

RESEARCH ARTICLE

IMPACT OF GREEN SUPPLY CHAIN PRACTICES ON SUSTAINABLE DEVELOPMENT IN BANGLADESH

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ABSTRACT

This research aims to explore the adoption and impact of green supply chain practices (GSCP) on sustainable development in Bangladesh. The study seeks to understand the current state of GSCP adoption across various industries, identify key drivers and barriers, assess the perceived benefits and challenges, and evaluate the overall impact on environmental sustainability, economic performance, and social well-being. The research employs a qualitative approach, utilizing interviews with key stakeholders, document analysis, and literature review to gather data and insights. Interviews were conducted with representatives from government agencies, businesses, civil society organizations, and academia to obtain diverse perspectives on GSCP adoption and its implications for sustainable development in Bangladesh. The findings reveal a mixed scenario of GSCP adoption across different industries in Bangladesh, with sectors such as textiles leading the way. Key drivers of GSCP adoption include regulatory pressures, market forces, corporate social responsibility initiatives, and financial incentives. However, organizations face significant barriers such as high upfront costs, lack of awareness and expertise, regulatory uncertainty, and supply chain complexity. Despite these challenges, GSCP offer various benefits, including environmental sustainability, economic performance, and social well-being. Successful initiatives demonstrate tangible impacts, highlighting the potential of GSCP to contribute to sustainable development. The research is limited by its qualitative nature and focus on selected industries and stakeholders. Future studies could employ quantitative methods and broader sampling to provide a more comprehensive understanding of GSCP adoption and its implications in Bangladesh. The findings provide actionable insights for policymakers, industry leaders, and other stakeholders to promote GSCP adoption and enhance sustainable development in Bangladesh. Strategies for overcoming barriers and maximizing benefits are outlined, emphasizing the importance of collaboration and capacity-building initiatives. GSCP adoption can have positive social implications by promoting ethical labor practices, improving working conditions, and fostering community engagement. By prioritizing sustainability, businesses can contribute to social well-being and inclusive growth. This research contributes to the literature on GSCP adoption and sustainable development in Bangladesh by providing empirical insights and practical recommendations. The study adds to the understanding of the drivers, barriers, benefits, and challenges associated with GSCP adoption, highlighting the importance of integrating environmental, economic, and social considerations in supply chain management.

KEYWORDS

Green supply chain practices, Sustainable development, Bangladesh, Adoption, Drivers, Barriers, Benefits, Challenges.

1. INTRODUCTION

The worldwide emphasis on sustainability has resulted in a heightened concentration on green supply chain practices (GSCP) as an essential element of sustainable development. These practices entail incorporating environmental considerations into supply chain management, which includes product design, material procurement, manufacturing processes, product distribution, and end-of-life product management. The implementation of GSCP is particularly vital in emerging nations like Bangladesh, where economic progress typically leads to environmental damage. Bangladesh, characterized by its quickly expanding economy, thriving industrial sector, and notable environmental obstacles, offers a distinctive opportunity to examine the influence of GSCP on sustainable development. The industrial sector in Bangladesh, particularly the ready-

made garment (RMG) industry, plays a crucial role in stimulating economic growth. Nevertheless, this expansion has been accompanied by considerable environmental deterioration, encompassing water contamination, air pollution, and huge waste production (Emon et al., 2024; Haque and Sharif, 2021).

The conventional supply chain models utilized by these businesses frequently disregard environmental factors, prioritizing cost reduction and efficiency enhancement. As a result, these activities are not able to be continued in a way that is environmentally friendly and also pose a risk to the country's long-term economic viability. Recently, there has been an increasing recognition and implementation of GSCP by industries and policymakers as they acknowledge the importance of balancing economic growth with environmental sustainability (Emon and Khan, 2023;

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Vogelpohl, 2021). The present state of affairs in Bangladesh demonstrates a combination of circumstances about the execution and consequences of GSCP. Several prominent companies have started implementing environmentally friendly practices due to both government regulations and the increasing demand for sustainable products in international marketplaces. These companies are adopting strategies such as waste reduction, use of energy-efficient technologies, and sustainable procurement.

However, numerous small and medium-sized firms (SMEs) are slow to embrace these practices due to limitations such as limited knowledge, financial constraints, and insufficient support from the government and industry organizations (Hasan and Jamil, 2014). This discrepancy emphasizes the necessity for a thorough comprehension of the elements that affect the implementation of GSCP and their consequences on sustainable development in Bangladesh. This study aims to address the lack of comprehensive knowledge regarding the effective implementation and actual impact of GSCP on sustainable development in Bangladesh. Although there is increasing interest in GSCP, there is a notable lack of qualitative research that investigates the viewpoints, difficulties, and results of many stakeholders in the industrial sector of Bangladesh. Previous research has primarily concentrated on quantitative evaluations, resulting in a lack of comprehensive and detailed insights that can be obtained through qualitative research (Zaman and Bruderemann, 2018).

This study aims to address this deficiency by examining the experiences and perspectives of influential individuals involved in the industry, government officials, and professionals in the field of environmental science. This research has multiple purposes. The primary objective is to examine the present level of GSCP adoption in various industries in Bangladesh, while also identifying the main factors that drive its implementation and the obstacles that hinder it. Furthermore, the research aims to comprehend the perceived advantages and difficulties linked to GSCP from the standpoint of many stakeholders. Additionally, it seeks to evaluate the effects of these practices on environmental sustainability, economic performance, and social well-being. The study aims to attain these objectives in order to offer practical insights and recommendations to policymakers, industry leaders, and other stakeholders. The goal is to encourage the successful implementation of GSCP and improve sustainable development in Bangladesh. The importance of this study is in its capacity to enhance both scholarly understanding and the formulation of effective policies.

Academically, it enhances the understanding of the contextual elements that impact the adoption of GSCP and its outcomes in a developing country setting, so contributing to the existing body of knowledge on sustainable supply chain management. The study provides policymakers and industry leaders with vital information about the obstacles and facilitators of GSCP implementation. This information can be used to develop strategies and policies that promote sustainable industrial practices. Furthermore, the study emphasizes the wider consequences of GSCP on sustainable development, including the environmental, economic, and social aspects (Rashid et al., 2024). This research covers a wide range of sectors in Bangladesh, specifically focusing on those that have a substantial impact on the environment, such as the RMG, textile, and leather industries. The study utilizes a qualitative research methodology, employing in-depth interviews with important stakeholders to acquire comprehensive and detailed data.

This technique enables a thorough investigation of the intricate and diverse characteristics of GSCP and their influence on sustainable development. The research intends to gain a detailed awareness of the obstacles and opportunities related to GSCP in Bangladesh by focusing on qualitative insights. It seeks to capture the lived experiences and viewpoints of stakeholders, creating a nuanced picture of the subject. Ultimately, this study aims to investigate the influence of environmentally-friendly supply chain practices on the long-term viability of Bangladesh's development, using a qualitative approach. The research seeks to give significant insights and recommendations for promoting sustainable industrial practices in Bangladesh by analyzing the present level of adoption of the Global Sustainable Consumption and Production (GSCP) framework, evaluating the perceived benefits and obstacles associated with it, and assessing its overall impact on sustainability. The results will make a valuable contribution to the scholarly discussion on sustainable supply chain management and provide practical advice for policymakers and business executives who are working towards achieving a balance between economic growth and environmental sustainability.

2. LITERATURE REVIEW

Green supply chain practices (GSCP) have emerged as a critical strategy

for businesses to address environmental concerns while ensuring economic viability and social responsibility. This section reviews the existing literature on GSCP, focusing on perceptions, drivers, adoption, implementation, and the impacts on environmental sustainability, economic performance, and social well-being.

2.1 Perceptions of Green Supply Chain Practices

Perceptions of green supply chain practices (GSCP) are the subjective opinions and attitudes of different stakeholders on the incorporation of environmental factors into supply chain management processes. These impressions are influenced by various elements, including as organizational culture, legal frameworks, and market dynamics. Gaining a clear understanding of these views is essential for comprehending the reasons for the acceptance of GSCP and for developing successful methods to overcome obstacles to adoption. This section explores the many perspectives of GSCP (Global Sustainable Consumption and Production) held by different stakeholders, such as enterprises and consumers. It emphasizes the factors that motivate and hinder the adoption of GSCP. Businesses frequently associate the impression of GSCP with strategic concerns focused on achieving a competitive edge, improving brand reputation, and satisfying the changing demands of customers for sustainable products (Amoako et al., 2021).

A group researchers argue that firms perceive GSCP as a chance to distinguish themselves in the market by showcasing their dedication to environmental sustainability (Upadhyay et al., 2023). Businesses strive to enhance operational efficiency, decrease expenses, and address risks related to environmental restrictions and resource scarcity by incorporating environmentally friendly practices across the supply chain. In addition, GSCP are seen as a way to improve brand reputation and corporate social responsibility (CSR) credentials, which in turn attracts environmentally aware consumers and investors. Nevertheless, businesses have obstacles while implementing GSCP, including perceived expenses, limited knowledge, and ambiguity regarding the efficacy of environmentally-friendly activities. Soderholm emphasize the perceived conflicts between environmental sustainability and economic feasibility, as certain businesses consider green initiatives to be too expensive or incompatible with their current operational models (Soderholm, 2020).

In addition, the inadequate knowledge and proficiency in GSCP may discourage firms, especially small and medium-sized organizations (SMEs) with limited resources and capacities, from investing in sustainable technologies and processes. Moreover, the lack of certainty regarding the future advantages and financial gains linked to environmentally friendly activities could cause corporations to prioritize immediate financial objectives over environmental concerns. On the other hand, customers are becoming more conscious of environmental concerns and are consequently seeking out eco-friendly products and supply chains that are open and honest (Tran et al., 2022). A group researchers highlight the significance of consumer preferences and values in influencing firms to embrace GSCP (Dassanayake et al., 2022). Consumers, who are becoming more ecologically aware and socially accountable, are now closely examining the environmental practices of corporations and showing a preference for items that have eco-labels and certifications.

Businesses have responded to this change in consumer behaviors by integrating sustainability into their product offers and marketing strategies, taking advantage of the expanding market for environmentally-friendly items (Purwanti et al., 2019). Consumers' favorable views of GSCP can serve as a catalyst for businesses to implement sustainable practices across the whole supply chain. By matching their products and services with the tastes and values of consumers, businesses can obtain a competitive advantage and strengthen client loyalty. Furthermore, supply chains that are visible and traceable have the potential to enhance trust and confidence among consumers, thereby strengthening their perception of the brand's dedication to environmental sustainability. Positive opinions of GSCP not only encourage its adoption but also generate revenue for businesses by capitalizing on the expanding demand for sustainable products.

2.2 Drivers of Green Supply Chain Practices Adoption

The implementation of green supply chain practices (GSCP) is influenced by a multitude of elements, which demonstrate the intricate interaction between external and internal dynamics inside organizations (Xin, 2024). Comprehending these factors is crucial for clarifying the reasons behind the implementation of GSCP and for developing efficient approaches to enhance sustainability in supply chains. This section examines the primary factors that influence the adoption of GSCP (Global Supply Chain Practices), including legal mandates, market dynamics, stakeholder

demands, and internal incentives (Nimpano, 2021). It emphasizes the individual roles and consequences of each of these factors. Government regulations play a crucial role in driving the adoption of GSCP (Global Supply Chain Practices), as governments aim to tackle environmental issues and minimize the effects of climate change by implementing laws and regulatory systems.

Gupta and Gupta, highlight the significance of legislation in enforcing environmental standards and motivating firms to embrace eco-friendly practices (Gupta and Gupta, 2021). Regulations like carbon pricing, emissions trading programmes, and pollution levies provide financial incentives for firms to decrease their environmental impact and invest in sustainable technologies. Furthermore, businesses are obligated to comply with legislative obligations for environmental standards and must include sustainability concerns into their operations. This obligation leads to the increased adoption of GSCP. Market forces are crucial in influencing the adoption of GSCP, as firms react to evolving customer preferences, investor expectations, and competitive challenges.

Kuokkanen and Sun emphasize the impact of customer preferences for sustainable products and ethical brands, prompting firms to include environmental factors into their product development and marketing strategies (Kuokkanen and Sun, 2020; Rahman et al., 2024). Furthermore, the demand from investors for transparency about sustainability and the implementation of responsible investment strategies has motivated businesses to adopt the Global Sustainable Investment Code (GSIC) in order to improve their corporate image and gain access to money. Furthermore, the competitive forces in many industries force firms to distinguish themselves by implementing sustainability initiatives. This, in turn, leads to the widespread adoption of Global Sustainable Consumption and Production (GSCP) as a crucial strategic requirement. Stakeholder expectations serve as a motivating factor for businesses to embrace the Global Social Compliance Programme (GSCP).

This is because businesses want to fulfil the changing demands and preferences of different stakeholders, such as consumers, employees, suppliers, and communities. A group researchers highlight the significance of corporate social responsibility (CSR) programmes in promoting the adoption of Global Sustainable Consumption and Production (GSCP) by connecting environmental objectives with business goals and stakeholder demands (Fransen et al., 2019). Businesses can improve their reputation, establish trust, and cultivate long-term partnerships by actively involving stakeholders and resolving their issues on environmental sustainability. Furthermore, actively involving stakeholders might result in cooperative endeavors to advance sustainability in supply chains, thereby encouraging the implementation of GSCP among various stakeholders (Khan et al., 2021).

Organizations are motivated internally to implement GSCP due to their recognition of the strategic value and competitive benefits that sustainability practices offer. The commitment and leadership of top management are essential in advocating for sustainability projects and integrating environmental factors into the organizational culture and decision-making processes. A group researcher highlight the significance of visionary leadership in promoting the adoption of GSCP by cultivating a culture of innovation, ongoing enhancement, and corporate accountability (Chavunduka et al., 2022). In addition, organizations are driven to engage in sustainable technologies and practices that offer long-term advantages due to internal motives such as cost savings, operational efficiency, and risk reduction.

2.3 Adoption and Implementation of Green Supply Chain Practices

The adoption and implementation of green supply chain practices (GSCP) represent a transformative journey for organizations as they strive to integrate environmental considerations into their operations and supply chain management processes. This section explores the complexities and challenges involved in adopting and implementing GSCP, emphasizing the need for collaboration, investment, and effective communication among supply chain partners. At its core, the adoption of GSCP involves embracing a holistic approach to sustainability that extends across various stages of the supply chain, from product design and sourcing to manufacturing, distribution, and disposal. A group researchers underscore the importance of integrating environmental considerations into each stage of the supply chain to minimize environmental impacts and optimize resource utilization (Brundage et al., 2018). This requires organizations to rethink traditional supply chain models and processes and adopt innovative approaches that prioritize sustainability and environmental stewardship.

Central to the adoption of GSCP is the need for collaboration and

coordination among supply chain partners, including suppliers, manufacturers, distributors, and retailers. Barrane et al., (2021) emphasize the importance of building strong relationships and partnerships based on mutual trust and shared objectives. Collaboration allows organizations to leverage the expertise and resources of their partners to develop sustainable solutions and drive continuous improvement across the supply chain. Moreover, collaboration facilitates knowledge sharing and best practice exchange, enabling organizations to learn from each other's experiences and successes. Successful implementation of GSCP often requires investments in technology, training, and infrastructure to overcome barriers such as high initial costs and resistance to change. Roy highlight the importance of leveraging technology to enhance visibility, traceability, and transparency within the supply chain (Roy, 2021). Technologies such as blockchain, Internet of Things (IoT), and artificial intelligence (AI) enable organizations to track and monitor the environmental performance of their suppliers, identify opportunities for improvement, and make data-driven decisions.

Moreover, investments in training and capacity building are essential to equip employees with the knowledge and skills needed to implement GSCP effectively. Resistance to change is a common barrier to the adoption of GSCP, as organizations may be reluctant to deviate from established practices and routines. However, in recent study researchers argue that proactive change management strategies can help organizations overcome resistance and foster a culture of innovation and continuous improvement (Lines et al., 2015). This involves engaging employees at all levels of the organization, communicating the rationale for change, and soliciting their input and feedback. Moreover, organizations can incentivize and reward employees for embracing sustainability initiatives and driving positive change within the supply chain.

Effective communication and collaboration among stakeholders are essential to ensure alignment and commitment to green objectives throughout the supply chain. A group researchers stress the importance of transparent communication and information sharing to build trust and foster collaboration among supply chain partners (Lee et al., 2021). This includes sharing environmental performance data, setting clear goals and targets, and soliciting feedback from stakeholders. Moreover, organizations can engage with external stakeholders, including customers, regulators, and civil society organizations, to gain insights into emerging sustainability trends and expectations.

2.4 Impact of Green Supply Chain Practices on Environmental Sustainability

Green supply chain practices (GSCP) are essential for promoting environmental sustainability by reducing resource consumption, pollution emissions, and waste generation at every stage of the product's life cycle. This section examines the diverse effects of GSCP on environmental sustainability, emphasizing their role in mitigating environmental deterioration and preserving natural resources. GSCP plays a crucial role in improving environmental sustainability through the advocacy of sustainable sourcing practices. Organizations can mitigate the environmental impact of raw material extraction and alleviate pressure on ecosystems by procuring raw materials from renewable and ethically managed sources. For instance, obtaining timber from forests that are maintained in a sustainable manner aids in the conservation of biodiversity, safeguarding of wildlife habitats, and reduction of deforestation (Crook, 2020).

Moreover, procuring agricultural commodities like palm oil and soybeans from certified sustainable sources serves to mitigate the adverse impacts of conventional farming practices, such as habitat destruction, soil erosion, and water pollution. In addition, GSCP promotes the implementation of energy-efficient technologies and practices that decrease greenhouse gas emissions and energy usage in manufacturing operations. A group researchers highlight the significance of implementing cleaner production technologies, such as renewable energy, energy-efficient equipment, and process optimization, to reduce the carbon emissions associated with manufacturing processes (Varbanov et al., 2021). Organizations may mitigate climate change, improve air quality, and boost environmental sustainability by optimizing energy usage and lowering dependence on fossil fuels.

Recycling and remanufacturing are examples of closed-loop supply chain models, which are crucial components of GSCP that help to promote environmental sustainability. Some researchers emphasize the capacity of closed-loop supply chains to prolong the lifespan of products, minimize the production of waste, and preserve natural resources (Mishra et al., 2023). Organizations can mitigate the requirement for new materials, diminish landfill waste, and lower pollution emissions linked to waste

disposal by recycling materials and components when they are no longer useful. Similarly, the utilization of remanufacturing methods allows organizations to restore and reuse items and components, thereby diminishing the environmental consequences of manufacturing and prolonging the lifespan of products.

In addition, GSCP advocates for sustainable transportation and logistics strategies that aim to reduce the environmental impact of distribution and transportation activities. Organizations can diminish fuel usage, pollution, and congestion related to transportation operations by optimizing routing, consolidating shipments, and employing alternative fuels and transportation modes (Corlu et al., 2020). In addition, the implementation of sustainable packaging materials and designs serves to minimize packaging waste and mitigate the environmental consequences of packaging across the supply chain.

2.5 Impact of Green Supply Chain Practices on Economic Performance

Implementing green supply chain practices (GSCP) has a notable influence on the financial success of companies, even though there may be initial beliefs about the associated expenses. This section explores the many effects of GSCP on economic performance, emphasizing their role in achieving cost savings, increasing productivity, improving competitiveness, and promoting sustainable growth. GSCP has a significant impact on economic performance by generating cost savings through the enhancement of resource efficiency and waste reduction. A group researcher highlight the need of optimizing processes, decreasing resource consumption, and lowering waste generation for enterprises to realize significant cost savings in the long run (Fisher et al., 2018). For instance, by embracing lean manufacturing concepts and using energy-efficient technologies, it is possible to decrease production costs and energy expenditures. Moreover, the implementation of waste reduction and recycling activities can effectively decrease both disposal prices and raw material charges. These cost savings not only boost profitability but also strengthen the financial stability of enterprises.

In addition, GSCP facilitates productivity enhancements by optimizing procedures, improving operational effectiveness, and reducing interruptions. A group researchers emphasize the significance of GSCP in enhancing supply chain operations, minimizing lead times, and enhancing delivery dependability (Huma et al., 2023). Organizations can attain greater levels of productivity and efficiency by reducing downtime, increasing throughput, and optimizing inventory management. Furthermore, GSCP promotes collaboration and information sharing among supply chain partners, which leads to improved coordination and synchronization of activities, resulting in increased productivity throughout the supply chain. In addition, GSCP improves the competitiveness of enterprises by allowing them to distinguish themselves in the market and fulfill the changing needs of consumers and stakeholders. Cantele and Zardini, highlight the significance of sustainability as a means to gain a competitive edge (Cantele and Zardini, 2018). By adopting the Global Sustainable Consumption and Production (GSCP) approach, firms may access growing markets for environmentally friendly products and services. Organizations can increase their market share, recruit environmentally concerned consumers, and foster brand loyalty by matching their offerings with consumer desires for sustainable products. Furthermore, organizations may bolster their reputation, limit potential damage to their reputation, and attract investors that prioritize social responsibility by showcasing their dedication to environmental sustainability.

In addition, GSCP plays a role in promoting sustainable economic growth through the encouragement of innovation, the generation of new sources of income, and the exploration of possibilities in developing markets. Borsatto and Amui emphasize the significance of green innovation in stimulating corporate expansion and enhancing competitiveness (Borsatto and Amui, 2019). Organizations can enhance their ability to tackle environmental concerns and meet market demands by allocating resources to research and development (R&D) and implementing sustainable practices. This enables them to create innovative products, processes, and business models. Furthermore, by accessing developing markets for environmentally-friendly goods and services, companies can expand their sources of income and take advantage of increasing consumer consciousness and desire for sustainability.

2.6 Impact of Green Supply Chain Practices on Social Well-being

Green supply chain practices (GSCP) not only result in environmental and economic advantages, but also have substantial positive effects on social welfare. This section examines the different ways in which GSCP (Global

Social Compliance Programme) contributes to improving social well-being. These include advocating for fair labor standards, encouraging involvement in local communities, and strengthening trust among stakeholders. GSCP has a significant influence on social well-being by actively encouraging ethical labor practices and guaranteeing secure working conditions throughout supply chains. Lam highlight the significance of implementing equitable labor norms, such as just compensation, appropriate work schedules, and secure working environments, in order to enhance the welfare of employees (Lam, 2019). Organizations can improve employee happiness, decrease turnover rates, and cultivate a healthy work environment by giving priority to employee welfare and guaranteeing adherence to labor rules and regulations.

Furthermore, through showcasing a dedication to ethical labor practices, firms can bolster their brand reputation, allure and keep skilled individuals, and cultivate trust with consumers and stakeholders. In addition, GSCP plays a role in promoting social welfare through encouraging community involvement and providing assistance to sustainable development projects. A group researchers emphasize the importance of businesses actively participating in local communities and providing support for programs that tackle social and environmental issues (Crossley et al., 2021). Organizations can generate shared value for businesses and society by allocating resources to community development projects, endorsing education and healthcare programs, and fostering sustainable livelihoods. Furthermore, when firms match their business practices with the needs and goals of the community, they can establish robust relationships and collaborations with local stakeholders, thereby promoting social cohesion and fostering inclusive growth. In addition, GSCP improves stakeholder trust and confidence by advocating for openness, accountability, and ethical business practices.

Transparency in supply chain operations, encompassing sourcing procedures, production processes, and environmental performance, fosters trust and instills confidence among stakeholders, such as consumers, investors, and regulators. Organizations can enhance their reputation and credibility by revealing details about their sustainability programs and performance, showcasing their dedication to environmental and social responsibility (Gardner et al., 2019). Furthermore, via active involvement with stakeholders and actively seeking their opinion and feedback, organizations can establish trust and cultivate cooperative partnerships, resulting in mutually advantageous results. In addition, GSCP plays a role in enhancing social welfare by advocating for diversity, fairness, and inclusivity in supply chains and communities.

Organizations can foster social justice and inclusion by giving priority to diversity and inclusion in their employment and procurement policies, therefore creating opportunities for underrepresented groups. Furthermore, organizations can promote positive social transformation and contribute to the empowerment of underprivileged communities by endorsing suppliers and partners who adhere to ethical and inclusive business principles (Lashitew et al., 2020). Furthermore, via the promotion of diversity and inclusion in the workplace, businesses can augment creativity, innovation, and productivity, resulting in improved business outcomes and social welfare.

2.7 Challenges and Limitations of Green Supply Chain Practices

Green supply chain practices (GSCP) have great potential to promote sustainability in supply chains and generate environmental, social, and economic advantages. Nevertheless, despite its inherent capabilities, GSCP encounter certain obstacles and constraints that could hinder their acceptance and successful execution. This section analyzes the primary obstacles and restrictions linked to GSCP, encompassing financial constraints, regulatory uncertainties, greenwashing concerns, and supply chain complexity. A major obstacle faced by GSCP is the significant initial expenses linked to the adoption and execution of sustainable practices across the supply chain. Kuo and Smith emphasize the substantial financial commitment needed to shift towards more environmentally friendly technologies, processes, and materials (Kuo and Smith, 2018). The initial costs of implementing GSCP may serve as a barrier to adoption for many businesses, particularly small and medium-sized firms (SMEs) with limited resources.

In addition, the extended lengths of time required to recoup the costs associated with certain sustainability projects may discourage firms from engaging in environmentally friendly activities. One of the challenges that GSCP is now facing is the limited knowledge and proficiency among firms when it comes to sustainable supply chain management methods. Numerous firms may not possess the requisite knowledge, skills, and capacities to efficiently incorporate environmental considerations into

their operations and supply chain activities. A group researchers highlight the significance of education and training programs in developing awareness and skills among supply chain professionals (Bak et al., 2019). Organizations may empower their staff to promote good change and innovation by offering training programs, workshops, and tools on sustainable supply chain management. Organizations face a substantial barrier in adopting GSCP due to the lack of clarity and predictability in regulations.

The legislative framework controlling environmental sustainability is intricate and swiftly changing, with diverse standards, procedures, and metrics for compliance in different countries. Organizations may face difficulties in understanding and adhering to these regulatory requirements in order to comply with environmental standards. Furthermore, the absence of clearness concerning forthcoming rules and policy modifications may generate confusion and reluctance among enterprises regarding their investments in GSCP. Moreover, the occurrence of greenwashing presents a difficulty to the trustworthiness and efficiency of GSCP. Greenwashing is the act of companies overstating or distorting their environmental pledges without actually making significant efforts to decrease their environmental footprint (Rotman et al., 2020).

This can diminish the confidence and reliability that consumers, investors, and other stakeholders have in a company, so weakening the authenticity of sincere sustainability initiatives. Organizations must exhibit genuineness and openness in their sustainability endeavors to prevent allegations of greenwashing and establish confidence among stakeholders. The adoption and implementation of GSCP face challenges due to the intricate nature of supply chains, especially in the context of global supply chains. A group researcher emphasize the difficulties of coordinating and overseeing sustainability programs among several levels of suppliers and subcontractors, each with their own distinct set of issues and priorities (Jamalnia et al., 2023). The complexity of issues such as traceability, transparency, and accountability grows as supply chains expand across several geographical regions and involve a wide range of stakeholders.

Organizations need to have strong systems and procedures to effectively handle sustainability risks and opportunities across their supply chains. Tackling these difficulties necessitates a comprehensive approach that entails cooperation among governments, corporations, civil society, and academia. Governments can significantly influence the adoption of GSCP by implementing supportive policies, incentives, and regulatory frameworks. Businesses should allocate resources towards education, training, and capacity building in order to improve their understanding and proficiency in sustainable supply chain management methods. Civil society organizations have the power to promote increased openness, accountability, and ethical conduct in supply chains. In addition, academia may play a role in conducting research and sharing knowledge to enhance best practices and promote ongoing enhancements in sustainable supply chain management.

3. RESEARCH METHODOLOGY

The study was intended as a qualitative research project with the objective of investigating the influence of green supply chain practices (GSCP) on sustainable development in Bangladesh. The technique employed many research methods to efficiently accomplish the research objectives. The data gathering methods utilized were semi-structured interviews, document analysis, and observation. Key stakeholders involved in the adoption of the Global Sustainable Consumption and Production (GSCP) initiative in Bangladesh, such as government agencies, industry associations, corporations, non-governmental organizations (NGOs), and academic institutions, were interviewed using a semi-structured approach. The interviews facilitated in-depth conversations to investigate the viewpoints, firsthand accounts, and profound understandings of stakeholders about the adoption of GSCP and its influence on sustainable development.

Document analysis entails the examination and evaluation of pre-existing literature, papers, policy documents, and industry publications pertaining to the adoption of the Global Sustainable Consumption and Production (GSCP) framework and the promotion of sustainable development in Bangladesh. The presented information offered significant context and background for the study, aiding in the identification of crucial themes, trends, and issues related to the implementation of GSCP. Observation was used to enhance the data gathered from interviews and document analysis. Examining GSCP techniques and activities in real-world environments, such as manufacturing facilities, distribution centers, and supply chain operations, yielded useful insights into the practical application and effectiveness of GSCP. The sample approaches employed

were deliberate sampling and snowball sampling.

The participants for the semi-structured interviews were selected via purposeful sampling, which involved choosing individuals based on their skills, knowledge, and involvement in GSCP adoption and sustainable development activities in Bangladesh. The researchers employed snowball sampling to identify more participants for interviews. The first participants were requested to refer other pertinent stakeholders. The data analysis methodologies employed were thematic analysis and continual comparative analysis. The qualitative data acquired through interviews and document analysis were analyzed using thematic analysis, which involved detecting reoccurring themes, patterns, and concepts within the data.

The method of constant comparative analysis was utilized to systematically compare and contrast data gathered from various sources, so increasing the analysis and bolstering the trustworthiness of the conclusions. The research method strictly followed to ethical issues, which encompassed obtaining informed consent, ensuring confidentiality, and safeguarding privacy. Participants were presented with explicit information regarding the study's goals, methodologies, and their entitlements as participants. Participant information was kept confidential, and data were anonymized to guarantee privacy and anonymity.

4. RESULTS AND FINDINGS

The results and findings of this research, based on the interview questions and document analysis, provide an in-depth understanding of the current state of green supply chain practices (GSCP) adoption in Bangladesh, the key drivers and barriers to adoption, perceived benefits, challenges, stakeholder perceptions, successful initiatives, and the overall impact on sustainable development. Additionally, the findings offer actionable insights and recommendations for policymakers, industry leaders, and other stakeholders to promote effective GSCP adoption and enhance sustainable development in Bangladesh.

4.1 Overview of the Current State of GSCP Adoption in Bangladesh Across Various Industries

Interviews with stakeholders revealed that GSCP adoption in Bangladesh is still in its nascent stages but gaining momentum across various industries. In the textile and apparel sector, which is a significant contributor to Bangladesh's economy, several companies have begun incorporating GSCP to enhance their environmental footprint and comply with international standards. Large multinational corporations operating in Bangladesh have been pivotal in driving the adoption of GSCP, influenced by global sustainability mandates and consumer demand for eco-friendly products. However, small and medium-sized enterprises (SMEs) face more significant challenges due to resource constraints and limited access to green technologies. The electronics and manufacturing sectors are also showing progress in adopting GSCP, with companies investing in energy-efficient technologies and sustainable sourcing practices. The agriculture and food processing industries have started to implement GSCP, focusing on sustainable farming practices, waste reduction, and efficient resource utilization. Despite these positive developments, the overall adoption rate of GSCP in Bangladesh remains uneven across industries, with more prominent sectors like textiles and apparel leading the way.

Table 1: Overview of the Current State of GSCP Adoption in Bangladesh Across Various Industries

Industry	Current State of GSCP Adoption
Textile and Apparel	Leading adoption due to international standards and consumer demand. Large corporations are key drivers. SMEs face challenges.
Electronics and Manufacturing	Progressing with investments in energy-efficient technologies and sustainable sourcing practices.
Agriculture and Food Processing	Implementing sustainable farming practices, waste reduction, and efficient resource utilization.
Overall	GSCP adoption is uneven, with prominent sectors like textiles leading the way.

4.2 Key Drivers Motivating Organizations in Bangladesh to Adopt GSCP

Several key drivers have been identified as motivating organizations in Bangladesh to adopt GSCP. Regulatory pressures from both local and

international bodies are significant motivators. For instance, compliance with environmental regulations and international standards, such as the European Union's REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) and the United States' Dodd-Frank Act, drives companies to adopt GSCP to avoid penalties and maintain market access. Market forces also play a crucial role. Increasing consumer awareness and demand for sustainable products push companies to adopt GSCP to enhance their competitiveness and brand image. Interviews with business leaders highlighted that consumers, particularly in Western markets, are increasingly scrutinizing the environmental and social impacts of products, prompting companies to adopt GSCP as a means of differentiation.

Corporate Social Responsibility (CSR) initiatives and the commitment of top management to sustainability goals are internal drivers for GSCP adoption. Many organizations have integrated sustainability into their corporate strategies, recognizing that GSCP can lead to long-term cost savings, improved operational efficiency, and enhanced stakeholder relations. Additionally, the availability of financial incentives, grants, and subsidies from government and non-governmental organizations supports GSCP adoption by mitigating the high initial costs.

Table 2: Key Drivers Motivating Organizations in Bangladesh to Adopt GSCP

Driver	Description
Regulatory Pressures	Compliance with local and international regulations such as REACH and the Dodd-Frank Act.
Market Forces	Increasing consumer demand for sustainable products and investor pressure for sustainability disclosure.
Corporate Social Responsibility (CSR)	Integration of sustainability into corporate strategies and commitment from top management.
Financial Incentives	Availability of grants, subsidies, and financial incentives from government and NGOs.

4.3 Primary Barriers Hindering GSCP Adoption

Despite the drivers, several barriers hinder the adoption of GSCP in Bangladesh. High upfront costs and limited access to financial resources are significant obstacles, especially for SMEs. Implementing green technologies and processes often requires substantial investments, which many smaller companies cannot afford. Furthermore, the lack of access to affordable financing options exacerbates this issue. A lack of awareness and expertise regarding GSCP among business leaders and supply chain professionals is another major barrier. Many organizations are not fully aware of the benefits and potential cost savings associated with GSCP, leading to resistance to change and reluctance to invest in green initiatives.

Additionally, the shortage of skilled personnel with expertise in sustainable supply chain management hampers the effective implementation of GSCP. Regulatory uncertainty and the lack of a coherent policy framework also pose challenges. Inconsistent enforcement of environmental regulations and the absence of clear guidelines for GSCP adoption create confusion and uncertainty for businesses. Moreover, the complex and fragmented nature of global supply chains complicates the coordination and management of GSCP, making it challenging to ensure compliance and traceability across multiple tiers of suppliers.

Table 3: Primary Barriers Hindering GSCP Adoption

Barrier	Description
High Upfront Costs	Significant investments required for green technologies and processes, particularly challenging for SMEs.
Lack of Awareness and Expertise	Limited understanding of GSCP benefits and shortage of skilled personnel in sustainable supply chain management.
Regulatory Uncertainty	Inconsistent enforcement of environmental regulations and lack of clear guidelines for GSCP adoption.
Supply Chain Complexity	Challenges in coordinating and managing GSCP across multiple tiers of suppliers in global supply chains.

4.4 Perceived Benefits of Implementing GSCP Within Supply Chains in Bangladesh

Stakeholders perceive several benefits of implementing GSCP within supply chains in Bangladesh. From an environmental perspective, GSCP help reduce resource consumption, minimize waste, and lower greenhouse gas emissions, contributing to environmental sustainability. Companies that have adopted GSCP report improved energy efficiency, reduced water usage, and decreased pollution levels, enhancing their environmental performance. Economically, GSCP can lead to significant cost savings through improved resource efficiency, waste reduction, and optimized supply chain operations. Interviewees noted that GSCP often result in increased productivity, reduced operational costs, and enhanced competitiveness.

Furthermore, companies that adopt GSCP can tap into emerging markets for eco-friendly products, attracting environmentally conscious consumers and investors. From a social perspective, GSCP promote ethical labor practices, improve working conditions, and foster community engagement. Companies that prioritize fair labor standards and safe working conditions report higher employee satisfaction and lower turnover rates. Additionally, engaging with local communities and supporting sustainable development initiatives create shared value for businesses and society, contributing to social well-being and inclusive growth.

Table 4: Perceived Benefits of Implementing GSCP Within Supply Chains in Bangladesh

Benefit	Description
Environmental Sustainability	Reduction in resource consumption, waste, and greenhouse gas emissions. Improved energy efficiency and pollution levels.
Economic Performance	Cost savings through improved resource efficiency, waste reduction, and optimized operations. Increased competitiveness.
Social Well-being	Promotion of ethical labor practices, improved working conditions, and community engagement. Higher employee satisfaction.

4.5 Major Challenges and Limitations Organizations Face When Trying to Implement GSCP in Bangladesh

Despite the perceived benefits, organizations in Bangladesh face several challenges and limitations when trying to implement GSCP. High initial costs and limited access to financing remain significant obstacles. Many SMEs struggle to secure the necessary funding to invest in green technologies and processes, limiting their ability to adopt GSCP. A lack of awareness and expertise is another critical challenge. Many business leaders and supply chain professionals lack a comprehensive understanding of GSCP and their benefits, leading to resistance to change and reluctance to invest in sustainable practices. Additionally, the shortage of skilled personnel with expertise in sustainable supply chain management hampers the effective implementation of GSCP. Regulatory uncertainty and the lack of a coherent policy framework also pose challenges. Inconsistent enforcement of environmental regulations and the absence of clear guidelines for GSCP adoption create confusion and uncertainty for businesses. Moreover, the complex and fragmented nature of global supply chains complicates the coordination and management of GSCP, making it challenging to ensure compliance and traceability across multiple tiers of suppliers.

Table 5: Major Challenges or Limitations Organizations Face When Trying to Implement GSCP in Bangladesh

Challenge	Description
High Initial Costs	Significant financial investments required, especially burdensome for SMEs.
Lack of Awareness and Expertise	Insufficient knowledge about GSCP benefits and lack of skilled personnel.
Regulatory Uncertainty	Inconsistent regulatory enforcement and lack of clear GSCP guidelines.
Supply Chain Complexity	Difficulty in ensuring compliance and traceability across multiple supply chain tiers.

4.6 Stakeholder Perceptions of GSCP and Their Impact on Sustainable Development in Bangladesh

Stakeholders, including government agencies, businesses, consumers, and

civil society organizations, have varied perceptions of GSCP and their impact on sustainable development in Bangladesh. Government agencies view GSCP as essential for achieving national environmental goals and enhancing the country's competitiveness in global markets. However, they acknowledge the need for stronger regulatory frameworks and incentives to support GSCP adoption. Businesses perceive GSCP as a means to gain a competitive advantage, enhance brand reputation, and meet consumer demand for sustainable products.

However, they also recognize the challenges and limitations associated with GSCP adoption, including high initial costs, regulatory uncertainty, and the complexity of managing sustainable supply chains. Consumers are increasingly aware of environmental issues and demand eco-friendly products and transparent supply chains. They perceive GSCP as a reflection of a company's commitment to sustainability and are willing to support businesses that prioritize environmental and social responsibility. Civil society organizations advocate for greater transparency, accountability, and ethical practices within supply chains, emphasizing the importance of GSCP in promoting sustainable development.

Table 6: Stakeholder Perceptions of GSCP and Their Impact on Sustainable Development in Bangladesh

Stakeholder	Perception
Government Agencies	Essential for achieving national environmental goals and enhancing competitiveness. Need for stronger regulatory frameworks.
Businesses	Means to gain competitive advantage and enhance brand reputation. Challenges include high costs and regulatory uncertainty.
Consumers	Increasing demand for eco-friendly products and transparent supply chains. Support businesses prioritizing sustainability.
Civil Society Organizations	Advocate for greater transparency, accountability, and ethical practices. Highlight the importance of GSCP for sustainable development.

4.7 Examples of Successful GSCP Initiatives in Bangladesh and Their Impact

Several successful GSCP initiatives in Bangladesh highlight the positive impact of sustainable practices on environmental sustainability, economic performance, and social well-being. For example, a leading textile company implemented a closed-loop supply chain model, recycling waste materials into new products. This initiative resulted in significant waste reduction, cost savings, and enhanced environmental performance. Another example is an electronics manufacturer that invested in energy-efficient technologies and sustainable sourcing practices. This initiative led to reduced energy consumption, lower greenhouse gas emissions, and improved resource efficiency. Additionally, the company reported increased productivity and competitiveness, attracting environmentally conscious consumers and investors. In the agriculture sector, a food processing company adopted sustainable farming practices and optimized supply chain operations to reduce waste and improve resource utilization. This initiative resulted in improved environmental performance, cost savings, and enhanced social well-being by supporting local farmers and communities.

Table 7: Examples of Successful GSCP Initiatives in Bangladesh and Their Impact

Example	Description	Impact
Textile Company	Implemented closed-loop supply chain model, recycling waste materials into new products.	Significant waste reduction, cost savings, enhanced environmental performance.
Electronics Manufacturer	Invested in energy-efficient technologies and sustainable sourcing practices.	Reduced energy consumption, lower emissions, improved resource efficiency, increased productivity and competitiveness.
Food Processing Company	Adopted sustainable farming practices and optimized supply chain operations.	Improved environmental performance, cost savings, enhanced social well-being by supporting local farmers and communities.

4.8 Effective Strategies for Overcoming Barriers to GSCP Adoption and Promoting Sustainable Development

Stakeholders identified several effective strategies for overcoming barriers to GSCP adoption and promoting sustainable development in Bangladesh. Enhancing access to financing and providing financial incentives, grants, and subsidies can support organizations in overcoming the high initial costs associated with GSCP. Additionally, promoting education and training initiatives to build awareness and expertise in sustainable supply chain management can empower businesses to adopt and implement GSCP effectively. Developing a coherent policy framework and strengthening regulatory enforcement can provide clarity and certainty for businesses, encouraging GSCP adoption. Government agencies can play a crucial role in providing supportive policies and incentives to promote GSCP. Collaboration and partnerships among businesses, government agencies, civil society organizations, and academia can also drive positive change and facilitate the sharing of best practices and knowledge. Promoting transparency and accountability within supply chains is essential to building trust and credibility among stakeholders. Companies can enhance transparency by disclosing information about their sustainability initiatives and performance, engaging with stakeholders, and soliciting their input and feedback. Additionally, adopting certification and labeling schemes can help consumers identify and support environmentally responsible products.

Table 8: Effective Strategies for Overcoming Barriers to GSCP Adoption and Promoting Sustainable Development

Strategy	Description
Financial Support	Provide financial incentives, grants, and subsidies to mitigate high initial costs.
Education and Capacity Building	Invest in training and awareness programs to build expertise in sustainable supply chain management.
Policy and Regulatory Frameworks	Develop clear, consistent policies and strengthen regulatory enforcement to support GSCP adoption.
Collaboration and Partnerships	Foster multi-stakeholder collaboration to share best practices and resources. Engage in industry associations and initiatives.
Transparency and Accountability	Enhance transparency through sustainability reporting and certification schemes. Engage stakeholders through dialogue and feedback mechanisms.

4.9 Overall Impact of GSCP on Environmental Sustainability, Economic Performance, and Social Well-being

The overall impact of GSCP on environmental sustainability, economic performance, and social well-being in Bangladesh is significant. Environmentally, GSCP contribute to reduced resource consumption, minimized waste, and lower greenhouse gas emissions, enhancing the country's environmental performance. Economically, GSCP lead to cost savings, increased productivity, and enhanced competitiveness, contributing to sustainable economic growth and business resilience. Socially, GSCP promote ethical labor practices, improve working conditions, and foster community engagement, contributing to social well-being and inclusive growth. Companies that prioritize fair labor standards and safe working conditions report higher employee satisfaction and lower turnover rates. Additionally, engaging with local communities and supporting sustainable development initiatives create shared value for businesses and society.

Table 9: Overall Impact of GSCP on Environmental Sustainability, Economic Performance, and Social Well-being

Impact	Description
Environmental Sustainability	Reduction in resource consumption, waste, and greenhouse gas emissions. Improved energy efficiency and pollution levels.
Economic Performance	Cost savings, increased productivity, enhanced competitiveness, and sustainable economic growth.
Social Well-being	Promotion of ethical labor practices, improved working conditions, community engagement, and inclusive growth.

4.10 Actionable Insights and Recommendations for Policymakers, Industry Leaders, and Other Stakeholders

Based on the findings, several actionable insights and recommendations can be provided to policymakers, industry leaders, and other stakeholders to promote the effective adoption of GSCP and enhance sustainable development in Bangladesh.

4.10.1 For Policymakers

4.10.1.1 Develop Coherent Policies and Regulatory Frameworks

Establish clear, consistent, and enforceable regulations to provide guidance and certainty for businesses adopting GSCP. This includes setting standards for environmental performance, emissions reduction, waste management, and sustainable sourcing.

4.10.1.2 Provide Financial Incentives and Support

Offer financial incentives such as tax breaks, subsidies, and grants to support businesses, especially SMEs, in overcoming the high initial costs associated with GSCP. Establish green financing mechanisms to facilitate access to affordable capital for investments in sustainable technologies and practices.

4.10.1.3 Enhance Monitoring and Enforcement

Strengthen regulatory enforcement mechanisms to ensure compliance with environmental standards and discourage greenwashing. Implement regular monitoring and reporting requirements to hold businesses accountable for their sustainability commitments.

4.10.1.4 Promote Education and Capacity Building

Invest in education and training programs to build awareness and expertise in sustainable supply chain management among business leaders, supply chain professionals, and the workforce. Encourage the integration of sustainability into academic curricula and professional development initiatives.

4.10.2 For Industry Leaders

4.10.2.1 Integrate Sustainability into Corporate Strategy

Embed sustainability into the core business strategy and operations. Set clear sustainability goals, develop action plans, and allocate resources to implement GSCP effectively. Ensure top management commitment and leadership in driving sustainability initiatives.

4.10.2.2 Invest in Green Technologies and Innovation

Invest in energy-efficient technologies, sustainable sourcing practices, and waste reduction initiatives. Explore innovative business models, such as circular economy and closed-loop supply chains, to enhance resource efficiency and minimize environmental impact.

4.10.2.3 Foster Collaboration and Partnerships

Collaborate with supply chain partners, government agencies, NGOs, and academia to share best practices, knowledge, and resources. Engage in multi-stakeholder initiatives and industry associations to drive collective action and promote GSCP adoption.

4.10.2.4 Enhance Transparency and Accountability

Disclose information about sustainability initiatives, performance, and progress to stakeholders. Adopt certification and labeling schemes to communicate the environmental and social credentials of products. Engage with stakeholders through regular dialogue and feedback mechanisms.

4.10.3 For Civil Society Organizations

4.10.3.1 Advocate for Stronger Policies and Regulations

Advocate for robust environmental policies, regulations, and enforcement mechanisms. Engage in policy dialogues and consultations to influence the development and implementation of supportive frameworks for GSCP adoption.

4.10.3.2 Raise Awareness and Build Capacity

Conduct awareness campaigns and capacity-building initiatives to educate businesses, consumers, and communities about the benefits of GSCP and

sustainable practices. Provide training and technical assistance to support businesses in implementing GSCP.

4.10.3.3 Monitor and Report on Corporate Practices

Monitor and report on corporate sustainability practices to hold businesses accountable for their environmental and social commitments. Highlight best practices and expose instances of greenwashing to promote transparency and credibility.

4.10.3.4 Foster Community Engagement

Engage with local communities to support sustainable development initiatives and create shared value. Facilitate dialogue between businesses and communities to address environmental and social concerns and promote inclusive growth.

4.10.4 For Consumers

4.10.4.1 Support Sustainable Products and Practices

Choose products and services from companies that prioritize sustainability and GSCP. Use purchasing power to support businesses committed to environmental and social responsibility.

4.10.4.2 Demand Transparency and Accountability

Demand transparency from businesses regarding their sustainability practices and performance. Advocate for clear labeling and certification schemes to identify and support eco-friendly products.

4.10.4.3 Engage in Advocacy and Awareness

Participate in advocacy campaigns and initiatives to promote sustainable consumption and production. Raise awareness among peers and communities about the importance of GSCP and sustainable development.

Table 10: Actionable Insights and Recommendations for Stakeholders	
Stakeholder	Recommendations
Policymakers	Develop coherent policies, provide financial support, enhance enforcement, and invest in education and capacity building.
Industry Leaders	Integrate sustainability into corporate strategy, invest in green technologies, foster collaboration, and enhance transparency.
Civil Society Organizations	Advocate for stronger policies, raise awareness, monitor corporate practices, and foster community engagement.
Consumers	Support sustainable products, demand transparency, and engage in advocacy and awareness campaigns.

4.11 Overall Impact and Future Trajectory of GSCP Adoption in Bangladesh

The overall impact of GSCP on sustainable development in Bangladesh has been significant, with notable improvements in environmental sustainability, economic performance, and social well-being. Environmentally, GSCP have led to reduced resource consumption, minimized waste, and lower greenhouse gas emissions, contributing to the preservation of natural resources and the reduction of environmental pollution. Economically, GSCP have resulted in cost savings, increased productivity, and enhanced competitiveness, fostering sustainable economic growth and business resilience. Socially, GSCP have promoted ethical labor practices, improved working conditions, and fostered community engagement, contributing to social well-being and inclusive growth. Looking ahead, the future trajectory of GSCP adoption and sustainable development in Bangladesh appears promising.

As awareness of environmental issues and the importance of sustainability continues to grow, more businesses are likely to adopt GSCP to enhance their environmental performance and meet consumer demand for eco-friendly products. Advances in green technologies and innovations, coupled with supportive policies and regulations, will further facilitate GSCP adoption and implementation. However, achieving widespread and effective adoption of GSCP will require continued efforts and collaboration among all stakeholders. Policymakers, industry leaders, civil society organizations, and consumers must work together to address the challenges and barriers to GSCP adoption and promote sustainable

development. By fostering a culture of sustainability, enhancing access to resources and expertise, and ensuring transparency and accountability, Bangladesh can advance towards a more sustainable and resilient future.

Table 11: Future Trajectory of GSCP Adoption and Sustainable Development in Bangladesh

Future Outlook	Description
Promising Adoption	Increasing awareness of environmental issues and sustainability is driving GSCP adoption.
Advances in Technology	Innovations in green technologies will facilitate GSCP implementation.
Supportive Policies	Continued development of supportive policies and regulations will enhance GSCP adoption.
Multi-Stakeholder Collaboration	Collaboration among stakeholders will drive collective action and knowledge sharing.
Sustainable Development Goals	GSCP will contribute significantly to achieving national and global sustainability goals.

5. DISCUSSION

The research findings offer a thorough comprehension of the adoption and consequences of green supply chain practices (GSCP) in Bangladesh. The present level of GSCP implementation across different industries demonstrates a combination of outcomes, with sectors such as textiles and apparel taking the lead in sustainability endeavors as a result of worldwide benchmarks and consumer expectations. The electronics and manufacturing industries are increasingly allocating resources towards energy-efficient technology and sustainable sourcing. Similarly, the agriculture and food processing sectors are prioritizing sustainable farming methods and waste reduction. The uneven adoption of this practice is a result of the differing degrees of knowledge, financial capabilities, and regulatory influences among different industries (Zhang et al., 2020).

The main factors that compel firms in Bangladesh to embrace the Global Social Compliance Programme (GSCP) include regulatory restrictions, market forces, corporate social responsibility (CSR) activities, and financial incentives. The enforcement of environmental standards and the promotion of sustainability in enterprises are significantly influenced by regulatory frameworks at both local and international levels (Trevlopoulos et al., 2021). The integration of the Global Sustainable Consumption and Production (GSCP) initiative is driven by market factors, specifically consumer preferences for environmentally friendly products and investor expectations for transparency in sustainability reporting. Corporate social responsibility (CSR) measures, backed by strong commitment from senior management, ensure that environmental goals are in line with corporate objectives, hence promoting the adoption of the Global Social Compliance Programme (GSCP) even further (Fransen et al., 2019).

Moreover, the government and non-governmental organizations offer financial incentives, such as grants, subsidies, and green finance methods, to alleviate the substantial upfront expenses involved in implementing the Green Supply Chain Practices (GSCP). However, there are certain obstacles that impede the extensive implementation of GSCP in Bangladesh. The significant initial expenses provide a significant obstacle, particularly for small and medium-sized firms (SMEs) that frequently lack the financial means to allocate funds towards sustainable technology and practices (Elhassan, 2019). The situation is further complicated by a lack of understanding and competence in sustainable supply chain management, as organizations have challenges in comprehending the advantages and tactics for implementing the Global Sustainable Supply Chain Program (GSCP).

The presence of regulatory ambiguity, which is marked by inconsistent enforcement and ambiguous standards, presents a difficulty that deters organizations from fully embracing green efforts (Tarabieh, 2021). In addition, the intricacy of overseeing worldwide supply chains, which involve many levels of suppliers and subcontractors, contributes to the challenges of guaranteeing compliance and traceability. The advantages of integrating GSCP throughout supply chains in Bangladesh are diverse. The Global Sustainable Consumption and Production (GSCP) initiative plays a crucial role in achieving substantial reductions in resource consumption, waste creation, and greenhouse gas emissions, leading to improved environmental sustainability (Rashid et al., 2024). From an economic standpoint, GSCP results in cost savings by enhancing resource efficiency, reducing waste, and optimizing processes. These improvements then contribute to increased productivity and competitiveness.

The Global Supply Chain Project (GSCP) aims to advance ethical labor practices, enhance working conditions, and increase community engagement, ultimately contributing to social well-being and inclusive growth. Nevertheless, companies encounter a multitude of obstacles when it comes to implementing GSCP. The biggest obstacle, especially for small and medium-sized enterprises (SMEs) that frequently have restricted financial means, is the significant upfront expenses. Insufficient awareness and competence in GSCP pose a notable obstacle, as organizations may lack a comprehensive understanding of the long-term advantages and strategies for adoption. The presence of regulatory uncertainty adds complexity to the task, since firms require unambiguous and consistent instructions in order to successfully adopt and maintain GSCP. The intricate nature of worldwide supply chains, which include numerous levels of suppliers and subcontractors, contributes to the difficulty of guaranteeing adherence and traceability along the whole supply chain.

The perspectives of stakeholders regarding the Global Sustainable Consumption and Production (GSCP) initiative and its influence on sustainable development in Bangladesh differ. Government agencies realize the significance of GSCP (Global Sustainable Consumption and Production) in attaining national environmental objectives and improving competitiveness. However, they also recognize the necessity for more robust regulatory frameworks and enforcement mechanisms. Businesses perceive GSCP as a strategy to obtain a competitive edge and improve brand image, but they also voice apprehensions over the substantial expenses and uncertainties related to regulations. Consumers are showing a growing preference for environmentally friendly products and supply chains that are transparent. They are more inclined to support businesses that give priority to sustainability (Gardner et al., 2019).

Civil society organizations promote increased transparency, accountability, and ethical practices, emphasizing the vital role of GSCP in advancing sustainable development. The successful GSCP initiatives in Bangladesh demonstrate the favorable effects of implementing sustainable supply chain strategies. An example of this is a textile company that successfully implemented a closed-loop supply chain model, resulting in substantial reductions in waste and costs. This improvement has led to enhanced environmental performance and increased competitiveness for the company. An electronics manufacturer that has made investments in energy-efficient technologies and sustainable sourcing procedures has successfully decreased energy consumption and emissions. This has led to improved resource efficiency and productivity.

Furthermore, by using sustainable farming methods and improving supply chain operations, a food processing company was able to improve its environmental performance and provide support to local communities. This not only contributed to social well-being but also fostered inclusive growth. In order to surmount the obstacles to GSCP implementation and advance sustainable development in Bangladesh, a number of efficacious measures have been suggested. Offering financial assistance, such as grants, subsidies, and green financing, can assist firms, particularly small and medium-sized enterprises (SMEs), in overcoming significant upfront expenses. By investing in education and capacity-building initiatives, firms can enhance their understanding and proficiency in sustainable supply chain management.

Establishing unambiguous and uniform regulations and enhancing regulatory enforcement can offer the essential direction and assurance for enterprises to fully engage in environmentally friendly endeavors (Chen and Sheehy, 2022). Encouraging cooperation and alliances amongst supply chain partners, government agencies, NGOs, and academics can promote the exchange of superior methods, resources, and expertise, leading to joint efforts in achieving sustainability. The GSCP has had a substantial effect on environmental sustainability, economic performance, and social well-being in Bangladesh. The implementation of Green Supply Chain Practices (GSCP) has resulted in decreased resource use, reduced waste generation, and lowered emissions of greenhouse gases. These practices have played a significant role in conserving natural resources and mitigating environmental pollution. From an economic perspective, GSCP initiatives have led to financial savings, improved efficiency, and strengthened competitiveness, hence promoting sustainable economic expansion and corporate adaptability.

GSCP has actively advocated for ethical labor practices, enhanced working conditions, and encouraged community involvement, thereby making significant contributions to social well-being and promoting inclusive growth. Prospects for the future adoption of GSCP and sustainable development in Bangladesh seem optimistic. With the increasing recognition of environmental concerns and the significance of sustainability, it is expected that more firms will embrace the Global Sustainable Consumption and Production (GSCP) framework to improve

their environmental performance and meet the rising consumer demand for environmentally friendly products. The adoption and implementation of the Green Supply Chain Practices (GSCP) will be further facilitated by advancements in green technologies and innovations, as well as supportive laws and regulations.

Nevertheless, attaining extensive and efficient implementation of GSCP will necessitate ongoing endeavors and cooperation among all parties involved. Collaboration among policymakers, business leaders, civil society organizations, and consumers is essential to tackle the obstacles and encourage the widespread use of GSCP while advancing sustainable development. By cultivating a culture that prioritizes sustainability, improving the availability of resources and specialized knowledge, and guaranteeing openness and responsibility, Bangladesh may make significant progress towards a future that is both environmentally sustainable and resilient.

6. CONCLUSION

The study of green supply chain practices (GSCP) in Bangladesh has yielded valuable insights into their implementation, advantages, obstacles, and overall influence on sustainable development. The study found that the implementation of GSCP (Global Social Compliance Programme) differs among various industries, with sectors like textiles and apparel leading the way. This is mostly due to the influence of international standards and consumer demand. Furthermore, several sectors such as electronics, manufacturing, and agriculture are gradually adopting sustainable techniques, but their progress may vary. Regulatory demands, market dynamics, corporate social responsibility programs, and financial incentives are the main factors that motivate firms to implement GSCP. These forces demonstrate an increasing acknowledgment of the significance of sustainability in improving competitiveness, adherence to regulations, and company reputation.

Although there are factors that show promise, there are also some impediments that prevent the widespread use of GSCP in Bangladesh. Significant hurdles arise from high initial costs, limited awareness and experience, regulatory unpredictability, and the complexity of the supply chain. These obstacles emphasize the necessity for specific interventions, such as monetary assistance, educational initiatives, programs to enhance skills and abilities, well-defined and uniform laws, and enhanced enforcement of regulations. Tackling these obstacles is essential for creating a more favorable climate for the development and implementation of GSCP. The stated advantages of GSCP are numerous, including environmental, economic, and social aspects. The Global Sustainable Consumption and Production (GSCP) initiative plays a role in diminishing resource usage, waste production, and greenhouse gas discharges, hence improving environmental sustainability. From an economic standpoint, they result in reduced expenses, heightened efficiency, and enhanced competitiveness, all of which are crucial for achieving sustained economic expansion.

The Global Social Compliance Programme (GSCP) actively advocates for ethical labor practices, enhances working conditions, and encourages community involvement, so contributing to social well-being and promoting inclusive growth. Nevertheless, firms encounter significant obstacles when it comes to implementing GSCP, such as substantial upfront expenses, limited knowledge and proficiency, uncertain regulatory environment, and the intricacy of overseeing worldwide supply chains. These difficulties require a comprehensive solution that involves cooperation among supply chain partners, government agencies, non-governmental organizations (NGOs), and academics. Efficient methods for surmounting these obstacles involve offering monetary assistance, allocating resources to education and skill development, formulating unambiguous and uniform policies, and promoting collaboration and partnerships among several stakeholders.

Stakeholder perspectives on the Global Sustainable Consumption and Production (GSCP) initiative differ. Government agencies acknowledge their significance in achieving national environmental objectives and promoting competitiveness. Businesses perceive them as a way to gain a competitive advantage and improve brand reputation. Consumers expect environmentally friendly products and supply chains that are transparent. Civil society organizations advocate for increased transparency, accountability, and ethical conduct. The presence of many viewpoints highlights the necessity for inclusive and cooperative endeavors to encourage the adoption of GSCP and sustainable development. Instances of effective GSCP projects in Bangladesh illustrate the concrete advantages of implementing sustainable supply chain methods.

The implementation of these measures has resulted in substantial

reduction in waste, financial savings, improved environmental performance, increased productivity, and good social effects. This demonstrates the potential of GSCP to contribute to sustainable development. The GSCP has had a significant impact on environmental sustainability, economic performance, and social well-being in Bangladesh, demonstrating its crucial role in promoting sustainability objectives. The future prospects of GSCP adoption in Bangladesh seem optimistic. The increased acceptance and implementation of GSCP are projected to be driven by increasing awareness of environmental issues, advancements in green technologies, supportive legislation, and collaboration among several stakeholders. Unwavering dedication and collaboration from all parties involved are crucial for surmounting current obstacles and advancing sustainable development.

By cultivating a culture that prioritizes sustainability, improving the availability of resources and specialized knowledge, and guaranteeing openness and responsibility, Bangladesh may strengthen the durability and adaptability of its supply chains, so promoting a more sustainable future. This study has yielded significant knowledge regarding the implementation and effects of GSCP in Bangladesh, emphasizing the factors that promote or hinder its adoption, as well as the advantages and difficulties associated with it. The results emphasize the significance of focused interventions and cooperative endeavors to encourage the adoption of GSCP and ensure long-term sustainable development. Bangladesh's prospects for GSCP (Global Sustainable Consumption and Production) are highly promising. Through persistent efforts and unwavering dedication, the nation has the potential to make substantial advancements in improving the sustainability of its supply chains, thereby making valuable contributions towards global sustainability objectives.

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