The effect of a green supply chain on a company's success

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ABSTRACT

The potential of a conceptual model which integrates sustainabile logistics and management strategies to financial performance and organizational performance to lead to long-term profitability is studied in this research. Green logistics and distribution methods, as per the research, currently have a significant impact on the financial market and organizational performance. The organizational performance of green supply chain management and logistics and management practices is also examined in light of the moderating effects of ethical, ecological, and financial performance. Google form is used to develop a questionnaire due to the factor of COVID-19 element for instant data Collection. A 5-point Likert scale is used for the validity of the questionnaire statements. A statistical tool SPSS is used to analyze and examine collected data. Further linear regression is used to find the correlation, variance of the model, and significance of the variables.

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1. Introduction

1.1 Background of the Study

To satisfy the supply chain's end consumers, supply chain management (SCM) requires the integration and synchronization of company operations, as well as policy compliance, around the supply chain (Baloch & Rashid, 2022). Business processes such as procurement, manufacturing, advertising, transportation, and data management must all be integrated and coordinated. Customer focus, performance, and consistency are all important factors. With competitors and changing client expectations, it's vital to identify and execute supply chain techniques that give you a comparative edge, delivering better outcomes for particular supply chain participants. To prevent inadequateness at the partner level, the creation of environmentally friendly procedures and goods demands a joint effort from all parts of the supply chain (Vasileiou & Morris, 2006).

Industries have begun to implement GSCM activities in response to customer demand for green goods (Stekelorum et al., 2021). Reduced air emissions, toxic pollution, toxic materials, and toxic waste consumption are projected to increase environmental sustainability as a result of the application of GSCM practices. Moreover, whether such efforts to protect the environment would result in greater revenue and profitability is a matter of debate. Finally, production managers are accountable for the success of the companies for which they serve. Which are the most effective strategies that increase operating effectiveness in their own companies? Customers and government agencies are starting to demand ecologically acceptable procedures, goods, and services; thus, it is critical for managers to develop and execute sustainability practices (Hashmi, 2022).

By incorporating recently created concepts into a strong sustainable supply chain system approach and showing initial verification of the model's performance, we expand on the green practices study (Rashid & Rasheed, 2022). In general, we advise industrial organizations to adopt protecting the environment as a central focus and to expand their business information systems' capabilities. In addition, we believe that effectively applying GSCM techniques such as green products, customer participation, national preservation, and economic condition will improve environmental and economic stability, as well as organizational and operational outcomes. A theoretical model is tested using information obtained via a regional poll of fifty-nine industrial executives in US companies.

The presentation and pattern degradation of the atmosphere highlights the need for a transformation in the theory of production from a regulatory, consumer, and moral standpoint. That is, there has been a significant shift in the way manufacturing is carried out, and new procedures are required. A move toward sustainability is required, which can be accomplished by dramatically reducing resource consumption and waste production. The first step in this manner is to transform the existing SC into three dimensions that include expiring goods and tagging, reusing, storing, and re-usability in reverse logistics.

Key choices for addressing short-term organizational issues such as toxic materials, water pollution, and air pollution. Half-section strategic decisions, secondary managers' challenges with green regulation, and political pressure. Management choices that address specific issues such as ESC Extended Supply Chain quality indicators, arrangement selection, and the process for developing and maintaining a green supply chain. The green supply chain has been the subject of numerous studies. The findings of this study show how supply chains have an impact on the environment and energy sources and how certain states boost their economic gain at the expense of the environment. The performance of green supply chain management illustrates the productivity and environmental impact of shipping.

1.2 Research Objectives

The following are the study's objectives:

a. Identify activities in the green supply chain.

b. Provide an overview of the current state of the global ecosystem.

c. Investigate the climatic conditions that lead to the creation of a long-distance environmental supply chain.

d. Describe the extension's associated difficulties.

1.3 Research Question

a. What does it imply when corporations talk about "green supply chain practices"?

b. How do green supply chain activities affect the performance of an organization?

1.4 Purpose of the Study

The goal is to provide significant input to the early stages of empirical research on the efficiency and effects of green SCM (green supply chain management) processes. This research also theorizes and empirically assesses a complete GSCM practice and success model. The approach, which connects manufacturers with supply chain partners, includes green supply chain operations. Initially, we go over the published papers that show how these tactics are used to manage supplies, particularly in the manufacturing process. The context of our research effort is represented by such studies. The study's major purpose is to determine the impact of green supply chain management on firm success and supply chain sustainability.

1.5 Outline of Study

The introduction comprises a summary of the research's background and relevance, an introduction to the green supply chain, a problem statement, research questions and research A literature review consists of previous works and relevant research and the research methodology includes the research category, sample and population, sampling process, questionnaire details, and data treatment procedure. The section Statistical Analyses and Findings offers a summary of the findings. Data analysis and interpretation, Cronbach Alphas, Correlation analysis and regression analysis, hypothesis testing. The conclusion of the research and critical discussion provides a summary of the findings from an SPSS study of the dependent variable and all independent factors.

2. Literature Review

2.1 Green Logistic and Management Practices

The broad concept of sustainability encompasses the criteria of economic, social, and environmental efficiency (Rogers et al., 2019). The term GLMP (Green Logistics and Management Practice), which refers to "sustainability review," is quite well known. We are focusing our efforts on the environmental management component of sustainability. The focus of green development has moved away from the business. As per Wunsch et al. (2014), administration coherence of contents and data channels throughout the supply chain is necessary to meet business demand for greener items and services offered through green methods. SCM aspires to retain outer well-being and natural sustainability by taking advantage of the opportunity to self-correct depending on inputs from the outside environment (Rashid et al., 2024a). As enterprises that manufacture as elements of logistic chains become more aware of client demands for eco-friendly items, they will be able to respond more quickly. If companies are the first to implement protection of the environment and GSCM techniques, they will have a competitive advantage in both upstream and downstream environmental initiatives. He notes the possibility of an "environmentally friendly multiplying impact" as a byproduct of SC partners cooperating on environmental issues. Purchasing prices are related to cooperation between customers and suppliers.

2.2 Green Supply Chain

Green strategy uptake has been defined as being driven by environmental laws and regulations as well as customer needs (Rashid et al., 2024b). Environmental laws have a complex impact on corporate efficiency. According to Rashid et al. (2024d), the impact of emission reduction costs on the prices of products and services in the economy. The researchers believe that reducing emissions might save up to 10% of the entire cost of such initiatives. Businesses would lose a competitive advantage as a result of increasing expenses linked with the implementation of environmental protection requirements, according to experts (Khan & Qianli, 2017). Inner ecological analysis and sustainable data management are used as antecedents in the postulated paradigm, with ecology, economic, operational, and organizational effectiveness as consequences. Sustainable informatics also provides the data needed to make environmentally conscious purchasing, market collaboration, and design decisions. Changes in internal green governance or green information systems have an impact on the ability to put GC into practice (Rashid et al., 2022a).

2.3 Sustainability Management

The literature on both supply chain strategy and sustainability management has significantly influenced green supply chain management. Integrating the "green" aspect into supply chain management involves addressing the impact and relationship issues between supply chain management and global ecosystems. A related concept is supply management. The boundary of green SCM is determined by the researcher's focus. In the literature, there are various classifications and scopes for green SCM, ranging from ecological purchasing to integrated GSC that spans from suppliers to manufacturers to consumers. The phrase "green design" has been commonly used in publications to characterize the practice of designing ecologically friendly products. It is the systematic examination of designing problems connected to protecting the environment and health across the product cycle while developing new products and processes (Rashid et al., 2022b).

Analyzing the evidence appears to be a viable alternative, as it is a crucial step in identifying a research area and an essential component of nearly any proposed study. It assists in the characterization of the project's essential content and gives direction for theory development (Rashid et al., 2024c). Our study follows a well-defined approach and is guided by theoretical assumptions. Green innovation research has a considerable body of literature, even though it is still relatively young. We must examine, analyze, and incorporate existing findings given the substantial GSCM literature. If we do not make a concerted effort to pull together existing GSCM research, we may end up replicating what has already been examined. Also, it's difficult to come up with a novel hypothesis based on the work of others. And it's difficult to come up with new study agendas that have previously been overlooked. This approach is admirable, and it begins with a digital research study to locate past researchers analyses on green supply chain management, followed by a review of study findings, critiques of preliminary research studies, identification of major task trends and preferred research sources, and consolidation of past studies efforts (Hashmi, 2023).

2.4 Relationship between Organization Performance, Organization Financials, and the Green Supply Chain

Performance management is critical to any business, even though this is the only way for companies to objectively measure the results of combining non-financial and financial resources to achieve their objectives. Measurements of organizational effectiveness assist them in determining whether or not established objectives were met and developing plans to improve or sustain them to strengthen and maintain the company's current status (Srivastava & Teo, 2007). Due to their primary goal of increasing profitability and providing value for investors' money, corporations' performance has traditionally been judged from a financial perspective. Furthermore, the emergence of balanced scoreboards and bottom-line triple methodologies has broadened the scope of measuring performance to incorporate non-financial indicators, including ecological, economic, and social outcomes (Zelbst et al., 2012).

Many researchers have recognized a beneficial association between greener practices and organizational performance (Bhadauria et al, 2023). Others reported negative relationships, while others revealed insignificant correlations in both the short and long term (Haiyun et al., 2021). Organizational performance and financials were modelled as dependent variables in the research.

2.5 Hypothesis

Below table 1 represents the research hypothesis.

Table 1: Research Hypothesis

S.no	Hypothesis
1	H1. There is a direct relationship between organizational performance and green logistics management practices.
2	H2. There is a direct relationship between organizational finances and green logistics management practices.

2.6 Conceptual Model

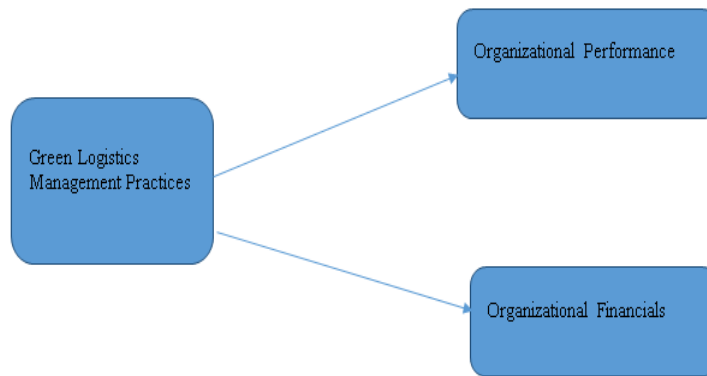Below figure 1 represents the framework of research.

Figure 1: Conceptual Framework

Source: author's creation with the support of literature

3. Research Methods

The objective of this research was to determine the influence of green (SCM) strategies on long-term performance. This study employs a quantitative research method in this regard. Statistical tests are used in this strategy to determine the impact of research variables in a measurable way. The research hypothesis is determined based on the outcomes of the tests (Khan et al., 2023a). An explanatory study is conducted in an area where there has been little prior research on the problem. Despite the extensive investigation into the supply chain and sustainability in our study, the green aspect of the supply chain still requires further research, as it spans the entire value chain of a product (Hashmi & Mohd, 2020; Rashid et al., 2019). The explanatory research, on the other hand, goes into great detail to describe the many parts of the research. The research begins with a broad concept and ends with a specific topic (Haq et al., 2023). As a result, explanatory research is the best fit for this project. According to Creswel (2015), research methods are divided into three categories: deductive, inductive, and addictive. The research methodologies are chosen based on the research's purpose and scope. Our research employs a deductive research strategy (Rashid & Amirah, 2017). According to Rasheed and Rashid (2023), a deductive method involves establishing research hypotheses based on existing theories and determining a research strategy to evaluate these hypotheses. The hypothesis for this study is derived from research variables and a review of prior literature. Although regression testing in SPSS is typically used to test

hypotheses, this is not the approach taken in this case (Rashid, 2016). According to Hashmi et al. (2021a; 2021b), causal research is the one where the researcher attempts to investigate the cause-and-effect relationships between the research variables. As per Fletcher et al. (2021), when a researcher is attempting to determine the cause of a specific behaviour, this study is used. The researcher determines what kinds of changes occurred in the IV as a result of changes in the DV. This research looks into how a GSCM can result in long-term changes in the environment (Albhirat et al., 2024).

3.1 Data Collection

According to the study's aims, sampling is a strategy in which an analyst picks a subset of delegated things or individuals from a larger population to act as subjects for interpretation and analysis (Alrazehi et al., 2021; Das et al., 2021; Pouya et al., 2017). Employees working in manufacturing organizations in Karachi are the target population for this study. These companies have a sample population of 100,000 people, which includes direct employees and vendor representatives. Employees from various divisions make up the sample group, which includes both men and women (Amirah et al., 2024; Rashid & Rasheed, 2024). Employees from quality management, procurement and sourcing, warehouse management, merchandise, advertising and marketing, packaging, transportation, and logistics, among other departments, make up the majority of the sample population.

3.7 Sampling Method

To target our sample data, we will use a probabilistic sampling strategy in which we will use a basic random technique. The researcher must employ a convenient data collection approach. The survey method allows the researcher to select the most appropriate and genuine resources, such as those that are easily available, using the sample technique approach (Khan et al., 2022; Taherdoost, 2019). In contrast to the study's goals and objectives, depending on the size of the population, there will be three factors that must usually be met. To calculate the proper sample size, the following criteria must be met: the degree of clarity, the degree of certainty, or the degree of uncertainty, as well as the degree of variance in the variables being examined (Rashid et al., 2021; 2023). We used a 'n' number of respondents based on gender, age, and demographics (Agha et al., 2021; Khan et al., 2021; Haque et al., 2021).

The questionnaire is used to collect data from respondents, but it is based on and designed on the Likert scale. The survey for this study is created in such a way that it covers all of the research variables to investigate the impact of green supply chain management techniques on a firm's long-term success (Rashid & Rasheed, 2023).

Rasheed et al. (2024) argued that there are primarily two approaches for gathering research data, primary data collection and secondary data collection. Initial research is undertaken through surveys and interviews, whereas secondary data is desk research conducted through secondary sources such as publications. The researcher chose primary data for this study because it allows for an early insight into green supply chain management methods and their impact on a company's long-term success. Primary data gathering is advantageous since it saves time and money and improves accuracy. Because it involves data collected directly from respondents using various research tools, primary data assists researchers in identifying the respondents' perspectives.

4. Results and Findings

4.1 Descriptive Profile of Data

In this section, the survey findings are evaluated, analyzed, and summarized. Out of a sample of 200 people who responded to the survey, we immediately obtained 130 responses. The survey's demographics are based on the respondents' gender, career, and job skills.
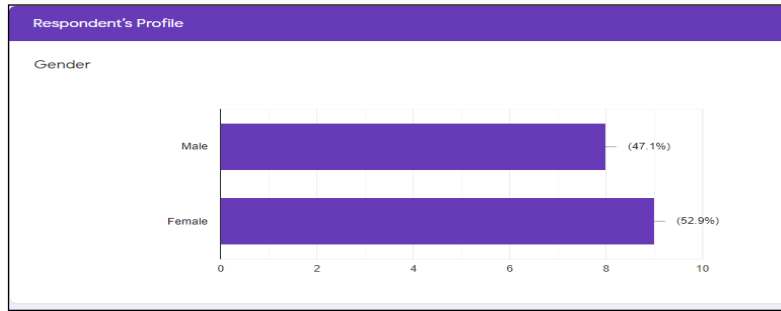

Figure 2: Respondent's gender

Source: SPSS output

You can see in Figure 2 the obtained response. We have received 47.1% of Male respondents who have actively participated in our questionnaire and 52.9 % of Female respondents who have managed to complete the questionnaire.
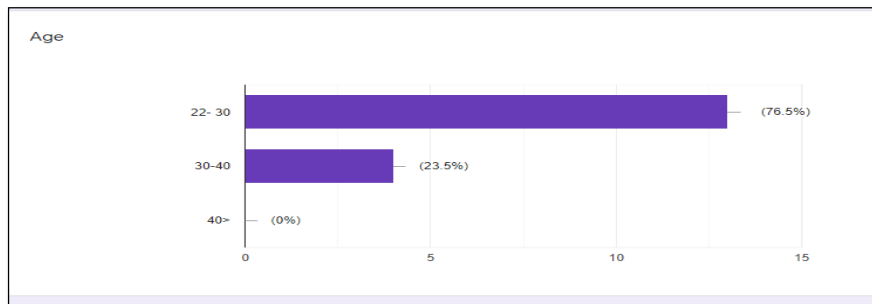

Figure 3: Respondent Age

Source: SPSS output

The second factor from questionnaire demographics is respondent age. We have obtained from Figure 3 that the majority of respondents that are 76.5 % to be precise are mature and their age years are between 22-30 actively participated in filling a questionnaire. The remaining 23.5 % are from the age bracket of 30-40 years which can be put into the category of professionals with 5-15 years of work experience.

4.2 Validity of the Model

Table 2: Reliability Statistics

Cronbach's Alpha	N of Items
.780	19

Source: SPSS output

The purpose of validity testing is to determine the data collection methods (typically questionnaires) and the parameters for reliability. The value of Cronbach alpha must be more than.7, i.e., 70%, to ensure the questionnaire's trustworthiness. This indicates that for a follow-up study to be done, the information provided by each indicator must be more than 70% reliable. As indicated in Table 2 above, the Cronbach's alpha value of the research variables under consideration is greater than 70% (Hashmi et al., 2020a; 2020b).

4.3 Regression Analyses

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Standard. Error of the Estimate	Durbin-Watson
1	.607[a]	.369	.358	.48869	1.980

a. Predictors: Constant, Org_Perf, Org_Fin
b. Dependent Variable: GLM

Source: SPSS output

The model fit table 3 shows the percentage variance produced by predictors on the response variable. The regression level is the key differentiator for the dependent variable. A regression result greater than 30%, or 3, indicates a variation in the dependent variable. The R factor, as shown in Table 3, is .607, indicating that the predictor factors account for 60.7 per cent of the variation in the independent variable. Whereas Durbin Watson explains autocorrelation as a value near 2 (Rashid et al., 2020). Table 3 shows the significance level of this model and also the findings that support further research.

Table 4: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.424	2	8.712	36.479	.000[b]
	Residual	29.852	125	.239		
	Total	47.276	127			

a. Dependent Variable: GLM
b. Predictors: Constant, Org_Perf, Org_Fin

Source: SPSS output

As you can see in Table 4, the Anova analytic test has an F-value of 36.479, which is pretty high. Remarkably, the F-statistics findings demonstrated here indicate that the model is statistically significant, implying a significance scale of 0.5.

Table 5: Coefficients[a]

Model		Unstandardized Coefficients		Standardised Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.516	.381		1.354	.178
	Org_Fin	.338	.082	.311	4.106	.000
	Org_perf	.532	.094	.426	5.636	.000

a. Dependent Variable: GLM

Source: SPSS output

The coefficient matrix explains if variables have a positive or negative connection. It also explains β values, which anticipate per cent increases or decreases depending on the results collected. The beta values in Table 5 above are interpreted as, a 1 per cent increase in organization financials will increase green logistics management by 33.8 per cent (Khan et al., 2023b). A 1% increase in organization performance will increase green logistics management by 53.2%. The model's relevance is shown by the significance value and T-value. For the degree of significance, the calculated t-value must be greater than 2, and the sig value must be equal to or less than 5. The following is an explanation of the relevance of the above figure. The t value of organization financials is greater than 2, i.e., 4.106, and the sig value is less than 0.05, which can be interpreted as indicating that organization financials are significant and have a positive impact on dependent variable green logistic management. The t value of organization performance is greater than 2, i.e., 5.636, and the sig value is less than 0.05, which can be interpreted as the organization performance being significant and having a positive impact on the dependent variable, green logistic management.

4.4 Hypotheses Summary

Table 6 represents the hypothesis acceptance and rejection.

Table 6: Hypotheses Summary

S.No	Hypotheses	Sig Value	Conclusion
1	H1: The organization's financials have a significant impact on green logistic management.	.000	Accepted
2	H2: Organizational performance has a significant impact on green logistic management.	.000	Accepted

Source: SPSS output

5.1 Discussion and Conclusion

The discussion emphasizes the activities of the green supply chain, i.e., integrating the environment with the enhancement of the organization's performance. The second point mentioned in the research objectives is the current state of the global ecosystem, which is becoming worse due to misleading factors that are not considered correctly. The climate factor is one of the alarming factors that require organizations to focus on long-term sustainability. The core hypothesis of this study is that the tradeoff between OF and OP (organization financials and organization performance) is a fundamental responsibility of an organization to its stakeholders. The relationship between green logistics management practices, organization financials, and organization performance is investigated using a conceptual framework in this research. According to the findings, OF and OP played significant, partially mediating roles in the GLMP connections. Given the findings, organizations should adopt more green logistics and management practices that have a high influence on stakeholders' environmental needs to increase organization performance, which will lead to enhanced organization financials, profitability, and growth considering long-term planning. To accomplish sustainability objectives, corporations must devote significantly more resources to green logistics and management practices, specifically recyclables, sustainable energy, green transport and logistics, green warehouses, and green packaging design, which could lead to improved financial as well as economic performance. The results of the research contribute to the literature by broadening the understanding of the use of green logistics and practices worldwide, as the research includes statistics from production, logistics, and media corporations. Although the research was carried out in an emergent economy, the model's complexity and its significance to sustainable supply chain management suggest that it may apply to other economies.

5.2 Implications

The research adds to the literature by constructing and putting to the test an initial theoretical model that examines the relations among GLMPs, EP, and SP from the perspectives of a rising country, striking equilibrium among the existing literature. Furthermore, the research is one of the few, though not the only, to look both at the indirect and direct effects of GLMPs on EP and SP at the same time. Furthermore, the study's findings revealed that incorporating sustainable initiatives into a company's manufacturing and supply-chain operations can provide a competitive edge in today's marketplace. The research has constraints, despite its considerable contribution to academics and applications. Because the scope of the research does not allow for the use of all Green Logistics and Management Practices variables, the findings' validity may be hindered. Because the target population of the study was low, the outcomes may have been biased.

5.3 Limitations and Future Research

Considering its significant contribution to scholars and practitioners, the research has constraints. The study's scope didn't permit the use of all GLMP indicators, which might also restrict the validity of the results. The research used a limited population size, which may have influenced the findings. Future research may use a larger sample population and far more measurement elements for such variables, as the literature implies that a larger population size has an impact on results. According to Rasheed et al. (2023), despite the effort to eliminate systemic bias, the study may be susceptible to it because it was constructed through the survey method.

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