financial performance because they will manage resources effectively, minimize waste, and adhere to regulation.

Given its importance, this study investigates the role of supply chain visibility in enhancing stakeholder trust, environmental performance, and financial outcomes. The findings will contribute to existing literature and provide strategic insights for managers seeking to strengthen supply chain operations through improved visibility.

Stakeholder trust represents a very critical part of supply chain management as it affects long-term business relationships and the supply chain in general. Trust among supply chain partners allows for smooth collaboration and enhances transparency and ethics in business.

Stakeholder trust is the confidence that supply chain partners, investors, customers, and regulatory bodies have in a firm's ability to act honestly, responsibly, and reliably. It is built through consistent communication, ethical business practices, and a commitment to shared objectives. In today's dynamic business environment, firms must proactively manage stakeholder relationships to maintain credibility and competitive advantage.

The Relational View (RV) theory suggests that firms should create trust-based relationships for maximizing synergies in the supply chain. SET further posits that the trust between the organizations is reciprocal, where the organizations must engage the stakeholders through information sharing, transparency, and effective governance for long-term partnerships to be sustained.

Empirical evidence shows that the visibility and collaboration of supply chain have a major impact on stakeholder trust. When supply chain partners share real-time, accurate information, stakeholders become more confident in the firm's operations. Trust also plays a crucial role in environmental and financial performance because businesses that emphasize sustainability and CSR initiatives tend to gain stronger stakeholder support.

Many Researcher examined that stakeholder trust plays a vittles roles as a mediating in supply chain visibility's relationship with both environmental performance and financial performance. The basic role of trust in supply chain management is a crucial for businesses aiming to strengthen partnership relationships and develop their market reputation. Environmental performance has become a crucial aspect of supply chain management as businesses face increasing pressure from stakeholders to adopt sustainable practices. Companies are now expected to minimize their environmental footprint while maintaining operational efficiency and financial stability.

Environmental performance shows an organization's ability to reduce carbon excretion, handling waste effectively, spread natural resources, and follow with environmental regulations. Organization that merge sustainability into the operation of supply chain can increase their brand position, operational costs lower , and having a competitive advantage.

The theory of Natural Resource-Based View (NRBV) represent that businesses adopting environmentally sustainable actvity that can be a long-term competitive benefit. Firm that implement Green Supply Chain Management (GSCM) strategies, such as Ethical sourcing, production with energy-efficient, and reduction of waste, can strengthen stakeholder confidence and financial performance can be improve.

Research shows that alliance and accuracy in supply chains play a critical role in increase the environmental performance. When firms openly share their constantly efforts with supply chain partners and stakeholders, they are in good positioned to comply with environmental policies while optimizing resource utilization. Moreover, firms that provide accurate environmental reports are more attract investors and customers who are more conscious for the sustainability.

Many researcher identify that the mediating role of environmental performance in the relationship between supply chain collaboration, shareholder trust, and financial success. The results will be contribute to the increasing the body of research

on sustainable supply chain management while offering new activity insights for businesses knowing to improve environmental performance without increasing profitability.

A Firm success is often count through its financial stability, which added revenue generation, cost reduction, and long-term profitability. Within supply chain network, financial results are design by factors such as collaboration, accuracy, trust of stack holder, and sustainable practices. Businesses that effectively add these terms into their supply chain strategies can gain cost savings, revenue growth, and competitive advantages.

Financial performance is basically examined using key indicators such as ROI , sales profit, profit margins, and revenue growth. Strong financial returns shows results not only efficient internal operations but also indicate the impact of well-structured supply chain strategies that increase transparency, promote stakeholder trust, and promote sustainability.

From a research perspective, the Resource-Based View (RBV) indicate that companies can gain their unique supply chain capabilities—importantly improved collaboration and visibility—to create a long-term competitive advantage. Moreover, the Triple Bottom Line (TBL) framework encourage the importance of integrating financial performance with environmental and social sustainability to achieve a balanced and responsible business strategy.

Research also shows that chain visibility and stakeholders' trust immediately affect a company's bottom-line performance. Since transparent chains create better forecasts regarding demand, this leads to better inventory control or reduced inventory cost, improves supply chain relations and, subsequently enhances profitability. Again, an organisation that adheres to green thinking often derives some long-term returns on financial assets, as regulation risks diminish along with reputation improvements and better brand loyalty.

RESEARCH PROBLEM

In fact, despite the high number of studies about supply chain practices, one of the gaps is the link between all these different dimensions (such as collaboration, visibility, environmental performance, financial performance and stakeholder trust). Current research most often addresses the elements in isolation, not their cumulative effect on organizational success. This study seeks to address this gap by investigating the impact of Supply chain collaboration and visibility on the environmental and financial performance, creating stakeholder trust in a globalized.

Research Objectives

1. Carry Out An Impact Analysis Of Collaboration On Supply Chains Concerning Visibility, Environmental Performance, Financial Performance, And Stakeholder Trust.
2. In Order To Determine The Role Of Supply Chain Visibility For Increasing Operational Efficiency, Reducing Uncertainty, And Promoting Stakeholder Integration.
3. To Investigate How Environmental Performance Interplays With Contribution To Financial Outcome And Stakeholder Trust.
4. Provide Actionable Insights For Firms To Align Supply Chain Strategies With Sustainability And Stakeholder Expectations.

SIGNIFICANCE OF THE STUDY

This research contributes to the growing knowledge base on sustainable supply chain management by focusing attention on interdependencies among key variables. By looking at the perspective holistically, the study provides managers and practitioners with strategies in improving supply chain resilience, sustainability, and general performance. Further, it is underscored the importance of having ethical and responsible practices in achieving the demands that modern stakeholders need.

RESEARCH GAP

This research seeks to fill the gaps by examining how supply chain collaboration affects supply chain visibility, stakeholder trust, environmental performance, and financial performance within manufacturing firms in an emerging economy. The study contributes to the broader discourse on supply chain management and sustainable business practices by addressing the inconsistencies and unexplored aspects of SCC.

LITERATURE REVIEW

Baah, Jin, and Tang (2020a) analyzed how stakeholder pressure at the organizational and regulatory levels affects the connection between supply chain collaboration (SCC) and financial performance, especially through the mediating effect of supply chain visibility. The study

published in the Journal of Cleaner Production explored whether stakeholder pressure makes it easier or more difficult for firms to implement collaborative supply chain practices and to determine what these practices would affect financially.

Arguing that organizational stakeholders (such as suppliers, customers, employees, and investors) and regulatory bodies play a significant role in compelling firms to engage in supply chain collaboration, the authors assert that what matters is the extent to which firms choose to respond to these pressures. This depends on how strongly a firm perceives the financial benefits to lie within stakeholder expectations. The study highlights that supply chain visibility, which improves through effective collaboration, acts as a key mechanism in aligning stakeholder demands with financial performance. Greater visibility fosters trust among supply chain partners, improves operational efficiency, and leads to cost reductions and enhanced competitiveness.

Similar research by Acquah, Naude, and Sendra-García, (2021) on supply chain collaboration between the partners, comparing symmetric as well as asymmetric collaboration models together with performance implications of such types of collaboration for the petroleum industry, concluded that symmetric collaboration or equal sharing of resources, power, and influence between the collaborative partners is effective in generating superior trust and resultant successful coordination without having a trade-off in regard to performance. Asymmetric collaboration still benefits firms operating in complex market environments, mainly by offering one party access to the other party's specialized resources and market knowledge. In looking at this general view in regard to broader supply chain collaboration, firms need to analyze their specific partnerships to identify whether a more balanced or an asymmetric collaboration structure better meets strategic objectives.

The actual findings of these studies indicate that supply chain collaboration not only increased transparency and coordination along the supply chain but also enhances stakeholder trust and firm financial performance. Seemless information exchange and cooperative decisions can facilitate operational agility, manage risks better, and ensure greater financial returns for firms. Baah et al. (2020a) and Acquah et al. (2021) assert that firms should treat stakeholder pressure as an opportunity for strategic leverage rather than a constraint because collaborative supply chain practices enhance sustainability and operational efficiency and lead to improved financial performance in the long run.

The heightened sustainability supply chain management focus has generated research regarding the ways supply chain collaboration SCC affects environmental, economic, and operations performance. In their 2020a Baah, Jin, and Tang discuss the relationship between SCC and financial performance: effective stakeholder collaboration promotes openness, risk abatement, and cost-effectiveness, hence increasing financial performance as SCV would be one central mediating effect.

In the article "Extending the Boundary of Supply Chain Visibility," Busse, Schleper, Weilenmann, and Wagner (2017) discussed the concept of supply chain visibility and its importance in developing supply chain management. Published in the International Journal of Physical Distribution and Logistics Management, the research looks into how firms can extend their visibility beyond the immediate supply chain, with the aim of developing insights into upstream and downstream tiers. The authors argue that visibility across various layers in the supply chain should be improved as it is what helps counter risks and ensure sustainability as well. The research discussed the challenges associated with increasing a company's supply chain visibility, importantly the difficulties of multi-tier networks sin supplier and the difficulty of adding reliable information from suppliers and sub-suppliers (Monczka et al., 2015). Researcher added that orthodox of visibility efforts manly focus on initial part of suppliers is first-tier; however, effective risk management need awarness into second- and third-tier suppliers (Sodhi & Tang, 2012). To see these challenges, many organization increase visibility have been verified, adding technological new things, enhence supplier collaboration, and the dominance of transparency-driven regulations (Kwak et al., 2017; Barratt & Oke, 2007). Furthermore, increase visibility to give a dominant advantages, something like increase risk management, better responsiveness to any botlnecks, and robust enforcement of sustainability standards (Busse et al., 2017; Tummala & Schoenherr, 2011).The company have

verry much focus on these activities outside the direct supply chain to manage compliance to ethical requirements and minimize reputational losses that can affect the bussiness or firm due to supply chain breakdowns (Seuring & Müller, 2008). The Research guide that companies should spend in technologies, such as relatime visbility software that can show the blueprint of a supply chain and data analytics, to provide adoptable visibility and enhence overall supply chain resilience (Teece, 2014; Hübner et al., 2016).

Chen, Zhao, Tang, Price, Zhang, and Zhou (2017) explain that Supply chain collaboration plays the role to high leve of the sustainability of goals. The main three major heads of sustainable supply chain collaboration: strategic, operational, and information-sharing. Planned collaboration focuses on long-term partnerships between supply chain members to integrate sustainability into all the main operation of production, extended partnerships can be called as constant (Börjesson et al., 2015). Operational collaboration looks for engage cracking of production, transportation, and procurement processes to reduce environmental impacts (Giménez & Tachizawa, 2012). Finaly, information sharing focuses on accurate communication and information exchange in the supply chain to increase environmental friendly ativity and reduce waste (Zhang et al., 2015).

Chen et al. (2017) examine that blockage and the main role players of effecinet sustainable collaboration by mentioning some key factors like trust, commitment, technology integration, and organizational culture (Koufteros et al., 2005). Another major blockade is that many supply chain partners absence of proper arrangement on sustainability goals, thus preventing the required correlated activity between them (Vachon & Klassen, 2008). The research also argue that regulatory pressure and demand from consumer for sustainable products are important operators for collaborative sustainability initiatives (Linton et al., 2007; Ashby et al., 2012). The researcher close up with a future research agenda on the upcoming role of collaboration models that absorb high technologies for example blockchain in increasing transparency and traceability (Mougouei et al., 2021). They also suggest further study on the economic effects of sustainable collaboration, to show whether there are trade-offs between sustainability and profitability (Hart & Milstein, 1999).Chung and Shin suggest that their methods using imitate and real business survey data, knowing that the adjusted estimates closely match the true characteristics of the population, so that reducing bias (Rao & Molina, 2015). Many papers share that the use of non-response adjustment is critical in producing credible data in business research, so assisting in decision-making and policy-making (Holt & Smith, 2016). The researcher suggest that survey administrators use non-response adjustment techniques to ensure data accuracy, especially in areas such as business and economics, where the accuracy of surveys is essential (Groves, 2011). This study also adds to literature with a practically workable model in handling response bias, as such biasing occurs in numerous instances of research through surveys (Valliant et al., 2013).

In the study "The Impact of Stakeholder Management on Trust in Projects: A Quantitative Study, " de Oliveira and Ribicchini Jr. (2019) describe the impact that stakeholder management makes on project-based trust environment. A quantitative study on the International Journal of Project Management, it examined the connection of stakeholder engagement practices and level of trust which project stakeholders had in the project's success, as pointed by Bourne and Walker, 2006 and Zhang et al., 2014. Aaltonen & Sivonen (2009); Turner & Muller, 2004 have collected data from project managers in various disciplines to analyze the way different elements of stakeholder management, including communication, conflict resolution, and stakeholder involvement, contribute to the building of trust. Proactive stakeholder management positively influences trust since stakeholders feel valued and informed, and therefore their confidence in the outcomes of the project is enhanced, according to Yang et al., 2011; Olander & Landin, (2005). The key characteristic of trust in the success of a project is that it promotes collaboration, minimizes resistance, and facilitates the implementation of projects, as postulated by Hurlbut, 2008; Jepsen & Eskerod, 2009.

Similarly, Afum et al. (2020) examine the impact of green manufacturing practices on the performance of SMEs in terms of sustainability. They indicate that though green practices are necessary towards wasting, saving energy and reducing pollution among others, their effectiveness is highly boosted through GSCI where it links the SMEs with

suppliers and customers to streamline sustainable practices across the entire supply chain.

The study indicates that SMEs with higher levels of GSCI experience:

Environmental performance improvement, including carbon emissions reduction and waste reduction.

Economic benefits, such as cost savings from energy-efficient operations and reduced waste management expenses.

Operational efficiency, resulting from streamlined processes, better resource utilization, and optimized logistics.

These findings align well with the broader role of supply chain collaboration, as effective partnerships help enhance visibility, trust, and sustainability initiatives. The integration of collaborative sustainability efforts across supply chains helps firms meet the expectations of various environmental rules and market-driven regulations, which will, in turn strengthen stakeholder trust and long-term competitive advantage.

Recognizing the importance of collaborative supply chain strategies, research by Baah et al. (2020a) and Afum et al. (2020) emphasizes the need for companies, government entities, and industry stakeholders to promote sustainable initiatives. Potential incentives such as training programs, subsidies, and tax benefits can encourage firms to adopt green supply chain practices, ensuring both sustainability and long-term economic viability.

Agyabeng-Mensah et al. (2020a) explore the influence of supply chain collaboration, visibility, and stakeholder trust on both environmental and financial performance. Their study, published by Emerald Publishing in The International Journal of Logistics Management, underscores the growing importance of integrating sustainability into supply chain operations to balance efficiency with environmental responsibility.

These three factors serve as manly drivers for sustainability and financial success. Supply chain aligns have coordinated efforts among suppliers, manufacturers, and transportation providers to smooth the processes, reduce botlncek , and increase sustainability. Supply chain visibility give a clear visson to real-time tracking and overawing of materials, products, and processes, increasing transparency, regulatory compliance, and accountable for environmental. Stakeholder Trust (ST): Partner, consumer, and regulatory confidence in a firm ability to apply ethical and continues supply chain practices. Using qunatitaive data, assesses how above factors impact environmental and financial performance. SCC and SCV positively improve environmental performance through reduction of waste, emission of carbon reduction, and efficient resource use. Supply chain visibility enhance stakeholder trust because increased accuracy leads to long-term relationships and consumer positiveness in sustainable practices.

Stakeholder trust significantly impacts financial performance as the firms with high sustainability commitments give positive environmentally conscious investors and customers.

To increase the environmental and financial stability, many research recommends that firms strengthen supply chain collaboration through merging of continues goals with logistics, procurement, supplier management and other supply chain networks. Invest in real-time supply chain visibility systems to show environmental compliance and optimize resource efficiency. Create stakeholder trust through accurate, ethically responsible business activity that are in line with sustainability commitments.

Given the positive collaborative supply chain strategies, Baah et al. (2020a) and Afum et al. (2020) indicate the necessity for firms, government bodies, and industry stakeholders to support sustainable activity. Bonus such as training programs, subsidies, and tax benefits can motivate firms to implement green supply chain practices, finalizing that both environmental sustainability and long-term economic benefit.

Agyabeng-Mensah et al. (2020a) determine that the impact of supply chain collaboration, visibility, and trust on stockholder on both environmental and financial performance. Management, emphasizes the increasing importance of aligning sustainability with supply chain operations to achieve a balance between operational efficiency and environmental responsibility.

These three elements are more critical drivers of sustainability and financial performance. Supply chain collaboration engarge joint efforts among Key suppliers, manufacturers, and logistics providers to remove bottleneck in processes, reduce inefficiencies, and advance sustainability activities. Supply chain visibility share real-time tracking and monitoring of materials, products,

and operations, increasing accuracy, lehgal compliance, and environmental accountability..

Baah and Jin (2019) explained that the impact of sustainable supply chain management (SSCM) practices on firm performance mediating role of competitive advantage," highlighting competitive advantage as a mediating factor in this relationship. This research examine how SSCM practices, adding the environmentally friendly resource management, and waste reduction, and energy-efficient operations, can increase a firm's competitive advantage, which in turn positively affects organizational performance.

The researcher constructive that SSCM initiatives improve cost efficiency, product quality, and market adaptability, all terms that involve to competitive advantage. This competitive advantage is very crucial because it change the sustainability efforts into measurable organizational performance benefits. The result of Baah and Jin resonate with Baah et al. (2021), that emphasie that the impacts of supply chain collaboration and visibility on environmental performance, stakeholder trust, and financial outcomes are highly significant. Organization that emerge in collaborative sustainability attepts are positive positioned to gain stakeholder trust and increase the financial positon through efficient resource management and reduced operational risks (Baah et al., 2021).

Many Research gives insight into how SSCM practices add to environmental sustainability and also help organization excel in their markets by positioning competitive advantage as a key mediator. Research has directed the significance of integrating sustainability within the core of supply chain management to increase both environmental and business outcomes. In further evidence, Baah et al. (2021) Shows that environmental performance has a significant effect on financial performance, so that knowing that the assumption of sustainability practices can fuel profitability in the long term. Baah, C., Acquah, I. S. K., & Ofori, D. (2021). Exploring the effects of supply chain collaboration on supply chain visibility, stakeholder trust, environmental and financial performances: A partial least square approach. Baah, C., & Jin, Z. (2019). Sustainable Supply Chain Management and Organizational Performance: The Mediating Role of Competitive Advantage. [Journal details, volume(issue), page numbers].

Baah and Jin (2019) assist that the impact of sustainable supply chain management (SSCM) activity on organizational performance in their study, Sustainable Supply Chain Management and Organizational Performance: The Mediating Role of Competitive Advantage. Research indicate competitive advantage as a major mediator in the relationship between SSCM practices and organizational performance. Specifically, they shows how SSCM strategies, including environmental resource management, waste management, and also energy efficiency,have advantage to firm competitiveness, ultimately enhancing overall performance.

The researcher have explained that SSCM initiatives lead to enhance cost efficiency, higher product quality, and greater market adaptability—elements that collectively build competitive advantage. This advantage is manly for changing sustainability efforts into measurable organizational benefits. Baah et al. (2021), who bring that supply chain collaboration and visibility positively impact environmental performance, stakeholder trust, and financial outcomes. Organization that engage in collaborative sustainability efforts can strengthen stakeholder trust and enhance financial performance by optimizing resource management and reducing operational risks (Baah et al., 2021).

Having a competitive advantage as a esentail mediator, the study provides valuable insights into how SSCM practices enhence both environmental sustainability and success of the market. It underline the need to set the sustainability within supply chain management to improve both environmental and business performance. Baah et al. (2021) further support this argument by display that improved environmental performance positively influences financial performance, showing that sustainability initiatives contribute to long-term profitability.

Baah, Jin, and Tang (2020a) explore that the pressures of stakeholder on the relationship between green logistics practices and financial performance, with corporate positing serving as a mediating factor. The study, published in The Journal of Cleaner Production, investigates whether stakeholder demands yield positive or negative financial outcomes through increased adoption of sustainable logistics. Organizational and legaly pressures drive orgnization toward proactive sustainability measures, leading to

financial gains by positioning green logistics as a strategic advantage rather than mere regulatory compliance.

Baah et al. (2021) declear that stakeholder trust in supply chain collaboration directly affects financial performance by minmizing the costs, improving efficiency, and strengthening market reputation. simultaneously, Agyabeng-Mensah et al. (2020) shows that green logistics management increase the financial performance by improving operational efficiency, reducing the costs, and strengthening a firm's market position. Abdoulaye (2021) additionaly supports this idea, indicate that companies with strong corporate reputations built on sustainability practices attract environmentally conscious investors and customers, ultimately leading to long-term profitability and financial stability.

This research also indicate corporate positioning as a impotant link between sustainability initiatives and financial success. Orgnization with high reputations for environmental responsibility are more likely to have a competitive advantages, resulting in increased revenue and investment (Brown, Guidry, & Patten, 2009). Steyn (2014) reinforces this view, showing that companies integrating ESG (Environmental, Social, and Governance) principles into their corporate strategies experience improved stakeholder trust and financial performance. Likewise, Boffo and Patalano (2020) argue that ESG-driven sustainability strategies attract sustainable investors, thereby enhancing financial credibility and competitive positioning in the market.

In a nutshell, Baah et al. (2020a) recommend that stakeholder pressure should be an opportunity for firms rather than a challenge where the firm embracing green logistics practices will eventually enhance financial performance in the presence of environmental sustainability. In adopting supply chain collaboration, stakeholder engagement, and sustainability, the firm will ultimately boost its financial performance to enjoy long-term profitability and market leadership.

On this note, Baah et al. (2020b) in "Examining the Relationship between Stakeholder Pressure, Green Production Practices, Strong Reputation, Environmental and Financial Performance: Evidence from Manufacturing SMEs," that many factors influence the adoption of green production practices among small and medium-sized manufacturing enterprises, with its variabilities. In Sustainable Production and Consumption, the authors discuss the pressures exerted by stakeholders as factors that shape the adoption of green production practices and subsequently, a firm's reputation, environmental performance, and financial outcomes. The authors describe stakeholder pressure as a drive that pushes SMEs to go green in production. Stakeholders include customers, regulatory agencies, and environmental advocates, all who have an interest in sustainable production. It indicates that pressures from these groups have led SMEs to adapt the green practices as responses to these stimuli to support regulatory compliance besides enhancing their reputation in the marketplace. This is in agreement with Baah et al. (2021), which posits that stakeholder trust and supply chain collaboration hugely influence improving environmental performance and financial success. Similarly, Agyabeng-Mensah et al. (2020) argue that firms that incorporate sustainability into their supply chains benefit from improved market competitiveness and customer trust, thereby yielding better financial results.

Such a positive reputation achieved through green practices will boost customer loyalty and attract investors who believe in sustainability, thereby boosting the financial performance of the firm. Brown, Guidry, and Patten (2009) add strength to this as they explain that sustainability reporting improves corporate reputation, hence making the firms attractive to the environmental stakeholders. Besides, Boffo and Patalano (2020) assert that investment strategies that focus on ESG will enhance the financial performance because they assure investors that such firms have placed priority on sustainability.

Moreover, Baah et al. (2020b) indicate that green production practices enhance environmental performance through waste reduction, emissions, and resource consumption. The environmental performance boost is directly linked to financial benefits since firms can reduce costs through efficiency and waste reduction. Findings also indicate that despite the pressures from stakeholders, there lies an opportunity for SMEs in reputation enhancement and long-term financial gains through sustainability. Abdoulaye (2021) in find out that the cost savings and regulatory also benefit for SMEs incorporating greener initiatives, thus advantage their positions in the marketplace. Baah et al. (2021) provide strong evidence that environmental practice has a positive impact on

financial performance, reinforcing the idea that sustainable business practices contribute to profitability.

Baah et al. (2020c), examined that a Proactive Versus a Reactive Approach, explain that how environmental production procedure impact on firm performance. Published in the Journal of Manufacturing Technology Management, the study examines have firms to adopt these practices proactively as a key tool for increasing the competitive edge or reactively in response to regulatory requirements or external pressures.

The author highlights that firms adding a proactive approach—ethicaly reducing emissions, utilizing sustainable materials, and investing in environmental technology—tend to achieve greater performance benefits. These companies are more likely to experience improved operational efficiency, stronger market positioning, and enhanced long-term financial success compared to firms that implement environmental practices reactively.

In turn, operational performance is key effective in firms with proactive policies; such firms are added with good brand position and higher the customer satisfaction, thus financially rewarding the firms. This is in line with Baah et al. (2021), who coment that supply chain collaboration and stakeholder trust improve both environmental and financial performance. Agyabeng-Mensah et al. (2020) also shows that the integration of sustainability into business activity that leads to competitive advantage and operational efficiencies, which are the precursors to financial success.

Recognizing the value of collaborative supply chain strategies, Baah et al. (2020a) and Afum et al. (2020) highlight the importance of encouraging sustainability efforts among companies, government bodies, and industry stakeholders. They suggest that providing incentives such as training programs, subsidies, and tax benefits can promote the adoption of green supply chain practices, ensuring long-term economic and environmental sustainability.

Agyabeng-Mensah et al. (2020a) examine how supply chain collaboration, visibility, and stakeholder trust influence both environmental and financial performance. Their research, published in The International Journal of Logistics Management by Emerald Publishing, emphasizes the necessity of integrating sustainability into supply chain operations to balance efficiency with environmental responsibility.

These three elements play a crucial role in driving sustainability and financial performance. Supply chain collaboration involves cooperative efforts among suppliers, manufacturers, and logistics providers to optimize processes, reduce inefficiencies, and improve sustainability outcomes. Supply chain visibility ensures real-time monitoring of materials, products, and operations, promoting transparency, regulatory compliance, and environmental accountability.

Baah and Jin (2019) explore the relationship between sustainable supply chain management (SSCM) practices and organizational performance, emphasizing the role of competitive advantage as a mediator. Their study, "Sustainable Supply Chain Management and Organizational Performance: The Mediating Role of Competitive Advantage," investigates how SSCM initiatives, including environmental resource management, waste management, and energy efficiency, contribute to firm competitiveness and organizational success.

According to their findings, SSCM leads to cost efficiency, enhanced product quality, and improved market adaptability, ultimately fostering competitive advantage. This aligns with Baah et al. (2021), who assert that supply chain collaboration and visibility significantly impact environmental performance, stakeholder trust, and financial success. Effective collaboration in sustainability efforts strengthens stakeholder trust and improves financial outcomes by optimizing resource management and minimizing operational risks.

The study further underscores that positioning competitive advantage as a mediator helps clarify how SSCM practices drive environmental sustainability while simultaneously supporting business success. Baah et al. (2021) reinforce this perspective, demonstrating that environmental performance positively influences financial performance, indicating that sustainability efforts yield long-term profitability.

In their research on green logistics, Baah, Jin, and Tang (2020a) examine the impact of stakeholder pressures on the relationship between green logistics practices and financial performance, with corporate reputation as a mediating factor. Published in the Journal of Cleaner Production, their study evaluates whether stakeholder expectations result in positive or negative financial impacts due to increased adoption of sustainable

logistics practices. Their findings suggest that regulatory and organizational pressures encourage firms to adopt proactive sustainability measures, leading to financial benefits beyond mere compliance.

Baah et al. (2021) assert that stakeholder trust in supply chain collaboration directly influences financial performance by reducing costs, improving efficiency, and enhancing market reputation. Similarly, Agyabeng-Mensah et al. (2020) argue that green logistics management enhances financial performance by increasing operational efficiency, lowering costs, and strengthening market positioning. Abdoulaye (2021) fever this view, showing that a strong corporate reputation built on sustainability bring environmentally conscious investors and customers, knowing long-term profitability and financial stability.

The study highlights that corporate reputation acts as a bridge between sustainability initiatives and profitability. Firms with strong reputations for environmental responsibility tend to gain competitive advantages, leading to higher revenue and investment. Brown, Guidry, and Patten (2009) reinforce this argument, demonstrating that businesses integrating sustainability into their corporate strategy benefit from increased stakeholder trust and improved financial performance. Steyn (2014) also supports this claim, showing that companies adopting Environmental, Social, and Governance (ESG) principles enhance their credibility and market competitiveness. Additionally, Boffo and Patalano (2020) argue that ESG-driven sustainability strategies attract sustainable investors, further strengthening financial resilience.

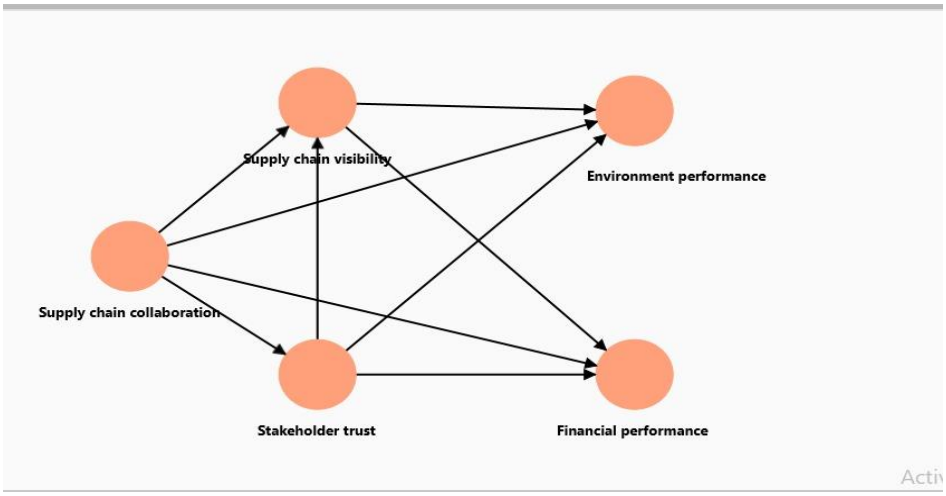
Baah et al. (2021) provide evidence that environmental performance positively correlates with financial performance, reinforcing the idea that sustainability initiatives contribute to profitability. Similarly, Baah et al. (2020c), in their study "Understanding the Impact of Environmental Production Practices on Firm Performance: A Proactive Versus a Reactive Approach," published in the Journal of Manufacturing Technology Management, analyze the effects of proactive versus reactive environmental strategies on firm performance. Their research reveals that firms adopting proactive environmental strategies, such as voluntary emissions reductions, sustainable material usage, and green technology investments, achieve greater financial and operational benefits than those implementing such practices reactively in response to regulatory pressures.

Proactive firms can better respond to market changes and consumer demand for sustainable products. This perspective aligns with Brown, Guidry, and Patten (2009), who argue that sustainability-oriented corporate strategies enhance brand image and attract eco-conscious customers. Furthermore, Boffo and Patalano (2020) suggest that firms committed to ESG principles are more likely to attract sustainable investors, enhancing financial benefits from proactive sustainability initiatives.

Conversely, firms that adopt sustainability practices solely to comply with regulations or stakeholder pressures derive fewer benefits. While they may meet compliance standards, they often lack the competitive edge that comes with proactive environmental investments. Abdoulaye (2021) reports that SMEs implementing green practices for compliance rather than strategic integration experience fewer long-term financial benefits than those embedding sustainability into their business models. Baah et al. (2021) conclude that proactive environmental engagement leads to sustained financial and operational benefits, as firms that innovate and integrate sustainability into their strategies outperform their compliance-driven counterparts.

The study also highlights the importance of effective stakeholder relationship management in project environments. Establishing trust with stakeholders minimizes risks and uncertainties while enhancing project success (Müller & Turner, 2007). Freeman (1984) and Bourne & Walker (2006) advocate for organizations to develop stakeholder engagement strategies that foster trust, leading to improved project outcomes. This research contributes to the project management literature by identifying trust as a fundamental outcome of stakeholder management and offering practical insights for strengthening stakeholder relationships to enhance project performance (Drouin et al., 2013).

Research Model



REASEARCH METHODOLOGY

Research approach:

Research done through quantitative methods provides the best solution to determine whether these variables relate to each other using existing literature about environmental performance and financial performance. The analyzed data will be presented through statistical results to determine if there exists any observed relationship between variables. The research questions are examined using the quantitative case study method as defined by this case study. Surveys provide statistical data about environmental performance's effect on financial performance to assess this relationship between these factors in the target population.

When performing deductive research according to Popper (1959) the hypothesis must be established prior to testing and results interpretation. The strong theoretical foundation of deductive research should exist before revealing its indicators according to Bryman & Bell (2015). Quantitative data analysis begins the explanatory research process before researchers enrich their understanding through qualitative data collection (Creswell & Plano Clark, 2011). The construction method starts with numerical data collection which leads to follow-up qualitative investigations (Hair et al., 2019).

Research designs that use explanatory methods enable researchers to determine relationships and findings. The study uses both deductive and explanatory design because an existing theory serves as the foundation for research development while previous knowledge enables further explanation.

Research design:

Research design refers to the structure for the research methodology. The type of design selected for a study depends on the problem statement. It forms a crucial aspect of the methods and approaches for research selected by the researcher. A good research design ensures minimum bias in the data and maximizes the accuracy of the information collected. This results in an error margin being very low, and it enables the researcher to achieve the desired outcomes. The correlational research design is one that is applied to examine the relationship between two or more variables. It determines whether the relationship is positive or negative. In this research, the design is correlational and non-experimental because we are examining the effects of lean warehousing activities in the retail industry on business performance improvement.

Sample design:

The retail industry in Pakistan has more than 2.5 million shops, which provide the basic necessities of life, such as clothing, food, beverages, and so on (Pakistan Country Commercial Guide, 2024). This included all retail firms in the industry as a sample population, thus making it not easy to implement. Hence, the study chose companies within the Pakistani market whose practices impact performance on the dimensions of financial and environmental performance for sampling purposes. The target population in this research is employees at the managerial, mid, and lower levels working in departments related to financial and environmental performance within the retail

industry. They are better known with such practices. This group provided a total of 151 responses. The sampling technique adopted was non-probability-convenience sampling. The approach followed was purposive because of issues such as cost, availability, benefits, and time constraints. Moreover, it was required to have specific characteristics in the sample, that is, employees having knowledge about financial and environmental performance. Social media platforms like Facebook and WhatsApp were used to communicate with the retail industry employees of Pakistan through convenience sampling.

Instrument of data collection:

The supply chain collaboration, supply chain visibility, stakeholder trust, financial performance, and the environmental performance, and ultimately on the business performance were measured by choosing a questionnaire as the primary source of data gathering. A questionnaire of Google Forms was prepared. The demographics asked for the name, gender, and qualification of the respondent from the questionnaire. There were 25 questions in the questionnaire, which included six sections on respondent profile, supply chain collaboration, supply chain visibility, stakeholder trust, financial performance, and environmental performance. Respondents were asked to answer questions through a 5-point Likert scale: (1 = strong disagreement; 5 = strongly agree). Method of data gathering:

A questionnaire was used as a data gathering instrument. The data has been collected particularly from the retail sector employees due to the focus of our research on the supply chain collaboration, supply chain visibility, stakeholder trust, financial performance, and environmental performance towards business performance of firms in Pakistan's retail industry. In the beginning, we selected the respondents from our family, friends, and social circle for responses on the questionnaire, then contact their associates and references, with the intent to achieve the set number of desired responses. A separate section covering all dimensions pertinent for supply chain collaboration, supply chain visibility, stakeholder trust, financial performance, and environmental performance were added in the questionnaire. Our primary source of data was the valuable responses from the questionnaire, while we also consulted research papers published in HEC-recognized journals. We specifically reached out to professionals involved in supply chain management, environmental practices, and financial departments within retail firms to collect responses. This approach allowed us to gather insights from those who have direct knowledge of the key variables in our study.

Procedure of data collection:

A questionnaire was used as an instrument of data collection. The data was particularly collected from the employees within the retail sector since our research is based on the impacts of supply chain collaboration, the aspect of supply chain visibility, stakeholder trust, financial performance, and environmental performance on business performance in firms that operate in the retail industry of Pakistan. Initially, we identified and approached target respondents within our family, friends, and social circles to fill out the questionnaire, and then used their contacts and references to reach out to others in order to achieve the desired number of responses. The questionnaire was designed to include a separate section covering all relevant dimensions of supply chain collaboration, supply chain visibility, stakeholder trust, financial performance, and environmental performance. Our primary source of data was the valuable responses from the questionnaire, while we also consulted research papers published in HEC-recognized journals. To collect responses, we specifically reached out to professionals involved in supply chain management, environmental practices, and financial departments within retail firms. This approach allowed us to gather insights from those who have direct knowledge of the key variables in our study.

Statistical techniques:

To present, to interpret, and analyze the findings, the data was analyzed using the following statistical methods.

Descriptive analysis is done for answering a phenomenon by asking what, when, how, who, and where. Used in this research, to describe samples to identify causal effects (GILLETTE, 1984). It is a statistical method through which the relationship between independent and dependent variables is calculated. The respective methodology was adopted due to the convenience of

distributional assumption, capability to take up small sample and to systematically measure the questions (Haier et al, 2014 and Oyewobi et al., 2017). The data gathered was analyzed via SmartPLS; its path model, according to Ma (2014), comprises two models of linear equations namely an outer model and an inner one. As shown in Figure 1 in the literature review, the model was developed where the rectangular boxes refer to the relevant indicators and the straight arrows indicate the relation between them. Jointly analyzing for any error in measurements, linear causal relationships among all variables of the research model are examined through SEM (Hancock et al., 2019). Reliability analysis helps you understand the characteristics of measured variables and the elements that make up the scales. A range of widely used scale reliability variables are calculated by the reliability analysis process, and information is also provided on the relationships between individual items on the scale. Validity analysis ensures that the methodology used to calculate the result was effective or not. For very valid research done, it illustrates that the results obtained link with the properties, characteristics, and variables included in the research paper. It is harder to evaluate the validity of a research paper, but it is important for validity too. To get an accurate result, the methodology used in the research paper must be valid.

Ethical considerations:

The following ethical considerations were made to perform this study: confidentiality about the profile of the respondents; respondents are left to choose on whether or not to participate in the study with no built-in pressure; the research does not ask private questions; nothing of the sort from the respondent appears in the paper; and, the questionnaire has been framed such that data collected is from questions that are almost generalized.

RESULTS AND FINDINGS

4.1 Measures Utilized

The study was carried out to establish the variables depicted in Table 1 within the retail industry. It examined supply chain collaboration, supply chain visibility, stakeholder trust, environmental performance, and financial performance as variables. All these variables were assessed to determine their combined impact on organizational success. The study employs validated measurement items to assess key supply chain dimensions. Supply chain collaboration (SCC) is measured using an adapted scale from Podsakoff et al. (2003), which evaluates aspects such as coordination, information exchange, joint decision-making, and goal alignment among partners. Supply chain visibility (SCV), based on Shashi et al. (2019), examines real-time tracking, process transparency, and timely access to operational data.

Stakeholder trust (ST) is assessed using items from Podsakoff et al. (2003), focusing on the confidence and reliability stakeholders place in an organization's supply chain practices. This includes perceptions of fairness, integrity, and transparency in business relationships. Environmental performance (EP) follows Shashi et al. (2019), incorporating measures of sustainable resource use, waste reduction, regulatory adherence, and eco-friendly initiatives to evaluate an organization's commitment to sustainability.

Financial performance is gauged using indicators from Podsakoff et al. (2003), assessing cost efficiency, profitability, revenue growth, and financial stability. These metrics provide insight into how effectively a company manages financial resources while maintaining a sustainable and efficient supply chain.

By employing well-established and widely validated scales, this study ensures a comprehensive assessment of SCC, SCV, ST, EP, and financial performance, contributing to a deeper understanding of their role in driving business success.

TABLE 1

Codes	Variables	Items	Source
SCC	Supply chain collaboration	05	Podsakoff et al. (2003)
SCV	Supply chain visibility	05	Shashi et al. (2019)
ST	Stakeholder trust	05	Podsakoff et al. (2003)

EP	Environment performance	05	Shashi et al. (2019)
FP	Financial performance	05	SPodsakoff et al. (2003)

4.2 Demographics

Table 2 presents the demographic distribution of the respondents in terms of gender and educational qualification. For this study, 151 responses were collected. In terms of gender, the sample comprised 77 males (51%) and 74 females (49%), which showed a nearly equal representation of both genders in the study.

Educational Qualification:

Most respondents reported having a Bachelors (41.1%), while most others held Masters (33.1%) qualification. Very few had PhD qualifications, with a proportion of 15.9%, while others (11.9%) belonged to "Others," that would include diplomas or other such relevant certification(s). Most interestingly, about 3.8% reported more than 10 years of professional experience.

The demographic data ensures a diverse sample, providing valuable insights into how supply chain collaboration, supply chain visibility, stakeholder trust, environmental performance, and financial performance are perceived across different educational backgrounds and professional experiences.

TABLE 2

Items	Classification	Sample Amount	Percentage
Gender	Male	77	51
	Female	74	49
Designation	Bachelor's	62	41.1
	Masters's	50	33.1
	PhD	24	15.9
	Others	18	11.9
	More than 10 years	4	3.8

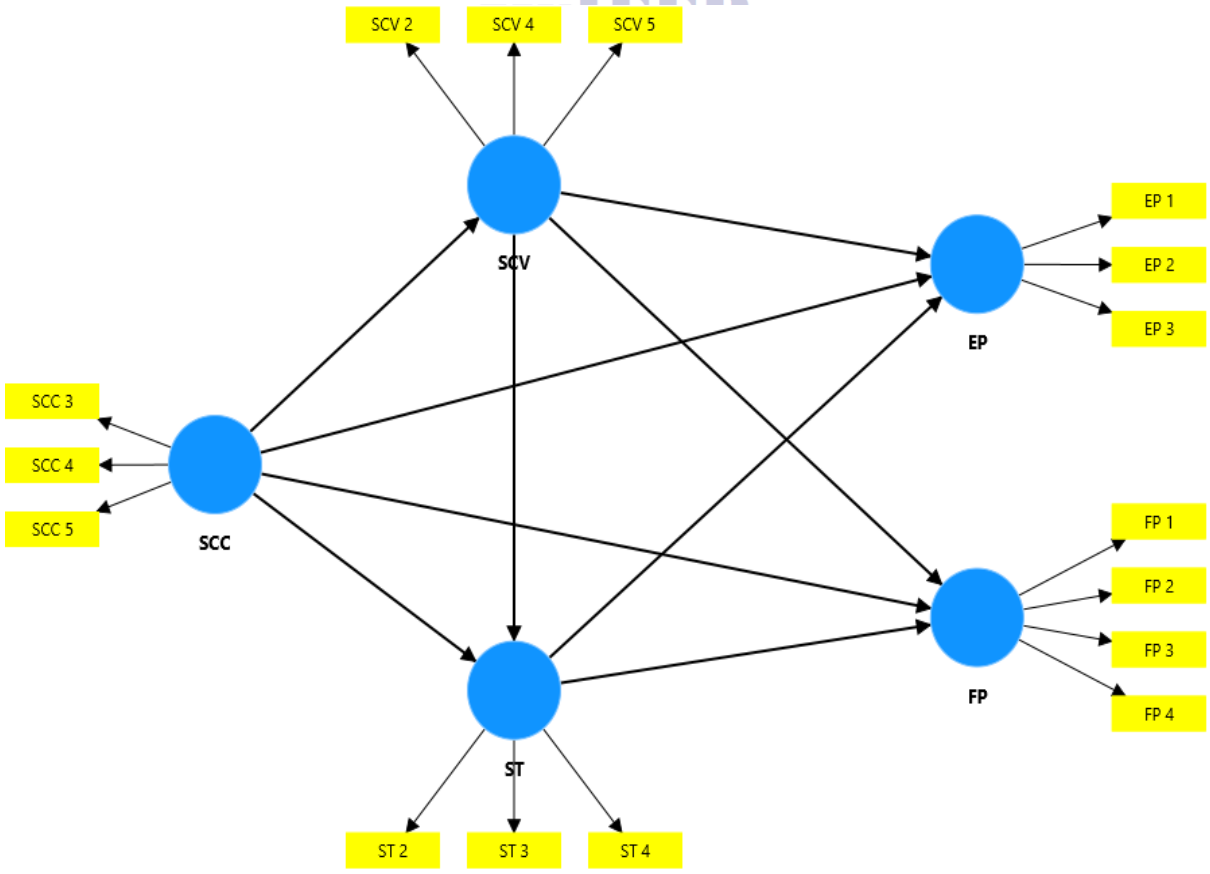
Validation of the model

The validation of the model in this study was done using a number of statistical techniques in order to check its reliability and validity as an effective measure for analyzing the relationships between supply chain collaboration (SCC), supply chain visibility (SCV), stakeholder trust (ST), environmental performance (EP), and financial performance (FP). Construct validity makes assessments regarding whether the model actually measures the theoretical concepts it is supposed to. The study uses the validated scales based on previous literature (Podsakoff et al., 2003; Shashi et al., 2019) in order to guarantee robust construct measurement. The constructs SCC, SCV, ST, EP, and FP have been operationalized based on already established indicators ensuring theoretical alignment.

TABLE 3

C	Questions	Outer loadings	Cronbach Alpha	Rho C	AVE
SCC	SCC3: Our firm and supply chain partners have agreements on the relevance of improvements that benefit the whole supply network.	0.696			
	SCC4: Our firm and supply chain partners share accurate, timely, and relevant information.	0.821			
	SCC5: Our firm and supply chain partners collaboratively manage inventory and demand forecasts.	0.714	0.599	0.789	0.556
SCV	SCV2: As the focal firm, we exchange performance evaluation information with supply chain partners.	0.719	0.559	0.772	0.530

	SCV4: Our company frequently discusses strategic issues with suppliers and customers.	0.727			
	SCV5: Our company involves stakeholders in customer preference and demand information.	0.738			
ST	ST2: Our company considers stakeholders' interest in making decisions.	0.802			
	ST3: Our company creates skills for effective coordination in the execution of plans.	0.886			
	ST4: Our company implements strategies to ensure quality standards.	0.788	0.767	0.866	0.683
EP	EP1: Our firm promotes and delivers products and services to customers that minimize environmental impact.	0.865			
	EP2: Our firm involves stakeholders in the tasks needed to produce and deliver products and services to customers that minimize environmental impact.	0.827			
	EP3: Our firm allows environmental audits.	0.605	0.670	0.814	0.599
FP	FP1: Our firm has a high return on equity.	0.758			
	FP2: Our firm has a high return on assets.	0.766			
	FP3: Our firm has a high return on investment.	0.757			
	FP4: Our firm maintains a strong profit margin.	0.754	0.758	0.844	0.576



Discriminant Validity

Discriminant validity means that constructs are not the same as each other. The Fornell-Larcker criterion was applied by comparing the square root of AVE with inter-construct correlations. The findings reveal that each construct's AVE square root is greater than its correlation with other constructs, thereby confirming discriminant validity (Fornell & Larcker, 1981). Discriminant validity was further tested by calculating the Heterotrait-Monotrait (HTMT) ratio. HTMT values less than 0.90 ensure that the constructs are not highly correlated and, therefore, support discriminant validity (Henseler, Ringle, & Sarstedt, 2015).

Table 4

	EP	FP	SCC	SCV	ST
EP					
FP					
SCC	1.079	1.079		1.000	1.060
SCV	1.224	1.224			1.060
ST	1.210	1.210			

Hypothesis testing

Hypothesis H1, stating that LW positively affects BP, is accepted because the p-value is 0.282, which is within the acceptable range. This finding suggests that lean warehousing practice implementation positively affects business performance because it reduces the complexity of the operations, decreases costs, and increases efficiency (Womack & Jones, 1996).

Hypothesis (H2), which assumes that WOP mediates the relationship between LW and BP, is fully supported with significant p-values for both paths. For instance, LW positively influences WOP (p-value 0.000), which, in turn, has a positive impact on BP (p-value 0.024). These findings underscore critical role of enhanced operational performance as a conduit through which lean practices improve overall business outcomes (Shah & Ward, 2007).

Hypothesis H3, which hypothesizes that SCC acts as a mediator in the relationship between LW and BP, is partially supported. Even though LW significantly affects SCC with a p-value of 0.000, the SCC pathway to BP is not significant, with a p-value of 0.481. This suggests that while lean practices may simplify supply chain operations, the impact of such practices on business performance through this mediator may be minimal or requires further fine-tuning (Christopher, 2016).

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
SCC -> EP	0.071	0.079	0.040	1.765	0.078
SCC -> FP	0.067	0.075	0.044	1.507	0.132
SCC -> ST	0.087	0.094	0.035	2.476	0.013
SCV -> EP	0.053	0.055	0.038	1.417	0.157
SCV -> FP	0.070	0.076	0.049	1.421	0.155

DISCUSSION AND CONCLUSION

CONCLUSION:

Research findings establish a network of relationships among supply chain collaboration and visibility together with stakeholder trust and environmental performance factors to create business performance results along with financial performance. Supply chain collaboration between partners enhanced business transparency and operational effectiveness which resulted in better market competition. Organizations need real-time access to their supply network data for effective risk management since the insight enables quick reaction to supply disruptions. The ethical and transparent handling of supply chains creates trust with stakeholders which serves as a key element for

developing enduring commercial partnerships because such practices build investor and customer and other regulatory body confidence. Organizations that dedicate attention to environmental sustainability will simultaneously enhance their compliance performance and reduce costs and build better marketplace reputation. Finanically successful companies exist from adopting collaborative methods which lead to maximal profitability and efficient resource allocation. Modern companies ought to adopt complete supply chain management methods designed to provide stability and operational excellence in face of market turbulence.

RECOMMENDATIONS

Forming strong business relationships among suppliers manufacturers and retailers will enhance both efficiency and speed in supply chain operations.

Companies should invest in current supply chain tracking systems such as ERP systems and blockchain technology because they provide better risk reduction alongside enhanced visibility.

The company needs to maintain trust through ethical business operations, clear reporting and responsible decision-making in supply chain functions.

The company must practice environmentally conscious supply chain methods by sourcing sustainably and reducing waste as well as following all environmental standards.

Strategic risk management requires plans that include the expansion of supply chains as well as backup procedures and analytical tools that predict potential threats.

Financial performance development requires systems which integrate low-cost supply chain solutions in order to maximize resource value while sustaining profits.

The supply chain strategy requires continuous evaluation that includes market environmental changes and technological advancements and sustainability conditions.

The company requires programs to develop employee capabilities across supply chain management and enhance their decision-making skills.

IMPLICATIONS

- Findings benefit businesses, policymakers, and supply chain professionals by emphasizing the integration of collaboration, visibility, stakeholder trust, environmental sustainability, and financial performance.
- Strengthening supply chain collaboration and visibility improves operational efficiency, mitigates risks, and enhances overall performance.
- Managers should foster transparent relationships with suppliers and customers using digital systems that provide real-time supply chain data.
- Implementing blockchain, Internet of Things (IoT), and AI-driven analytics can enhance visibility and streamline supply chain operations.
- Companies adopting sustainable supply chain strategies improve regulatory compliance, brand image, and waste reduction.
- The study validates supply chain visibility and stakeholder trust as essential factors for achieving better financial and environmental outcomes.
- ·The Resource-Based View (RBV) and Relational View (RV) frameworks confirm that competitive advantages arise from collaboration and trust-building among supply chain partners.
- Governments can frame policies that encourage businesses to adopt sustainable supply chain practices and comply with environmental standards.
- Providing tax incentives and subsidies for green supply chain initiatives will accelerate industry-wide sustainability efforts.
- The research highlights the role of sustainability and stakeholder trust in ensuring ethical supply chain operations.
- · Sustainable supply chain management helps businesses reduce carbon emissions, minimize waste, and enhance corporate social responsibility while aligning with global sustainability goals.

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