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| RESEARCH ARTICLE

The Impact of Supply Chain Management of Corporate Financial Performance from A Green Perspective: Basis for Sustainable Business Practices Framework

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| ABSTRACT

This research examined the effect of GSCM practices on corporate financial performance, with dimensions including cost efficiency, revenue growth, profitability, customer loyalty, and competitive advantage, as well as proposed a Sustainable Business Practices Framework. A quantitative research design was used which entailed structuring a survey of 382 corporate professionals purposively selected from the technology, pharmaceutical, and retail sectors in Beijing based on their involvement with the supply chain, finance, or sustainability. The analysis of data was conducted through descriptive statistics, ANOVA, and regression to probe the relationship of GSCM practices and the major importance with which businesses are regarded. The results reveal that cost efficiency is enhanced through energy optimization, waste reduction, and compliance brought about by GSCM, while revenue is enhanced through the use of brand reputation, customer loyalty, and market reach. Profitability improved with operational savings and risk mitigation, and customer trust was further built with competitive differentiation through GSCM efforts. Empirical proof is presented on the strategic merits for which GSCM can be put to use, along with a Sustainable Business Practices Framework-much more practical guidance to integrate sustainability in business corporate strategies for long-term financial viability and resilience.

| KEYWORDS

Green Supply Chain Management, Sustainable Business Practices, Cost Efficiency, Revenue Growth, Profitability, Customer Loyalty, Competitive Advantage, Corporate Sustainability

| ARTICLE INFORMATION

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1. Introduction

Over the last several years, Green Supply Chain Management (GSCM) has been in focus due to the need for linking operational efficiency with environmental sustainability by organizations. The change is largely seen in economic centers of the globe, such as Beijing, where organizations have to adhere to environmental standards, stakeholder expectations, and mounting expectations of sustainable behavior (Raman et al., 2023; Ramakrishna et al., 2023). While it is difficult to integrate green practices into supply chains early on—e.g., cost and complexity of implementation are high—the majority of companies perceive the longer-term benefits in waste reduction, improved brand image, and improved operating efficiency (Emroozi et al., 2023; Basuony et al., 2023). With increasing environmental legislation and environmental awareness, GSCM comes not only as a regulatory necessity but also as a tool for the attainment of economic as well as environmental goals.

This research intends to objectively measure and evaluate the effect of GSCM practices on the financial performance of Chinese businesses in Beijing. More specifically, it takes into account the impact of adopting sustainable supply chain programs on cost effectiveness, revenue enhancement, and overall profit margins. With a quantitative research design, the study seeks to provide empirical evidence that green practices have real monetary effects, to inform the construction of a sustainable business practices model. The research design attempts to steer not only business executives but also policy makers and business actors intent on reconciling environmental responsibility with profitability (Zhou et al., 2023; Safian et al., 2022).

Despite increasing global discourse on sustainability, there remains a significant research gap in the empirical assessment of the financial impacts of GSCM within developing economies, particularly those of China's emerging industrial cities. The majority of available literature is focused on mature markets, with little information regarding how environmental actions affect corporate finance in the regulatory and economic environment of cities such as Beijing (Chen et al., 2023; Das et al., 2023). This research fills that void by providing localized data on the financial performance of GSCM, thus making a more comprehensive contribution to knowledge on sustainable supply chain practices in emerging market contexts.

2. Review of Related Literature

2.1 Green Supply Chain Management and Cost Efficiency

Green Supply Chain Management (GSCM) is essential in pushing cost efficiency through waste minimization, efficient use of energy, and adoption of sustainable technologies. The implementation of green technologies, including energy-efficient equipment and recycling technologies, saves costs while encouraging environmental regulation (Wadhwa & Professor, 2023; Yin et al., 2021). Energy-saving measures and waste reduction measures have been found to substantially lower the cost of production, particularly in high-energy sectors (Marchi et al., 2019; Kadhila et al., 2023; Rodriguez et al., 2025). Besides, organizations that follow efficient waste management measures not only lower the cost of disposing of waste but also enjoy material recycling and enhanced regulatory compliance (Paes et al., 2021; Yoo et al., 2019).

2.2 Green Supply Chain Management and Revenue Growth

Incorporating GSCM practices in business activities promotes revenue expansion through market enlargement, increased customer loyalty, and a positive brand image. Sustainable operations enable companies to tap environmentally regulated markets and reach environmentally concerned consumers (Amoako et al., 2020; Elsebaie et al., 2023). Successful commitment towards sustainability allows organizations to build customers' trust and long-term connection, which indirectly results in repeated buying and customer loyalty (Felix & Rembulan, 2023; Gopalakrishnan et al., 2021). In addition to this, environmentally concerned companies gain a superior media image, partnerships, and high premium power—status that further shape sales (Wu, 2023; Yi, 2023).

2.3 Green Supply Chain Management and Profitability

The practice of GSCM directly contributes to profitability through the creation of cost savings, increasing operational effectiveness, and accessing new investment channels. Firms that lower energy use, streamline logistics, and invest in clean technologies tend to enjoy increased returns on investment because of lower costs of input and risk avoidance (Alagoz & Alghawi, 2023; Moisescu & Gică, 2020). The costs of compliance with regulations, although high in the beginning, are compensated for by incentives and minimized liabilities, thereby adding to long-term financial security (Calomiris et al., 2020; Gunturu, 2022). Consequently, GSCM becomes a strategic engine of both economic performance and firm resilience in competitive and regulated settings (Trebbi & Zhang, 2022; Mendonca & Zhou, 2019; Rodriguez & Palallos, 2024a).

2.3 Customer Loyalty and Sustainable Branding

Environmental practices by the company are now increasingly affecting customer loyalty, and GSCM is becoming one of the deciding factors in establishing consumer trust and loyalty. Companies that integrate their operations with sustainability values are likely to build deeper emotional bonds with customers, particularly among environmentally conscious market segments (Erdiansyah & Imaningsih, 2021; Dwita et al., 2020; Rodriguez & Palallos, 2024). Repeat customers not only provide stable revenue through repeat purchases but also serve as brand ambassadors, increasing the company's reach through word-of-mouth and social media (Gomes & Fábio, 2023; Trenggana et al., 2022). This loyalty-based dynamic strengthens profitability and develops a value-driven market competitive edge (Jiddi, 2021; Nastasoiu & Vandenbosch, 2019).

2.4 Green Supply Chain Management as a Competitive Edge

Implementation of GSCM practices provides a significant competitive edge by making companies stand out in competitive markets, enhancing brand reputation, and allowing premium price strategies. Customers, investors, and stakeholders increasingly prefer companies with genuine sustainability efforts, providing such corporations with access to strategic partnerships and investments (Maulamin et al., 2021; Cohen, 2023). Operationally, GSCM increases supply chain resilience and efficiency, enabling

corporations to have improved resource management, regulatory compliance, and future-proofing against market changes (Çankaya & Sezen, 2019; Tayibnapis et al., 2020). Finally, sustainability becomes not just an ethical need but a market leadership driver over the long term (Momchilov, 2022; Brzaković et al., 2023).

2.5 Theoretical Framework

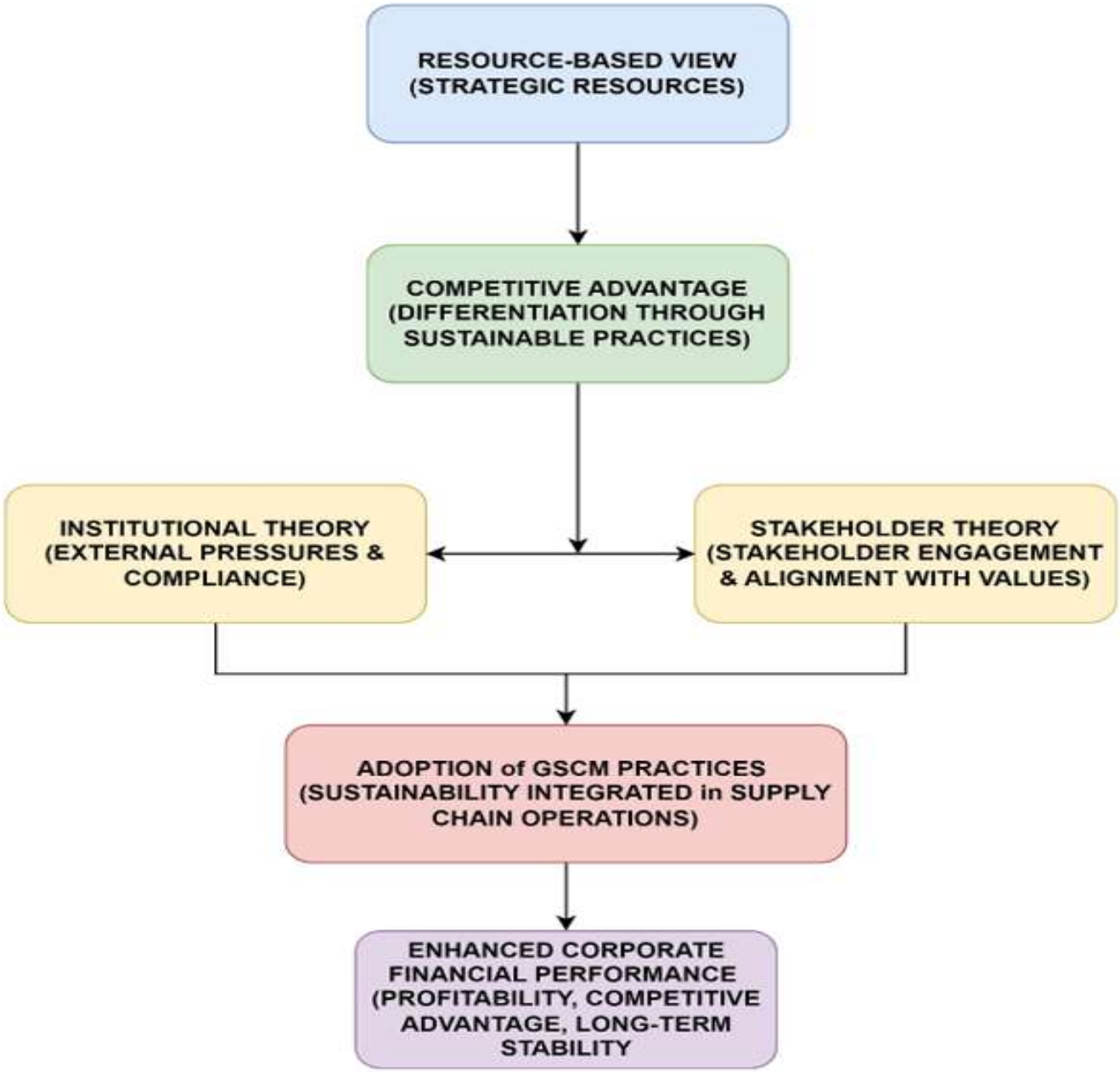

Figure 1. Integrated Theory

Resource-Based View (RBV), Institutional Theory, and Stakeholder Theory are three interrelated theories on which this study is based; all these theories are used together to analyze the association between Green Supply Chain Management (GSCM) practices and corporate financial performance. Sustainable work practices, energy-efficient technologies, and waste minimization are valuable, rare, and inimitable resources that tend to enhance firm competitive advantage by cost reduction or enhanced efficiency, thus leading to increased profits according to RBV (Zhan, 2023). Institutional Theory expounds that the external pressures of regulatory requirements, societal norms, and industry standards force companies to adopt GSCM to abate risks, such as legal penalties, image impairment, and market share loss (Huang & Huang, 2021). While Stakeholder Theory stresses that GSCM could strengthen relationships, improve brand image, and foster long-term loyalty, demand, and investor confidence by reducing stakeholder concerns regarding environmental and social responsibility (Ullah et al., 2022). All three theories

together provide a powerful lens from which to analyze how GSCM underpins corporate sustainability, competitive advantage, and ultimately, financial success, contributing both to academic research and practical business strategy.

2.6 Conceptual Framework

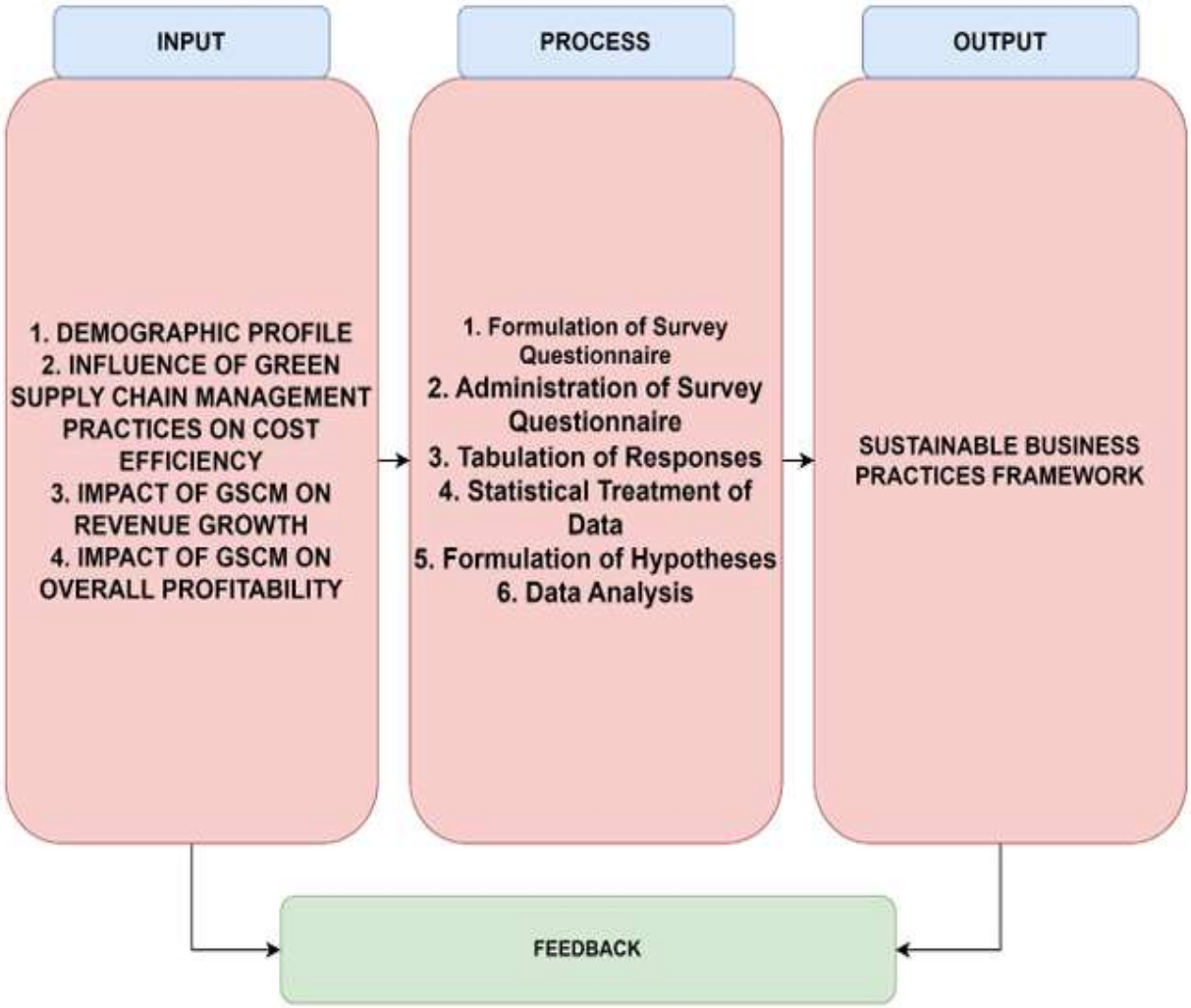

Figure 2. Research Paradigm

The research diagram serves as a systematic map showing the course of proceedings from input to process and finally to output for the development of a Sustainable Business Practices Framework. Inputs include the demographic profiles of respondents and the key variables of GSCM's impact: cost efficiency, revenue growth, and profitability, providing context and direction to the study. The process elaborates the methodological sequence: to design and administer a targeted survey, to compile and statistically analyze data for the purpose of hypothesis testing, and synthesize results into actionable recommendations. The output is a practical, evidence-based framework to assist businesses in aligning and balancing environmental sustainability with financial performance in the implementation of GSCM. Finally, the diagram depicts a feedback loop, emphasizing that sustainability is a continuous process of improvement, which takes into account findings from current assessments that will, in turn, direct future research towards the fast-changing business and environmental conditions.

3. Research Methodology

The study used quantitative methodology to survey how Green Supply Chain Management (GSCM) practice affects cost efficiency, income growth, and profitability among organizations. Primary research data were collected using the structured researcher-made questionnaire distributed to supply chain managers, financial officers, sustainability officers, and executives from diverse industries in Beijing, supplemented with secondary data from corporate financial statements and sustainability

reports. The questionnaire also covered a profile of demography, GSCM practices, and financial outcomes. Data collection was thus exhaustive and reliable. Among the statistical techniques used in testing the hypotheses and estimating the strength and significance of relationships are descriptive statistics, correlation analysis, regression modeling, and ANOVA within a conceptual framework grounded in Resource-Based View, Institutional Theory, and Stakeholder Theory. This methodological approach gives robust evidence-based insights into the improved corporate financial performance through sustainable methods.

3.1 Population and Sampling

The population surveyed in this research was composed of professional personnel working within the confines of megacities such as Beijing, China, mainly those individuals who hold positions, namely supply chain managers, financial officers, sustainability officers, and executives involved directly in their organization's supply chain operations and sustainability initiatives. Their selection is based primarily on their strategic roles and from whom the researcher could expect informed information on operational as well as financial impacts of Green Supply Chain Management (GSCM) practices. The sampling targeted individuals from different industries through purposive sampling in order to gather sundry as well as different experiences and practices concerning GSCM implementation. In this way, only qualified or knowledgeable participants contributed data, thus enhancing the relevance and reliability of findings.

3.2 Research Procedure

The research followed systematic steps beginning from the development of a structured, researcher-made questionnaire that was intended to collect information about respondents' demographic profiles, GSCM practices, and financial performance indicators. The questionnaire was validated for clarity, relevance, and content by subject matter experts before distribution. After securing necessary permissions and informed consent, the survey was administered to purposively selected corporate respondents across various industries in Beijing. Collected completed questionnaires would then be reviewed for completeness before they were encoded for analysis purposes. The results were tabulated and subjected to statistical treatment to identify the significance of trends, correlations, and relationships among the variables involved, then a synthesis of findings was made to test the hypotheses in order to support the development of a Sustainable Business Practices Framework, all-the-while ensuring that results are evidence-based and actionable.

3.3 Statistical Tools

It was thoroughly learned the data set was thoroughly analyzed using descriptive and inferential statistical instruments so as to arrive at a comprehensive appraisal of the relationship among the study variables. Descriptive statistics were in close terms of frequency counts, percentages, means, and standard deviations to give insight into respondents' demographic profiles and the understanding of their GSCM practices and financial performance. Inferential statistical methods could be used in correlation and regression analysis to ascertain how strong and significant GSCM practices and financial outcomes, that is, cost efficiency, revenue growth, and profitability, are related. Also used for comparison of different groups when applicable is Analysis of Variance (ANOVA) and through hypothesis testing to infer conclusions regarding the conceptual framework. These statistical tools made a thorough evidence-oriented analysis that strongly backed up the conclusions and recommendations made by this study.

4. Results

Table 1. Demographic Profile

Category	Subcategory	Frequency (n)	Percentage (%)
Position in the Company	Financial Officer/Analyst	144	37.7
	Supply Chain Manager	126	33
	Middle Management	72	18.8
	Sustainability Officer	32	8.4
	Top-level Executive	8	2.1
Years of Experience	11–15 years	143	37.4
	6–10 years	133	34.8
	1–5 years	67	17.5
	16–20 years	32	8.4
	Less than 1 year	7	1.8
	More than 20 years	0	0
Educational Background	Master's Degree	291	76.2

	Doctorate or Higher	91	23.8
Company Size	Medium (51–250 employees)	291	76.2
	Small (1–50 employees)	83	21.7
	Large (251+ employees)	8	2.1
Industry Sector	Technology	187	49
	Pharmaceutical	119	31.2
	Retail	76	19.9
Gender	Female	328	85.9
	Male	54	14.1
Age Bracket	31–45 years old	205	53.7
	46–60 years old	177	46.3

Most of the people responding to this study are middle-career professionals in important supply chain and sustainability roles. The ones working in these positions were primarily Financial Officers/Analysts (37.7%) and Supply Chain Managers (33%), with support from Middle Management (18.8%), Sustainability Officers (8.4%), and a small part of top-level executives (2.1%). Most of these have a sizable amount of industry experience, with 37.4% having 11 to 15 years and 34.8% having 6 to 10 years, while no one has experience of over 20 years. The population was highly educated because 76.2% possessed Master's degrees, while 23.8% had Doctoral degrees or above. A very large majority (76.2%) were in employment with medium-sized companies, primarily in technology (49%), pharmaceuticals (31.2%), and retail (19.9%); this is because it is among such companies where sustainability projects are becoming prioritized. The sample was mostly female (85.9%), and most were in the 31-45 age group (53.7%) followed closely by those aged 46-60 (46.3%). This demographic profile shows the respondent pool is knowledgeable, experienced, and diverse and thus capable of delivering credible and relevant insights into the effects of GSCM practices.

Table 2. Influence of Green Supply Chain Management Practices on Cost Efficiency

Adoption Rate of Green Technologies	**Mean**	**VI**	**STDV.**	**Rank**
1. Our company frequently adopts new green technologies.	3.6754	Agree	0.4684	1
2. The adoption of green technologies is a priority in our company's strategic planning.	3.1937	Neutral	0.3957	5
3. Investments in green technologies have increased in the past five years.	3.3822	Neutral	0.4866	3
4. Green technologies are readily available and accessible for our company's use.	3.2251	Neutral	0.4182	4
5. There is sufficient training provided for the effective use of green technologies.	3.3979	Neutral	0.4901	2
Composite Mean	**3.3749**	**Neutral**	**0.4518**	
Energy Consumption Reduction	**Mean**	**VI**	**STDV.**	**Rank**
1. Implementing green practices has significantly reduced our company's energy consumption.	3.2382	Neutral	0.4266	5
2. Energy efficiency is a measurable outcome of our green supply chain initiatives.	3.3639	Neutral	0.4817	3
3. We regularly monitor and evaluate our energy consumption patterns.	3.3822	Neutral	0.5475	1
4. There are clear guidelines and objectives set for reducing energy consumption in our company.	3.377	Neutral	0.4853	2
5. Energy saving measures are aligned with our overall cost reduction strategies.	3.2723	Neutral	0.4457	4
Composite Mean	**3.326**	**Neutral**	**0.4773**	
Waste Management Efficiency	**Mean**	**VI**	**STDV.**	**Rank**
1. Our company has effective systems in place for waste reduction and recycling.	3.4476	Agree	0.4979	2
2. Waste management contributes significantly to cost savings.	3.3377	Neutral	0.4735	3
3. We utilize technology to optimize waste management processes.	3.466	Agree	0.4995	1
4. The efficiency of our waste management practices is regularly assessed.	3.2225	Neutral	0.4165	4

5. Employees are trained and encouraged to adhere to waste reduction protocols.	3.466	Agree	0.4995	1
Composite Mean	**3.388**	**Neutral**	**0.4774**	
Supply Chain Process Optimization	**Mean**	**VI**	**STDV.**	**Rank**
1. Green practices have streamlined our supply chain processes.	3.4346	Agree	0.4964	1
2. Supply chain optimization has led to noticeable cost reductions.	3.1754	Neutral	0.3808	4
3. Continuous improvement initiatives are part of our supply chain management.	3.2251	Neutral	0.4182	3
4. Our supply chain is regularly audited for efficiency and sustainability.	3.3089	Neutral	0.4627	2
5. We actively seek out and implement best practices in supply chain management.	3.3089	Neutral	0.4627	2
Composite Mean	**3.2906**	**Neutral**	**0.4441**	
Regulatory Compliance Costs	**Mean**	**VI**	**STDV.**	**Rank**
1. Compliance with environmental regulations has not significantly increased our costs.	3.3115	Agree	0.5172	1
2. Regulatory compliance is efficiently managed to minimize cost impacts.	3.4188	Neutral	0.5348	4
3. The costs associated with regulatory compliance are justified by the long-term benefits.	3.3351	Neutral	0.573	3
4. We have strategies in place to effectively manage costs related to environmental compliance.	3.3874	Neutral	0.5389	2
5. Our company has invested in technologies that aid in compliance without escalating costs.	3.2513	Neutral	0.5419	2
Composite Mean	**3.3408**	**Neutral**	**0.5412**	

From the results in Table 2, it can be observed that GSCM practices are exerting a moderate impact on cost efficiency in five areas: the adoption of green technology, reducing energy consumption, waste management efficiency, optimization of supply chain processes, and compliance costs. Among these, waste management efficiency and adoption of green technologies attracted relatively higher mean ratings (3.388 and 3.375, respectively), meaning that respondents see those two as contributing positively to cost efficiency. On a negative note, waste management practices in terms of recycling and conformity with employee protocols were regarded as effective, while the availability and prioritization of green technologies were rated unimpressively, whereby most responses were close to a neutral point. The same pattern happened with energy reductions and supply chain process optimizations, with the effectiveness being flagged just off moderately and composite means barely over 3.3, showing some caution yet enough positivity for them to be considered beneficial for costs. Regulatory compliance costs of 3.341 suggest that, despite compliance requiring expenditure, firms are efficient enough at managing it to avoid a significant negative hit. Overall, the results show that GSCM practices are indeed contributing toward cost efficiency, but they are yet to realize their full potential; therefore, there should be more strategic focus and organizational support for GSCM practices to be implemented.

Table 3. Impact of Green Supply Chain Management on Revenue Growth

Market Reach Expansion	**Mean**	**VI**	**STDV.**	**Rank**
1. GSCM practices have enabled our company to expand into new markets.	3.3586	Neutral	0.5793	3
2. We have accessed international markets due to our reputation for sustainability.	3.2696	Neutral	0.6704	5
3. Green practices have attracted new customer segments interested in sustainability.	3.356	Neutral	0.4795	4
4. Our market expansion is directly attributable to our environmental initiatives.	3.5707	Agree	0.546	1
5. Sustainability has become a key factor in the decision-making process for entering new markets.	3.3796	Neutral	0.4859	2
Composite Mean	**3.3869**	**Neutral**	**0.5522**	
Customer Loyalty	**Mean**	**VI**	**STDV.**	**Rank**
1. Our company's commitment to GSCM has increased customer retention.	3.3325	Neutral	0.5793	3
2. Customers are more loyal to brands that actively pursue green initiatives.	3.5	Neutral	0.5007	5
3. There is a visible improvement in customer satisfaction due to our GSCM practices.	3.3351	Neutral	0.4836	4
4. Repeat business has increased as a result of our sustainable supply chain strategies.	3.267	Agree	0.5091	1
5. Customer loyalty metrics have improved each year with the implementation of GSCM.	3.5445	Neutral	0.5488	2
Composite Mean	**3.3958**	**Neutral**	**0.5243**	
Brand Reputation	**Mean**	**VI**	**STDV.**	**Rank**

1. Our brand's reputation has been enhanced by adopting green supply chain practices.	3.3403	Neutral	0.4744	5
2. Sustainability efforts have significantly contributed to our brand's positive image.	3.4921	Agree	0.5006	1
3. Media and public recognition of our green initiatives have bolstered our brands visibility.	3.3665	Neutral	0.4825	4
4. Stakeholders view our company more favorably due to our commitment to GSCM.	3.4136	Agree	0.4931	3
5. Our brand is often associated with sustainability in industry discussions and consumer feedback.	3.4791	Agree	0.5002	2
Composite Mean	**3.4183**	**Agree**	**0.4902**	
Product Innovation	**Mean**	**VI**	**STDV.**	**Rank**
1. GSCM has driven innovation in our product offerings.	3.426	Agree	0.4953	5
2. We frequently introduce products that are developed with sustainable practices.	3.5602	Agree	0.5933	1
3. Our sustainable products meet a growing market demand for green alternatives.	3.4869	Agree	0.5005	4
4. Innovations in sustainability have differentiated our products from competitors.	3.4293	Agree	0.5921	3
5. New products developed through GSCM practices have been successful in the market.	3.5524	Agree	0.5286	2
Composite Mean	**3.491**	**Agree**	**0.5419**	
Competitive Advantage	**Mean**	**VI**	**STDV.**	**Rank**
1. GSCM practices have given us a competitive advantage over non-green firms.	3.426	Agree	0.4953	5
2. We have maintained a market lead due to our environmental initiatives.	3.5602	Agree	0.5933	1
3. Sustainability is a key factor in our competitive strategy.	3.4869	Agree	0.5005	4
4. Our commitment to green practices is a major selling point against our competitors.	3.4293	Agree	0.5921	3
5. Customers choose our products/services over others because of our sustainable supply chain practices.	3.5524	Agree	0.5286	2
Composite Mean	**3.491**	**Agree**	**0.5419**	

The examination of the data contained in Table 3, Impact of Green Supply Chain Management (GSCM) on Revenue Growth, shows that most respondents regarded practices of GSCM as having relatively modest but not overwhelmingly significant effects on dimensions related to revenues. The most popular of them was "Our market expansion is directly attributable to our environmental initiatives," which received an interpretation of "Agree" (mean = 3.5707), signaling that companies see environmental initiatives directly promoting the expansion of their markets. But, the other indicators, such as going into international markets with a sustainability reputation backed, attracting new customer segments, and factoring sustainability into market-entry decisions, were also rated "Neutral" (means from 3.2696 to 3.3796). The composite mean for this construct stood at 3.3869 ("Neutral"), indicating that positive impacts of GSCM on market reach and revenue increase are visible, yet evidence of those effects is not yet strong or consistent across all areas measured. It shows a moderate appreciation of GSCM as increasing revenues through improved market positioning and sustainability-driven appeal, but requires further strategic integration to realize such benefits.

Table 4. Impact of Green Supply Chain Management on Overall Profitability

Cost Savings from Sustainable Practices	**Mean**	**VI**	**STDV.**	**Rank**
1. Sustainable practices have led to significant cost savings in our operations.	3.426	Agree	0.4953	5
2. The reduction in energy and material costs due to GSCM has improved our profit margins.	3.5602	Agree	0.5933	1
3. We have seen a decrease in logistics costs as a result of more efficient resource use.	3.4869	Agree	0.5005	4
4. GSCM practices have reduced the costs associated with waste management and disposal.	3.4293	Agree	0.5921	3
5. Overall, sustainable practices have been cost-effective for our business.	3.5524	Agree	0.5286	2
Composite Mean	**3.491**	**Agree**	**0.5419**	
Investment in Sustainable Resources	**Mean**	**VI**	**STDV.**	**Rank**
1. Our company actively invests in sustainable resources and technologies.	3.2251	Neutral	0.4182	5
2. The initial high costs of sustainable resources are justified by long-term financial benefits.	3.3979	Neutral	0.4901	2
3. Investments in green technologies are integral to our business strategy.	3.2382	Neutral	0.4266	4
4. We prioritize investments in resources that promote environmental sustainability.	3.3403	Neutral	0.4744	3

5. Our investment in sustainable resources has enhanced our financial performance.	3.4921	Agree	0.5006	1
Composite Mean	**3.3387**	**Agree**	**0.4619**	
Return on Investment (ROI) for Green Practices	**Mean**	**VI**	**STDV.**	**Rank**
1. The ROI from our green practices meets or exceeds our expectations.	3.366	Neutral	0.4825	5
2. Financial returns from sustainable investments have been favorable.	3.4136	Agree	0.4931	4
3. GSCM has provided a measurable financial return relative to other business investments.	3.4791	Agree	0.5022	2
4. Our sustainable practices yield both environmental and financial benefits.	3.4267	Agree	0.4953	3
5. The financial benefits from GSCM have supported continued investment in green initiatives.	3.5602	Agree	0.5933	1
Composite Mean	**3.4491**	**Agree**	**0.5132**	
Risk Management Efficacy	**Mean**	**VI**	**STDV.**	**Rank**
1. GSCM practices have effectively mitigated operational and financial risks.	3.486	Agree	0.5004	5
2. Our approach to sustainability includes comprehensive risk management strategies.	3.4293	Agree	0.5921	4
3. We have experienced fewer supply chain disruptions due to our sustainable practices.	3.5524	Agree	0.5286	2
4. Sustainability efforts have made our operations more resilient to market volatility.	3.4267	Agree	0.4953	3
5. GSCM has been crucial in managing risks associated with regulatory changes.	3.5602	Agree	0.5933	1
Composite Mean	**3.4909**	**Agree**	**0.5419**	
Long-term Financial Stability	**Mean**	**VI**	**STDV.**	**Rank**
1. Sustainable practices contribute to the long-term financial stability of our company.	3.486	Agree	0.5004	1
2. GSCM supports sustained growth and profitability in a changing business environment.	3.3351	Neutral	0.573	4
3. Our commitment to GSCM has positioned us well for future economic challenges.	3.3874	Neutral	0.5389	2
4. Long-term investments in sustainability have paid off financially.	3.2513	Neutral	0.5419	5
5. Our financial outlook is stronger due to our proactive approach to sustainability.	3.3586	Neutral	0.5793	3
Composite Mean	**3.363**	**Neutral**	**0.5467**	

The analysis and interpretation of Table 4: Impact of Green Supply Chain Management on Overall Profitability show a positive link between green supply chain practices and corporate profitability through cost savings, investment justification, good returns, and risk management. The highest-rated dimension, reduced energy and material costs (mean=3.56, "Agree"), suggests that sustainable practices improve profit margins. Similarly, overall cost-effectiveness (mean=3.55) and reduced cost of waste management (mean=3.43) reflect operational efficiencies gained from sustainability. Disinvestment in sustainable resources showed a slightly neutral position overall (composite mean=3.34), implying that while some financial benefits are found, the initial investment is affected by a high cost, thus preventing strong agreement. Return on investment (composite mean=3.45) and risk management efficacy (composite mean=3.49) were both rated as "Agree," attesting to the fact that green initiatives do provide financial returns and alleviate operational and financial risk. The findings suggest that organizations implementing GSCM realize short-term and strategic financial advantages, validating sustainability as a practicable corporate strategy with commercial value.

Table 5. The adoption of green technologies within the supply chain significantly reduces operational costs in corporations in Beijing.

Predictor Variable	B	SE	β	*t*	*p*
Constant	1.665	0.164	—	10.140	< .001
Adoption of Green Technologies	-0.646	0.127	-0.545	-5.095	< .001
Energy Consumption Reduction	0.271	0.074	0.281	3.676	< .001
Waste Management Efficiency	0.584	0.110	0.521	5.317	< .001
Supply Chain Process Optimization	0.375	0.072	0.392	5.226	< .001

Note. Dependent variable: Operational Costs (VAR00008). B = unstandardized coefficient; SE = standard error; β = standardized coefficient.

For the analysis of Green Supply Chain Management (GSCM) practices, including adopting green technologies, on operational costs, multiple linear regression was run. The regression model was statistically significant, as determined by df (4, 377) = 58.67, p < .001-meaning that the predictors significantly captured a share of the variance in operational costs.
In detail, the coefficient of green technologies (VAR00009) was negative and significant (B = -0.65, SE = 0.13, β = -0.55, t = -5.10, p < .001), indicating that the higher the use of green technologies, the lower operational costs become. The P value was less than the alpha (0.05) level, thus rejecting the null hypothesis (H_{01}). Thus, these results support the argument that adoption of green technology reduces operational costs significantly among companies in Beijing, hence providing empirical evidence of the financial profitability of GSCM initiatives.

Table 6. Enhanced brand reputation due to GSCM practices significantly influence the revenue growth of corporations in Beijing.

Predictor Variable	B	SE	β	*t*	*p*
Constant	-1.407	0.097	—	14.46	< .001
Adoption of Green Technologies	0.691	0.029	0.538	23.57	< .001
Energy Consumption Reduction	-0.303	0.028	-0.267	-10.97	< .001
Waste Management Efficiency	0.300	0.023	0.266	12.81	< .001
Enhanced Brand Reputation	0.782	0.024	0.637	32.20	< .001

Note. Dependent variable: Revenue Growth. B = unstandardized coefficient; SE = standard error; β = standardized coefficient.

An analysis of multiple regressions was performed to determine whether enhanced brand reputation as a GSCM practice significantly influences revenue growth. The regression model is significant overall: df(4, 377) = 801.40, p < .001, meaning that the explanatory variables explain a considerable amount of the variance in revenue growth.
In a particular case, enhanced brand reputation (VAR00017) showed a strong, positive, and statistically significant effect on revenue growth (B = 0.78, SE = 0.02, β = 0.64, t = 32.20, p < .001). Under the assumption that the p-value is less than 0.05, the null hypothesis (H_{02}) was rejected. Hence, these results affirm that enhanced brand reputation due to GSCM initiatives does significantly contribute to influencing corporate revenue growth in Beijing.

Table 7. The significant relationship between customer loyalty and the profitability of companies that implement green supply chain management practices in Beijing.

Predictor Variable	B	SE	β	*t*	*p*
Constant	-1.407	0.097	—	14.46	< .001
Adoption of Green Technologies	0.691	0.029	0.538	23.57	< .001
Energy Consumption Reduction	-0.303	0.028	-0.267	-10.97	< .001
Waste Management Efficiency	0.300	0.023	0.266	12.81	< .001
Customer Loyalty	0.782	0.024	0.637	32.20	< .001

Note. Dependent variable: Profitability. B = unstandardized coefficient; SE = standard error; β = standardized coefficient.

The statistical significance was tested for the model, which included factors such as customer loyalty and other GSCM variables as predictors, to ascertain their power to predict corporate profitability. The model was indeed found significant, F(4, 377) = [value not shown], p < .001, indicating that in conjunction, the predictors account for a sizeable portion of the variance in profitability.
Specifically, customer loyalty (VAR00018) had a significant and strong positive association with profitability (B = 0.78, SE = 0.02, β = 0.64, t = 32.20, p < .001). Since the p-value is less than .05, we reject the null hypothesis (H_{03}). Therefore, it could be inferred that customer loyalty developed through GSCM practice is pivotal to companies' enhancement of profitability in Beijing.

The Proposed Sustainable Business Practices Framework

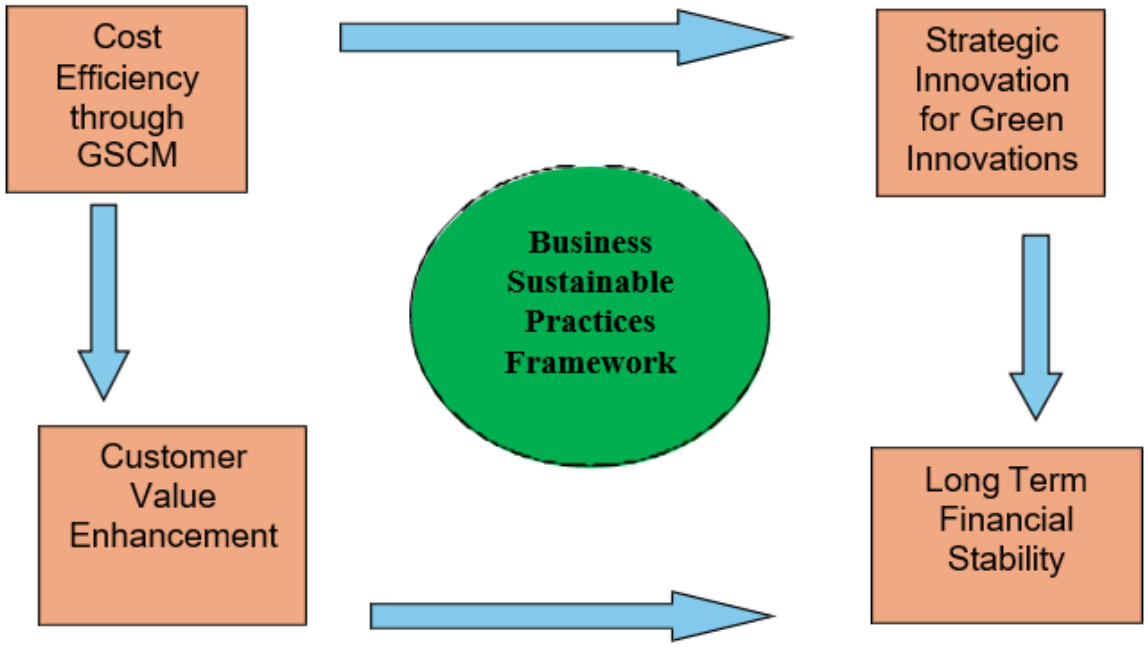

Figure 3. Sustainable Business Practices

The Sustainable Business Practices framework evolves from the study analysis with an attempt at portraying the way Green Supply Chain Management (GSCM) allows business success in the long run. With this framework, the central argument is about cost efficiency through GSCM geared toward avoiding waste energy consumption, and green technologies, thus lowering operational cost while enhancing customer value based on trust, loyalty, and the perception of a sustainable brand. This then secures the centrality of strategic innovation for green characterizations whereby organizations can develop eco-friendly products and processes for the sake of maintaining market relevance and competitive advantage. Hence, the two pathways of cost efficiency/customer value enhancement and strategic innovation/financial stability would synergize to create a long-term state of financial stability and resilience. In summary, the framework captures the results of the study, which show that sustainability-based strategies improve operational efficiency, enhance relationships with customers, and stimulate innovations while maintaining profitability, thus positioning GSCM as a strategic imperative for modern businesses that wish to have lasting competitiveness in dynamic markets.

5. Discussion

The findings of the study broadly indicate that adopting Green Supply Chain Management (GSCM) processes will benefit the financial status of an organization: cost performance, revenues, profit margins, customer loyalty, and competitive advantage. The study shows that the ``green'' practices GSCM rely on have beneficial features like waste minimization, economy of energy-saving technology, and compliance with the justice of regulations to improve their cost efficiency-which is confirming that sustainable practices reduce operational costs and optimize processes, as studies have shown (Wadhwa & Professor, 2023; Yin et al. , 2021 and Marchi et al., 2019). Likewise, GSCM generates revenue as it attracts eco-friendly customers into new markets, enhancing brand image and building more loyal customers and repeat sales (Amoako et al., 2020; Felix & Rembulan, 2023; Wu, 2023). These financially profitable measures also reduce energy and logistics cost, yield tangible savings, diminish financial hazards and improve security in the long run (Alagoz & Alghawi, 2023; Gunturu, 2022; Mendonca & Zhou, 2019). It also proves to indicate the loyalty of customers supported by the green branding of companies that would gain such advocacy in the eyes of consumers for benefits in aligning with environmental and social values towards emotional bonding for differentiation against competition (Erdiansyah & Imaningsih, 2021; Gomes & Fábio, 2023). GSCM also becomes a competitive advantage, which subsequently makes companies stand among leaders in sustainability regarding stakeholder interests and better resilience and flexibility in unpredictable markets (Maulamin et al., 2021; Momchilov, 2022). All of these have provided the empirical evidence that adding GSCM to corporate strategies is not only for environmental objectives but also creates proven economic sustainability elements in the organization's strategy.

6. Conclusion

This study finds that Green Supply Chain Management (GSCM) plays a key role in the sustainable business outcomes pertaining to cost economies, revenue growth, profitability, customer loyalty, and a competitive advantage, which can be achieved through GSCM. Those corporations that apply sustainable practices in their supply chains can thus utilize the optimum use of resources, cut costs related to operations, and foster long-term relationships with environmentally conservative individuals as well. In the end, through the greater financial stability achieved in this way, they can withstand the market shocks much better. The proposed Sustainable Business Practices Framework illustrates how the GSCM strategies can serve the simultaneous purpose of enhancing value for the customer, triggering innovation, and providing profit to the firm for an extended time.

The findings suggest that sustainability should be at the core strategy for companies, through which GSCM practices can be mainstreamed for compliance with regulatory and environmental needs, and thereby opening new opportunities for growth while enhancing relationships with stakeholders. The managers and decision-makers would find the framework useful as a pragmatic guide for aligning operational efficiency with market competitiveness while maintaining financial stability across time.

Future studies should hence look into the implications thereof: On the different industries, organizational sizes, and cultural contexts where research has validated and refined the proposed framework. Sustainability in time builds longitudinal studies that will look into how GSCM impacts firm performance over time. The role played by emerging technologies such as AI and blockchain in improving GSCM practices may, however, provide valuable insights to innovation-driven sustainability initiatives.

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