Thesis Report
on
Sustainable Supply Chain Management: A Case Study on Perspective from BRAC Printing Pack

Submitted by:
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Submitted to:
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Sonargaon University (SU)

Submitted for the partial fulfillment of the degree of
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Sonargaon University (SU)
147/I, Green Road, Panthapath, Tejgaon, Dhaka, Bangladesh

Date of Submission: April 28, 2025

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Letter of Transmittal

April 28, 2025

Mst. Marium Akter
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Department of Business Administration
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Subject: Submission of thesis report on **"Sustainable Supply Chain Management: A Case Study on Perspective from BRAC Printing Pack"**.

Dear Madam,

With most respectfully to state that I am pleased to submit my thesis report titled **"Sustainable Supply Chain Management: A Case Study on Perspective from BRAC Printing Pack".** This report is an essential part of my MSCM degree requirements and I had the privilege of completing my thesis at Sustainable Supply Chain Management under your valuable guidance and supervision. This report reflects the sustainable supply chain management of BRAC Printing Pack of Bangladesh. I have made my best effort to include relevant details while keeping the report concise.

I am humbly requesting your assessment of this report. Your valuable feedback would be greatly appreciated. Thank you for your continuous support, time and consideration.

Yours Sincerely,

_____

Jahidul Islam
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Declaration of Student

I am Jahidul Islam, a student in the Masters of Business Administration program with ID: MSCM2302029009 at Sonargaon University. I want to sincerely state that the report titled **"Sustainable Supply Chain Management: A Case Study on Perspective from BRAC Printing Pack"** has been genuinely created by me. During the preparation of this report, I ensured full compliance with international copyright regulations. I also want to clarify that this report has not been submitted anywhere else for the purpose of obtaining a degree.

Yours Sincerely,

_____

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Letter of Authorization

I hereby confirm that the project report titled **"Sustainable Supply Chain Management: A Case Study on Perspective from BRAC Printing Pack"** is a genuine effort by Jahidul Islam. The research was conducted under my guidance and supervision. I also affirm that, to the best of my knowledge, the contents presented in this report have not been included in any other project report or dissertation that led to the award of a degree to any candidate earlier, whether in the same context or a different one.

Mst. Marium Akter
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Lastly but most importantly, I would like to express my heartiest thanks to my family members who provided me a lot of support for completing this whole process of this report.

Executive Summary

This report is based on **"Sustainable Supply Chain Management: A Case Study on Perspective from BRAC Printing Pack"** with the broad objective of assessment of sustainable supply chain management along with some other specific objectives: to analyze and evaluate the sustainable practices within the supply chain of BRAC Printing Pack; to assess Opportunities of practicing sustainable supply chain management of BRAC Printing Pack**;** to challenges of practicing sustainable supply chain management of BRAC Printing Pack**;** and to assess how sustainable practices contribute to the BRAC Printing Pack's overall sustainability and supply chain efficiency. This cross-sectional study was begin with an exploration of feasibility of this study which included to go through the theoretical framework, literature review, taking expert opinion etc. The research methodology involved a case study approach, focusing on selected organization of BRAC Printing Pack (BPP) of Bangladesh. Data was collected through both primary and secondary sources of this study.

Key findings revealed that BRAC Printing Pack (BPP) is practicing sustainable supply chain management throughout all activities from raw materials to final disposal of services (e.g., green manufacturing practices, recycled handmade paper production etc.) with alignment with circular economy and integration of Green Supply Chain Management (GSCM). Thus BRAC Printing Pack BPP is contributing a lot to the Sustainable Development Goals (SDGs).

The study highlighted several opportunities of sustainable supply chain management of BRAC Printing Pack (BPP) included reduction of environmental footprint; cost efficiency and optimization of resources; contribution of circular economy; enhanced BRAC's image and overall employees' satisfaction and the community's positive impact. Though this study found out some challenges of BRAC Printing Pack (BPP) to enhance the sustainable supply chain management more widely, there have been provided some recommendations to overcome those challenges as well.

In conclusion, from this study it can be said that BRAC Printing Pack (BPP) of Bangladesh is a successful case of doing sustainable supply chain management from its practices of managing the entire supply chain from raw materials to final disposal of services. The BRAC Printing Pack's (BPP) initiatives enhancing BRAC Printing Pack's operational efficiency and contributing to the broader goal of environmental stewardship within Bangladesh's manufacturing sector as well as the broader sustainable development objectives of SDGs.

List of Acronyms

SSCM	Sustainable Supply Chain Management
CDP	Carbon Disclosure Project
BPP	BRAC Printing Pack
NGO	Non-government Organization
FGD	Focus Group Discussion
IDI	In-depth Interview
GHG	Greenhouse Gas
CSR	Corporate Social Responsibility
LCA	Life Cycle Assessment
VOCs	Volatile Organic Compounds
GSCM	Green Supply Chain Management
SDGs	Sustainable Development Goals
BPGIP	Procurement Guidelines and Implementation Procedures
APP	Annual Procurement Plan
ABP	Annual Business Plan
VFM	Ensure Value for Money
PR	Procurement Requirements
PP	Procurement Plan
KPIs	Key Performance Indicators
ROI	Return on Investment
ESG	Environmental, Social, Governance
GRI	Global Reporting Initiative
AI	Artificial Intelligence
ML	Machine Learning

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Chapter: 01

Introduction

1.1 Introduction:

Sustainable supply chain management (SSCM) is the practice of integrating environmental, social and financial considerations into the sourcing, production and distribution of goods and services as well. The sustainable supply chain management practice involves managing the entire supply chain from raw materials to final disposal with sustainability in mind, including goals of reducing greenhouse gas emissions, improving working conditions, adopting eco-friendly practices and so on. The sustainable supply chain management always aims to minimize any kinds of negative impacts of business operations in the environment and society. It must ensure efficiency and reliability with high priority. Now-a-days supply chains are increasingly complex and have an increasingly significant impact on our environment. According to a report by the Carbon Disclosure Project (CDP), companies' supply chains are responsible for up to 11.4 times of their direct emissions which are more than 90% of their total greenhouse gas emissions. Therefore, sustainable supply chain management initiatives can reduce the environmental impact of business operations (for example the operations of BRAC printing pack) by minimizing carbon emissions and waste importantly.

BRAC, a not for profit non-government organization, since its inception in 1972 has been working with people whose lives are dominated by extreme poverty, illiteracy, disease and calamities. It has taken great strides in the alleviation of poverty in Bangladesh and beyond. As BRAC continues to grow, so do its tools for governance. Thereafter also established BRAC Printing Pack (BPP) in 2005, now-a-days is a leading manufacturer of printing and packaging solutions in Bangladesh. In delivering its services under different programs and enterprises (e.g., BRAC Printing Pack) BRAC is required to procure a wide range of goods, equipment and related services, as well as non-consulting services and consulting services. As procurement is increasing in value and volume, requirement of compliance with national and international procurement norms and standards has become imperative for BRAC. Efficient procurement implies a system, which operates in a timely manner, with minimum number of steps/layers, while being responsive to the needs of the end users leading to fulfilment of the goal of the organization. A transparent procurement system is that which is characterized by clear guidelines as well as implementation procedures and accountability to verify that those guidelines and implementation procedures are being followed properly. Accountability will ensure obligations to be performed by the personnel involved in the procurement process.

BRAC Printing Pack (BPP), established in 2005, serves as a pivotal component of BRAC's supply chain by providing high-quality packaging solutions for various BRAC enterprises, including Dairy, Salt, Seed, and Aarong. Beyond internal support, BPP extends its services to over 150 external clients, encompassing prominent corporations like ACI and Square Pharmaceuticals. Now-a-days BRAC printing pack focuses on sustainable procurement management throughout all of its procurement activities with alignment of its vision and goals. Therefore, it was taken as a research problem of identifying the challenges and opportunities of BRAC Printing Pack faces in integrating sustainability into their supply chain procurement section.

1.2 Background of the Study:

In recent years, sustainable supply chain management got attention worldwide due to its importance. For the global demand as well as the consumers' interest, different organizations and companies, are focusing on this issue. As part of this trend and demand, different organizations, companies, Non-government Organizations (NGOs) are planning to start the sustainable supply chain management of their products and services. But this task is not easy at all for different reasons as sustainable supply chain management practice involves managing the entire supply chain from raw materials to final disposal with sustainability in mind, including goals of reducing greenhouse gas emissions, improving working conditions, adopting eco-friendly practices and so on. Therefore, the BRAC in Bangladesh especially the BRAC Printing Pack might be a case in this point as BRAC Printing Pack has started the sustainable supply chain management practices with its productions and services.

1.3 Scope of the Study:

The study of sustainable supply chain management of BRAC Printing Pack (BPP) is very much important for several reasons in Bangladesh. These are as follows:

- **Growing global demand for sustainable supply chain management**: worldwide there is demand for sustainable supply chain management worldwide including goals of reducing greenhouse gas emissions, improving working conditions, adopting eco-friendly practices etc.
- **Challenges in sustainable supply chain management**: there is so many challenges to incorporate more and more of the sustainable supply chain management practices not only in Bangladesh but also worldwide. These challenges need to be addressed properly.

- **Brand image and market expansion:** sustainable supply chain management practices can lead to increase brand image of BRAC Printing Pack (BPP) because of the benefited nature of the supply chain management practices with the focus of sustainability. Therefore, market expansion easily can be done with consumers' satisfaction.
- **Regulatory Compliance and Market Expansion**: As sustainable supply chain management continues to gain popularity worldwide, companies and NGOs like BRAC Printing Pack might face challenges of complying with this complex issues with alignment of local and international laws of sustainable supply chain management practices.

1.4 Objectives of the Study:

Broad Objective:

The broad objective of the study was to assess the sustainable supply chain management from the perspective from BRAC Printing Pack.

Specific Objectives:

There were some other specific objectives of the study**.** Those were such as:

- To analyze and evaluate the sustainable practices within the supply chain of BRAC Printing Pack (BPP).
- To assess Opportunities of practicing sustainable supply chain management of BRAC Printing Pack (BPP).
- To challenges of practicing sustainable supply chain management of BRAC Printing Pack (BPP).
- To assess how sustainable practices contribute to the BRAC Printing Pack's (BPP) overall sustainability and supply chain efficiency.

1.5 Research Methodology:

For this study, I have gone through different research methodologies which provided me more knowledge of doing a research in a real-world context. This was a cross-sectional research of using both primary and secondary sources for collecting data in order to complete study. These two sources were as follows explained below:

- **Primary Sources:**
  - Focus Group Discussion (FGD).
  - In-depth Interview (IDI).
  - Surveys.
  - Personal interviews.
  - Statistical data.
  - Experiments.
  - Non-government documents.
  - Research reports.
- **Secondary Sources:**
  - Different reports of BRAC Printing Pack (BPP).
  - Manuals.
  - Official publications.
  - Journals' articles.
  - Web sites.
  - Scholarly articles.
  - Various reporting data and raw materials of the organization.
  - Unpublished data received from the organization.

1.6 Limitations of the Study:

- **Limited Generalizability**: The study focused specifically on BRAC Printing pack (BPP). Therefore, it might be difficult to apply the findings to other Non-government Organizations (NGOs) and companies of Bangladesh.
- **Limited Time Frame:** This was a cross-sectional study which might not be able to fully capture the long-term effects of sustainable supply chain management practices.
- **Regulatory Complexity:** As sustainable supply chain management is a complex process, for this study multiple regulatory frameworks (e.g., local and international) needed to navigate. This may complicate the assessment process of the study.
- **Supply Chain Variability:** External factors for example weather, geopolitical issues and raw materials' variability can disrupt the sustainable supply chain management practices which can impact negatively.

- **Lack of Comparative Data:** Data was collected from only one organization (e.g, BRAC Printing Pack) which limited the access of comparative data with other organizations and companies.
- **Limited Empirical Research:** While SSCM is a growing area of interest, comprehensive studies based on robust empirical data are still scarce. This limits the ability to draw definitive conclusions about the impact of SSCM on various aspects of sustainability.
- **Measuring Impact Challenges:** It can be difficult to isolate the specific impact of SSCM initiatives. Other factors, such as government policies including the political unrest, market trends, and global economic conditions, can influence the overall outcome. Accurately measuring the impact on specific areas like profit, employee well-being, and environmental outcomes requires robust methodologies and data collection techniques.
- **SDG Mapping Challenges:** Developing a framework to align programmatic outputs and outcomes with SDG impact level indicators can be challenging. This requires a unique contribution mapping framework, often involving expert consultations, desk reviews, and validation processes etc. This process can be time-consuming and resource-intensive as well.

Chapter: 02

Literature Review

2.1 Introduction:

Sustainable supply chain management (SSCM) is an overarching strategy that aims to incorporate sustainable practices throughout the entire supply chain. Sustainable Supply Chain Management (SSCM) is the integrating environmental, social, and economic sustainability into the entire lifecycle of a product from raw materials to final delivery and even post-consumer disposal. By incorporating supply chain sustainability, Sustainable Supply Chain Management (SSCM) shifts the traditional linear supply chain elements of speed, cost and reliability into a more circular process to ensure all materials, products and efforts used within the supply chain are renewed or reused, rather than wasted. Sustainable supply chain is the strategic business decision that includes sustainable sourcing, production, packaging and optimized, responsible delivery of produced goods and services. Sustainable supply chain management (SSCM) efforts under an enterprise's corporate social responsibility activities also drive green operations and result in cost savings and an improved supply chain over the long term as well.

2.2 Key Elements of Sustainable Supply Chain Management (SSCM):

There are three key elements of a sustainable supply chain management. These are as follows:

- **Environmental Responsibility:** It involves protecting the environment from potential harm caused due to supply chain activities like production, storage, packaging, transportation and other minute operations.
- **Financial Responsibility:** It addresses the financial needs of the firm. Financial markets include shareholders, employers/employees, customers, clients, business partners, domestic institutions and financial institutions.
- **Social Responsibility:** It involves principles, ethics, morals and philanthropic expectations of the society from a business. This means every person in a sustainable supply chain is treated fairly, equally and in line with human rights requirements.

2.3 Criteria of Sustainable Supply Chain Management (SSCM):

For the Sustainable Supply Chain Management (SSCM**),** it is needed to set some criteria**.** Here are the key criteria for the Sustainable Supply Chain Management (SSCM) which have been categorized into the three pillars of sustainability as well.

- **Environmental Criteria:** It is one of the key criteria for Sustainable Supply Chain

Management (SSCM). The environmental criteria of Sustainable Supply Chain Management (SSCM**)** involves the followings:

- ✓ **Resource Efficiency:**
  - Minimizing use of water, energy, and raw materials.
  - Promoting renewable resources and cleaner production methods.
- ✓ **Emissions and Waste Reduction:**
  - Reducing greenhouse gas (GHG) emissions and pollutants.
  - Implementing waste minimization strategies (reduce, reuse, and recycle).
- ✓ **Eco-friendly Packaging and Transportation:**
  - Using biodegradable or recyclable materials.
  - Choosing low-emission logistics options (e.g., electric or rail transport).
- ✓ **Sustainable Sourcing:**
  - Preferably sourcing from suppliers who follow environmental regulations and sustainable practices

➢ **Social Criteria:** The social criteria for the Sustainable Supply Chain Management (SSCM**)** involves the followings-

- ✓ **Labor Rights and Fair Wages:**
  - Ensuring no child labor, forced labor, or exploitation.
  - Complying with international labor standards (e.g., ILO conventions).
- ✓ **Health and Safety:**
  - Providing safe working conditions and access to protective equipment.
- ✓ **Community Engagement:**
  - Supporting local communities, indigenous rights, and inclusive hiring.
- ✓ **Transparency and Ethics:**
  - Regular audits, ethical codes of conduct, and whistleblower protections.

➢ **Economic Criteria:** There are some economic criteria for the environmental criteria of Sustainable Supply Chain Management (SSCM**).** These are as follows-

- ✓ **Cost Efficiency with Sustainability:**
  - Balancing economic performance with environmental and social goals.
- ✓ **Risk Management:**
  - Diversifying suppliers, monitoring geopolitical and environmental risks, and

ensuring the business continuity.

- ✓ **Innovation and Circular Economy:**
  - Investing in sustainable technologies and circular models (e.g., take-back programs, upcycling etc.).
- ✓ **Long-term Supplier Relationships:**
  - Collaborating with suppliers for shared sustainability goals and performance improvements.
- ➢ **Cross-cutting Criteria:** There are also some cross-cutting criteria of Sustainable Supply Chain Management (SSCM) which involved the followings-
- ✓ **Traceability and Transparency:**
  - Implementing systems (like blockchain) for end-to-end visibility for the supply chains.
- ✓ **Regulatory Compliance and Standards:**
  - Adhering to global frameworks like ISO 14001 (Environmental Management), SA8000 (Social Accountability), and GRI (Global Reporting Initiative).
- ✓ **Stakeholder Engagement:**
  - Involving customers, investors, NGOs, and governments in sustainability efforts.

2.4 Sustainable Supply Chain Management (SSCM) Process:

Incorporating and managing a sustainable supply chain requires implementing an end-to-end structure than enables a sustainable flow of goods and services. Forrester Research has developed a framework for integrating sustainability into the supply chain management process with a focus on four areas. These four areas are such as:

- ➢ **Procurement:** Start by exploring energy and water with a focus on procuring sustainable materials to use for the products, goods and services.
- ➢ **Operations:** Look for more efficient operational processes across the supply chain that could reduce resources' usage.
- ➢ **Retirement:** Avoid excess waste and obsolete items by designing products for upcycling and reuse as well.
- ➢ **Analysis and communication:** Track and measure the effectiveness of the first three initiatives, communicate results to the supply chain partners and stakeholders and make necessary adjustments to increase sustainability.

2.5 Importance of Sustainable Supply Chain Management (SSCM) Process:

The importance of sustainable supply chain management practices are going beyond the green revolution. Taking measures in favor of nature and the environment is necessary, but organizations should also focus on overall sustainability as well. Sustainability in the supply chain management activities is the key to improving productivity and optimizing costs for any organizations and companies. There are some other benefits of supply chain sustainability which included:

- Helps reduce environmental impact.
- Brings continuous improvement in the supply chain management.
- Improves company partnerships.
- Creates win-win business opportunities.
- Promotes a conducive work culture.
- Helps in implementing better Corporate Social Responsibility (CSR) activities, thereby increasing organizations' goodwill.
- Helps develop better supply chain risk mitigation techniques.

2.6 Key Practices in Sustainable Supply Chain Management (SSCM):

In order to the Sustainable Supply Chain Management (SSCM), it's needed to do some incorporated practices which are considered as the key practices of the SSCM. These are shown below.

- **Green Procurement:**
  - Sourcing materials and services from suppliers that adhere to sustainable and ethical standards.
  - Prioritizing recycled, biodegradable, or certified (e.g., FSC, Fair Trade) materials.
- **Eco-Efficient Transportation and Logistics:**
  - Optimizing routes to reduce fuel consumption and emissions.
  - Using electric or hybrid fleets.
  - Collaborating with local suppliers to reduce transportation distances.
- **Sustainable Manufacturing:**
  - Reducing waste, emissions, and water usage in production processes.
  - Investing in energy-efficient equipment and renewable energy sources.
  - Adopting circular production methods (e.g., closed-loop systems).

- **Packaging Reduction:**
- Minimizing packaging materials.
- Using biodegradable or recyclable packaging.
- Designing for minimal waste during unboxing.
- **Circular Supply Chains:**
- Emphasizing reuse, recycling, and remanufacturing.
- Designing products for disassembly and material recovery.
- Implementing take-back or reverse logistics programs.
- **Supplier Sustainability Audits:**
- Regularly auditing suppliers for environmental, labor, and ethical standards.
- Encouraging or requiring suppliers to report on sustainability metrics.
- **Ethical Labor Practices:**
- Ensuring fair wages, safe working conditions, and labor rights throughout the supply chain.
- Avoiding child labor and modern slavery through due diligence mechanisms.
- **Transparency and Reporting:**
- Publicly disclosing sustainability efforts and progress (e.g., in ESG or CSR reports).
- Using tools like blockchain for traceability and transparency in sourcing.
- **Stakeholder Engagement:**
- Collaborating with NGOs, governments, and local communities.
- Involving customers through sustainable product choices and education.
- **Risk Management and Compliance:**
- Monitoring and mitigating risks related to environmental laws and human rights regulations.
- Aligning with frameworks like ISO 14001, GRI, or the UN SDGs.

2.7 Best Practices for Sustainable Supply Chain Management (SSCM):

These are 10 easy to implement and easy to follow which are considered best practices for the Sustainable Supply Chain Management (SSCM) activities. These are shown here:

- Suppliers' Code of Conduct.
- Green Packaging.
- Sustainable Transportation.

- Ethical Sourcing.
- Waste Reduction.
- Life Cycle Assessment.
- Product Design.
- Stakeholder Engagement.
- Reporting and Transparency.

2.8 Challenges of Sustainable Supply Chain Management (SSCM):

- **Costs:** Managing a more sustainable supply chain comes with added costs related to increased employee training, hiring of specialists, more environmentally friendly sourcing and additional checkpoints and procedures, to name a few.
- **Rebuilding Frameworks:** Any organization has already its current system of supply chain which enables the processes from start to finish. In order to achieve the organization's sustainability goals that organization might need to make some changes to carve out the new paths, including selecting new partners.
- **Operationalizing Sustainable Development:** Putting the processes in place to establish this new form of sustainable operation will require an overhaul of certain infrastructures. It takes commitment and time, but once established, will be a habitual part of organization's culture.
- **The Missing Pieces:** There are many elements crucial to sustainable supply chain management that an organization simply doesn't yet have in place such as resources, technical expertise, process initiatives, software and technology, organizational policies etc.
- **Shifts in Paradigms and Mindsets:** Not everyone is comfortable with changes, especially when visible results aren't immediate. It's important to consistently communicate that sustainability is the way of the future and any organization's certain paths to a more secure and profitable level of success.

2.9 Ways to Improve Supply Chain Sustainability:

The practical, sustainable supply chain management starts with mapping the entire sustainable chain. There are some ways to improve the supply chain management practices. These are such as follows:

- Managers and higher authorities must assess risks and opportunities.
- Clarifying sustainable objectives with clients and suppliers.
- Setting smart goals.
- Bringing in sustainable targets in the procurement processes.
- Prioritizing work is essential in achieving a sustainable supply chain.
- Maintaining transparency overall.

2.10 Long-term Prospect of Supply Chain Sustainability:

The long-term prospect of supply chain sustainability is that it will become increasingly crucial for businesses to adopt and prioritize, as it offers significant benefits beyond environmental and social responsibility. Sustainable practices enhance brand reputation, attract socially conscious consumers, and improve operational efficiency, ultimately driving business growth and resilience. Supply chain sustainability will continue to grow worldwide due to the advent of circular economy and circular supply chain strategy. An increasing number of organizations (e.g., BRAC Printing Pack) and companies have started to focus on saving non-renewable energy and adopt sustainable practices. Supply chain professionals working closely with first-tier suppliers will adhere to the sustainable practices and vouch for a circular supply chain strategy. Overall, it can be said that there have been positive and progressive impacts of the sustainable supply chain management activities in Bangladesh and the world as well.

Chapter: 03

Organizational Overview

3.1 History:

BRAC is an international development organization founded in Bangladesh in 1972. It is the largest non-governmental development organization in the world, in terms of the number of employees, as of September 2016. BRAC has been established by Sir Fazle Hasan Abed in 1972 and it is now present in all districts of Bangladesh as well as 16 other countries in Asia, Africa, and the Americas. BRAC states that it employs over 90,000 people, roughly 70 percent of whom are women, and that it reaches more than 126 million people with its services. BRAC is known for the community-led, holistic approach and delivering long-term impact at scale. It works with communities in marginalized situations, hard-to-reach areas and post-disaster settings across Asia and Africa, with a particular focus on women and children. BRAC has already proven in the south and have become a world leader in developing and implementing cost-effective, evidence-based programs. It has been recognized as the number one development organization in the world for multiple consecutive years by Geneva-based independent media organization, NGO Advisor. BRAC is operating as a solutions ecosystem, including social development programs, social enterprises, humanitarian response, a bank and a university. The social development programs of BRAC included such as- (1) Eliminating extreme poverty (e.g., Ultra-poor graduation; Integrated development); (2) Expanding financial choices (e.g., Microfinance); (3) Humanitarian crisis management (e.g., Rohingya response); (4) Climate change and emergencies (e.g., Climate change; Disaster risk management); (5) Gender equality (e.g., Gender justice and diversity; Social empowerment and legal protection; Strengthening Bangladesh's RMG sector); (6) Universal access to healthcare (e.g., Health; Water, sanitation and hygiene); (7) Pro-poor urban development (e.g., Urban development); (8) Investing in the next generation (e.g., Education; Skills development; Migration; Youth platform.

BRAC's one of the most important programs is the social enterprises. The social enterprises of BRAC lies at the intersection of business and traditional non-profit. Social enterprises are self-sustaining cause-driven business entities that create social impact by offering solutions to social challenges and reinvesting their surplus to sustain and generate greater impact. One of the unique approaches of BRAC social enterprises has been to internalize the supply and packaging chain within the BRAC enterprises to generate the highest possible value for the final marketed products. This approach, besides cutting the supply cost, internalizes a significant portion of the surplus benefitting the development programs while ensuring an optimum quality. BRAC Printing Pack

(BPP) is such a social enterprise of BRAC. The BRAC Printing Pack (BPP) is a leading printing and packaging manufacturer that started its journey in 2005 to provide a whole range of products and services related to flexible packaging inside BRAC (BRAC Dairy and Food Project, BRAC Seed and Agro Enterprise) as well as external clients. Although this enterprise was initiated to ensure quality packaging for the products of BRAC dairy, BRAC salt and BRAC seed, it has become one of the significant competitors in the packaging industry. The operations of this enterprise are different that the others. Whilst its social objectives include safe packaging and income generation for its production center workers. BRAC Printing Pack's main goal is to support BRAC's other enterprises, BRAC Dairy and Food Project and BRAC Seed and agro Enterprises. Its production process utilizes the most modern and sophisticated state-of-the-art machinery to maintain international standards. It has a well-equipped laboratory to cater to the various demands of different customers. To ensure uninterrupted production, this project uses a 1 megawatt gas-powered generator ensuring round the clock power supply.

3.2 BRAC Printing Pack (BPP) Today:

Today, BRAC Printing Pack (BPP) is a leading flexible printing and packing manufacture. With state of the art machinery and using high quality raw materials, the enterprise is able to meet the packing and distribution needs of a diverse range of customers, including food items, toiletries, pharmaceuticals, pesticides, seeds etc. BRAC Printing Pack (BPP) now supplies 70% of BRAC Enterprise needs along with 150+ customers. One of the unique approaches of BRAC social enterprises has been to internalize the supply and packaging chain within BRAC enterprises to generate the highest possible values for the final marketed products. This not only optimizes cost, but also internalizes a significant portion of the surplus benefitting the development programs, while ensuring optimum quality of the packaged products. BRAC printing Pack (BPP) is now also meeting the packing and distribution needs of diverse customers (e.g., ACI limited). BRAC Printing Pack (BPP) now supplies 70% of BRAC Enterprise needs along with 150+ customers. It has 1500+MT annual production capacity with major working areas of food, agro, pharmacy, drinks and beverage, toiletries etc. BRAC printing Pack (BPP) always works with the alignment of BRAC's vision, mission and the values etc.

3.3 Vision of BRAC:

A world free from all forms of exploitation and discrimination where everyone has the opportunity to realize their potential.

3.4 Mission of BRAC:

- To empower people and communities in situations of poverty.
- To empower people and communities in situations of illiteracy.
- To reduce social injustice.
- Interventions aim to achieve large scale, positive changes through economic and social programs that enable women and men to realize their full potential.

3.5 Values of BRAC: There are four major values of BRAC. These are such as:

- Integrity
- Innovation
- Inclusiveness
- Effectiveness

3.6 Honours and Awards of BRAC:

BRAC, the largest non-governmental development organization, has been received many awards so far. These are as follows:

- ✓ Independence Award, 2007.
- ✓ Number one NGO in the world, 2019 by NGO Advisor.
- ✓ Number one NGO in the world, 2018.
- ✓ Number one NGO in the world, 2017 by NGO Advisor.
- ✓ Number one NGO in the world, 2016 by NGO Advisor.

3.7 Governing Body of BRAC: BRAC has a strong governing body. The governing body of BRAC is shown here-



Dr. Hossain Zillur Rahman
Chairperson



Adv. Syeda Rizwana Hasan
Member



Adeeb H. Khan
Member



Melisessa Parke
Member



Shafiqul Hassan
Member



Fathima Dada
Member



Tapan Chowdhury
Member



Dr. Fahmida Khatun
Memebr



Dr. M A Sattar Mandal
Member

3.8 Core Executive Management of BRAC:



BRAC Printing Pack

Tamara Hasan Abed: Managing Director**,** Enterprises, BRAC. BRAC Printing Pack (BPP) is under this section of BRAC Enterprises.



Asif Saleh: Executive Director, BRAC

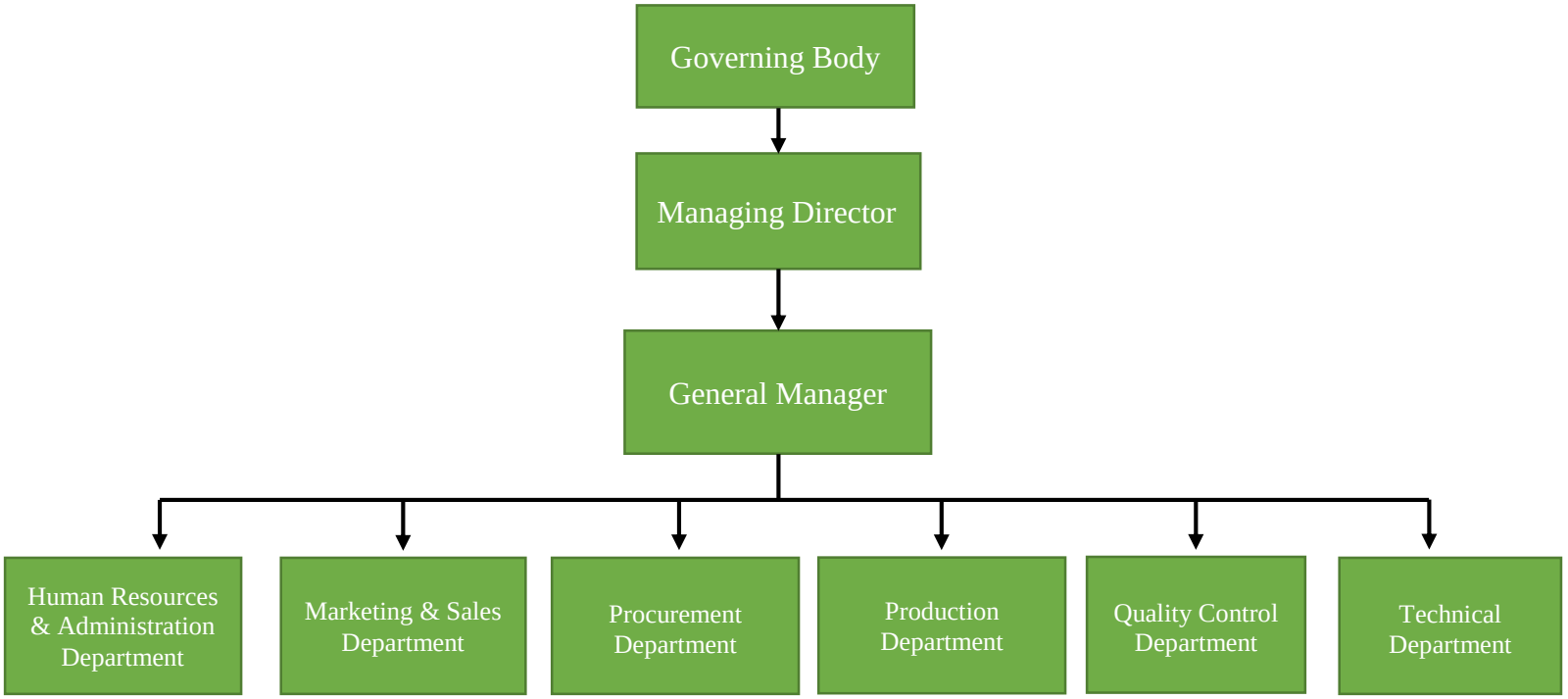


Shameran Abed: Executive Director**,** BRAC International



Jerome Oberreit: Executive Director**,** BRAC Global

3.9 Organogram of BRAC Printing Pack (BPP):



3.10 Commitments & Prominence of BRAC Printing Pack (BPP):

In the world of fast the world of fast-moving consumer commerce, the services and technology of suppliers must keep up with the expectations of stakeholders. BRAC Printing Pack (BPP) endeavors to provide a whole range of services and products through the below commitments.

- International standard quality.
- Excellent customer service.
- Prompt delivery.
- Client specific design.
- Quick sampling services.
- Clean, hygiene and closely monitored environment.
- Most modern and sophisticated state-of-the-art fabrication machinery.
- Long-term business relationships based on trust, cooperation, social responsibility and concern for all.

BRAC Printing Pack (BPP) stands out in Bangladesh's packaging industry as a prominent player, particularly for its flexible packaging solutions for food, agricultural inputs, and other products. It is a leading manufacturer in the country, serving both BRAC's internal needs (e.g., BRAC Dairy & Food, BRAC Seed) and external corporate clients. Its efficiency and capacity have grown significantly, meeting the high demand for quality packaging. BRAC Printing Pack (BPP) is prominent for-

- Using quality raw materials.
- Occupying latest machineries and technologies.
- Employing experienced and skilled human resources.
- Devoting continuous improvements and innovations.
- Clean hygienic and closely monitored environment.

3.11 Available Raw Materials, Products & Services of BRAC Printing Pack (BPP):

The available raw materials of BRAC Printing Pack (BPP) are as follows:

- PET, BOPP, Matte BOPP, Pearl BOPP, BOPA.
- MPET, MCPP, Aluminium Foil.
- LLDPE, mlldpe, LDPE, HDPE, PPA, Slip Agent, Master Batch.
- INK, Chemicals, Adhesive, Hardener, Solvent.

In addition, BRAC Printing Pack (BPP) produce different products as well as services which contribute to the society a lot. With considering the sustainable supply chain management, BRAC Printing Pack (BPP) is produced those products and services.

- Biodegradable poly bag.
- Pharmaceuticals-based wrappers, sachets, foils.
- Food and Beverage packaging wrappers, sachets.
- Agro-based wrappers, sachets, pouches.
- Hardware packaging wrappers, pouches.
- All kinds of Wrappers for Medicines, Salts, Candies, Noodles, Chanachurs, Biscuits, Saline's, Oil, Chips etc.
- Wrappers for Pharmaceuticals products.
- All kinds of Tea, Powder Milk, Spice wrappers.
- All kinds of Wrappers for Agriculture, Veterinary, Seed, Consumer and Toiletries.
- All kinds of 3-side Sealed, Standup, Zipper, 4-Side sealed Boarder, Centre Sealed, Gusset form, Metal-Nonmetal form Pouches.
- Multilayer Poly Film for Pasturized Liquid Milk, Shrink Wrappers.
- All kinds of Pearl Wrappers for Ice-creams and other Beverage items.

✓ **Below is shown of the images of products and services by the BRAC Printing Pack**

Images of Products and Services by BRAC Printing Pack (BPP)





Images of Products and Services by BRAC Printing Pack (BPP)













Images of Products and Services by BRAC Printing Pack (BPP)









3.12 Machineries Used in BRAC Printing Pack (BPP):

There are different machineries used in BRAC Printing Pack (BPP) for the productions of their products and services. Some of the machineries are shown here:



Biodegradable Machine



Rotogravure Printing Machine:
9 Colour, 8 Colour, and 4 Colour



Lamination Machine:
Dry and Wet Lamination



Film Making Machine:
3 Layer Co-Extrusion Film Making Machine



Pouch machine: Center Sealing, Stand-up Pouch, Zipper Bag and Automatic-3 side Seal



Slitting Machine



Inspection and Rewinding Machine





Chapter: 04

Analysis of Sustainable Supply Chain Management of BRAC Printing Pack (BPP)

This chapter presented the in-depth analysis of the sustainable supply chain management of BRAC Printing Pack (BPP). Now-a-days, a sustainable supply chain is the blueprint for the benefit of the bottom line as well as environment and society at large, where BRAC Printing Pack (BPP) is doing excellently through operate responsibly and reduce their ecological footprint while enhancing operational resilience also. Now, the followings are shown the analysis of the sustainable supply chain management of BRAC Printing Pack (BPP).

4.1 Key Pillars of Sustainable Supply Chain Management (SSCM):

Sustainable Supply Chain Management (SSCM) is all about designing, coordinating and managing a supply chain in such a way that minimizes its environmental impact, supports social responsibility and remains economically viable over time which considered as key pillars of Sustainable Supply Chain Management. It is found that the BRAC Printing Pack (BPP) has those key pillars of the sustainable supply chain management. Those are as follows:

- **Environmental Sustainability:**
  - ✓ Reducing carbon emissions (e.g., via cleaner transportation and use of renewable energy).
  - ✓ Minimizing waste and encouraging recycling.
  - ✓ Sustainable sourcing of raw materials for the production.
  - ✓ Efficient use of resources (e.g., energy, water, materials etc.).
- **Social Responsibility:**
  - ✓ Ensuring fair labor practices across the supply chain.
  - ✓ Supporting local communities and small suppliers as well.
  - ✓ Promoting diversity and inclusion all of its phases.
  - ✓ Transparency in sourcing and manufacturing mostly.
- **Economic Sustainability:**
  - ✓ Maintaining profitability to contribute to the society as BPP is a social enterprise while investing in green practices as well.
  - ✓ Risk assessment and management efficiently (e.g., avoiding supply chain disruptions due to climate risks)
  - ✓ Long-term supplier relationships.
  - ✓ Cost savings through efficiency (e.g., circular economy)
  - ✓ Promoting long-term financial stability.

4.2 Strategies of Sustainable Supply Chain Management (SSCM):

BRAC Printing Pack (BPP) adopted some strategies for the sustainable supply chain management practices. The followings are those strategies:

- ✓ **Life Cycle Assessment (LCA):** BPP always analyze the full environmental impact of a product or service from cradle to grave.
- ✓ **Green Procurement:** BPP chooses suppliers based on consideration of environmental and ethical performance.
- ✓ **Closed-loop Supply Chains:** BPP usually uses closed-loop supply chain in designing systems where products are reused, refurbished, recycled etc.
- ✓ Eco-labeling and Certifications: BPP is always trying to ensure that their products and services meet certain sustainability standards.
- ✓ **Carbon Footprinting:** BPP works to tracking and reducing emissions from sourcing to delivery of the products.

4.3 Sustainable Production Practices:

BRAC Printing Pack (BPP) incorporates several eco-friendly and sustainable practices in their operations. For example, BRAC Printing Pack (BPP) recycles waste paper to produce paper products such as envelopes, gift boxes and photo frames. This initiative not only reduces waste but also decreases the demand for virgin paper, contributing to environmental sustainability most importantly. BRAC recycled handmade paper recycles approximately 70 metric tons of waste paper annually. There are some other sustainable production practices of BPP which are as follows:

- ❖ **Use of Recycled Paper:**
- ✓ Prioritizes recycled or sustainably sourced paper.
- ✓ Reduces deforestation and lowers the environmental footprint.
- ❖ **Eco-Friendly Inks:**
- ✓ Uses vegetable-based or soy-based inks instead of petroleum-based inks, which are more biodegradable and emit fewer volatile organic compounds (VOCs).
- ❖ **Waste Management:**
- ✓ Implements waste segregation and recycling of paper, plates, and packaging material.
- ✓ Focuses on minimizing waste during the printing process.
- ✓ Maximizes resource efficiency.

- ❖ **Energy Efficiency:**
- ✓ Uses modern, energy-efficient machineries that consume less power.
- ✓ Explores renewable energy sources in production plants.
- ❖ **Water Conservation:**
- ✓ Practices responsible water usage in pre-press and post-press operations.
- ✓ Use waterless printing technologies, reducing water waste.

4.4 Sustainable Services:

BRAC Printing Pack (BPP) reflects sustainability in their services they offer. These are included but not limited to-

- ❖ **Custom Sustainable Packaging:**
- ✓ Offers biodegradable and recyclable packaging for clients.
- ✓ Helps other businesses reduce their packaging footprint.
- ❖ **Environmentally Conscious Design Solutions:**
- ✓ Encourages clients to opt for designs that use less ink and less material**,** reducing environmental impact.
- ❖ **Consulting for Sustainable Printing:**
- ✓ Advises businesses on how to make their printed materials more sustainable.
- ❖ **Bulk and On-Demand Printing:**
- ✓ Reduces overproduction and unnecessary waste by offering print-on-demand services.

4.5 Green Manufacturing Practices:

BRAC Printing Pack (BPP) focuses on reducing emissions, waste and energy consumption during production processes. This includes optimizing manufacturing techniques to minimize environmental impact, aligning with green manufacturing principles which also have been shown to positively affect environmental performance in Bangladesh's supply chain. Very soon BRAC Green Pack (under BPP) is opening soon for the widely production of Biodegradable poly bag which will be fully environment friendly. Already they have produced such bags on testing and ongoing basis and very soon their production will be increased with a huge amount of those Biodegradable bags as there will be solely dedicated five machine (JIT-SS) for that production. It will open a new window of green manufacturing practices as well as public hazard of using of

plastic bag will be significantly reduced. Here, is shown a sample of Biodegradable poly bag of BPP which producing is ongoing process.



Image: Biodegradable poly bag of BPP.

4.6 Alignment with Circular Economy Principles:

By incorporating recycled materials into its products, BRAC Printing Pack (BPP) embraces circular economy practices. This approach reduces waste and promotes resource efficiency, contributing to a more sustainable supply chain management. The adoption of circular supply chain management is gaining traction in Bangladesh, offering both economic and environmental benefits.

4.7 Integration of Green Supply Chain Management (GSCM):

BRAC Printing Pack (BPP) integrates environmental considerations into its supply chain management, encompassing product design, materials sourcing, and manufacturing and for the distribution also. This holistic approach defiantly aligns with GSCM practices which aim to reduce environmental impacts and improve supply chain efficiency overall.

4.8 Contribution to Sustainable Development Goals (SDGs):

BRAC Printing Pack is supporting various SDGs, including responsible consumption and production, climate action, and decent work and economic growth through its sustainable practices overall. The organization's efforts in recycling and green manufacturing contribute to environmental sustainability, while its employment practices promote economic development as well.

4.9 BRAC Procurement Guidelines and Implementation Procedures (BPGIP):

A transparent procurement system is that which is characterized by clear guidelines as well as implementation procedures and accountability to verify that those guidelines and implementation procedures are being followed properly. Accountability will ensure obligations to be performed by the personnel involved in the procurement process. BRAC embarked upon the task of reforming its procurement regime in line with modern procurement practices with a view to improving the governance in the area of procurement. Accordingly, the BRAC Procurement Guidelines and Implementation Procedures (BPGIP), were developed outlining the principles, methods and process to be followed by BRAC for procurement of goods and related services. The accompanying Guidelines and Procedures are made effective from February 2021 and replaces all previous versions of the BPGIP. The purpose of the guidelines is to provide accountability, transparency and fair competition in an efficient manner to help timely implementation of the programs, ensuring economies of scale and best value for money.

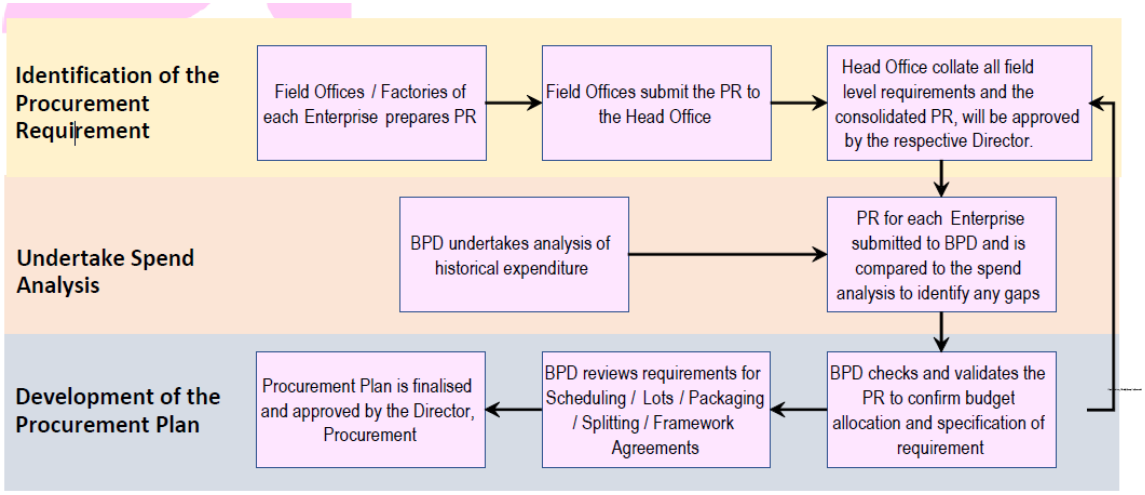
4.10 Procurement Planning for Enterprises:

BRAC enterprises (e.g., BRAC Printing Pack) has its own and unique procurement planning. Annual Procurement Plan (APP) is the process of identifying the annual expenses of the BRAC enterprises mostly raw material/ packaging materials, consolidating all together and determining the procuring method and time of delivery. Every enterprise of BRAC shall prepare annual business plan (ABP) which sets out their plan with regards to yearly business operations and expansion. To run the business smoothly and enable effective procurement of requirements, the procurement department must be involved in the initial business planning stage. It is necessary for the procurement to:

- Understand the enterprises' requirements regarding what is needed to be procured for the next year.
- Aggregate the similar demand in order to achieve the most economical pricing.
- Define appropriate procurement methods and processes.
- Identify the procurement potential sources.
- Assess potential lead times.
- Ensure value for money (VFM) while procuring the goods /services.

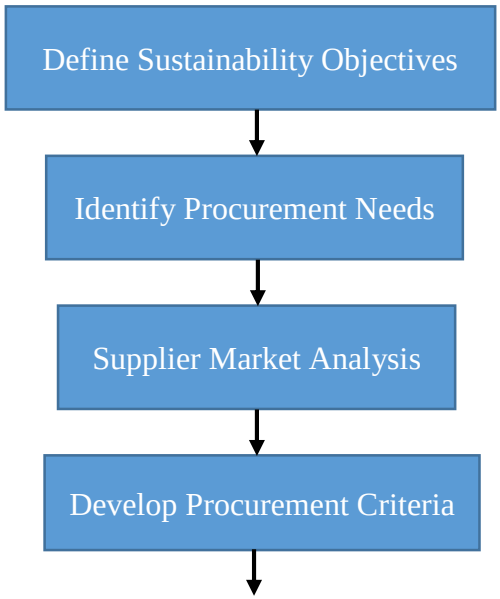
The key activities within the Procurement Planning stage are: The key activities within the Procurement Planning stage are: (I) Identification of Procurement Requirements (PR); (II) Spend analysis; (III) Development of the Procurement Plan (PP).

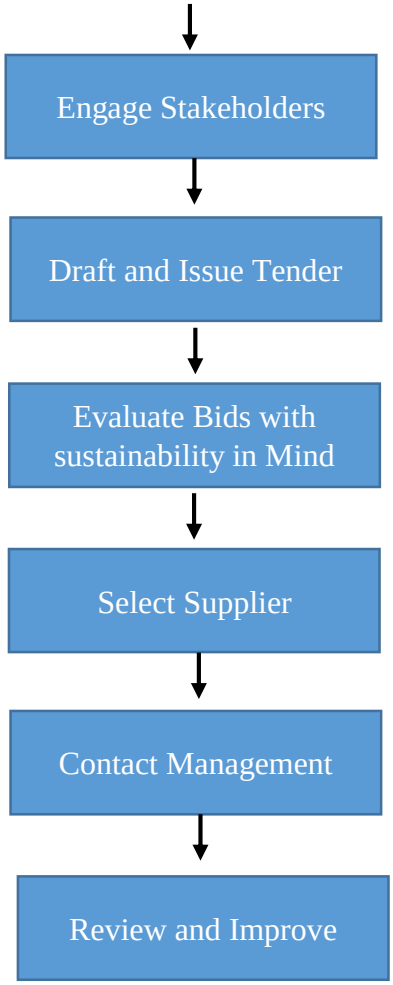
The following figure illustrates the procurement planning process.



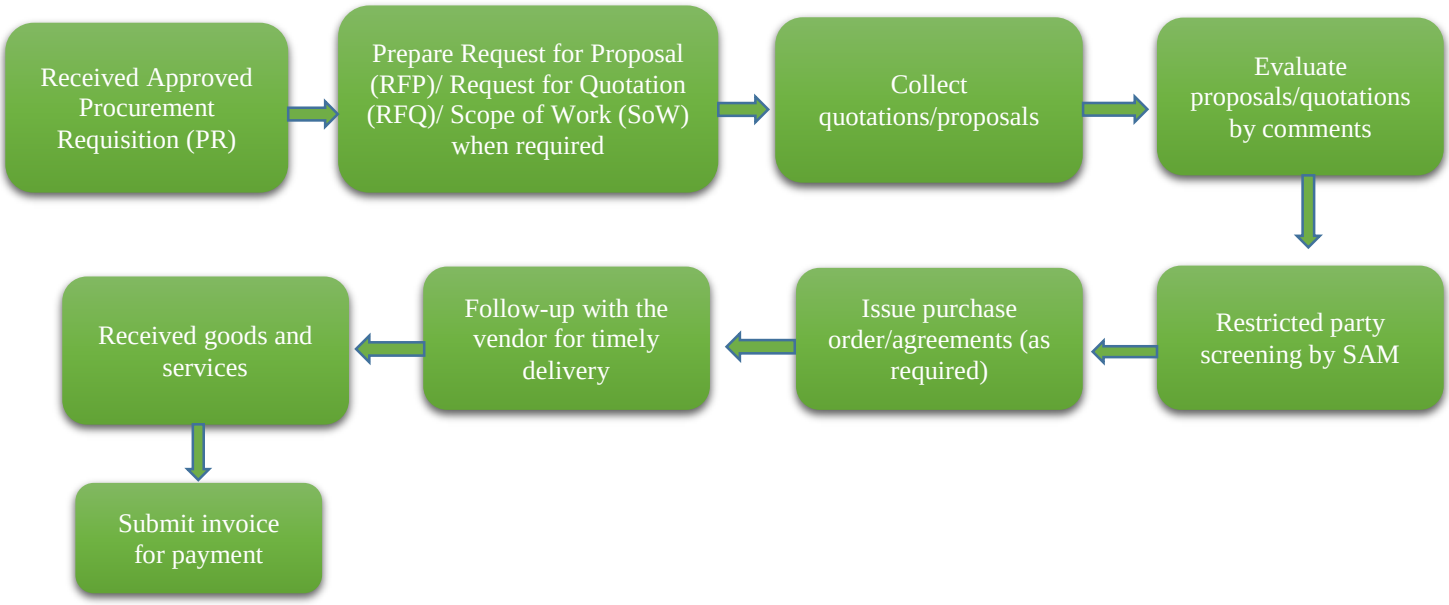
4.11 Sustainable Procurement Framework of BRAC Printing Pack (BPP):

BRAC Printing Pack (BPP) works effectively while a huge amount of products and services through using sustainable procurement framework. The sustainable procurement framework is very much helpful and effective for the Sustainable Supply Chain Management (SSCM). The sustainable procurement framework of BRAC Printing Pack (BPP) is shown through the below flowchart.





4.12 Standard Procurement Cycle of BRAC Printing Pack (BPP):



4.13 Monitoring Sustainable Supply Chain Management of BRAC Printing Pack:

It has been found that BRAC Printing Pack (BPP) maintains some key aspects of monitoring of Sustainable Supply Chain Management (SSCM). These are shown here-

- ✓ **Key Performance Indicators (KPIs):** Tracking specific metrics to measure sustainability performance. Common Sustainable Supply Chain Management (SSCM) key performance indicators (KPIs) are those followings.
- ➢ **Environmental:** The environmental monitoring part of Sustainable Supply Chain Management (SSCM) included as the followings-
    - o CO_2 emissions per unit/product.
    - o Water and energy usage.
    - o Waste generation and recycling rates.
- ➢ **Social:** The social monitoring part of Sustainable Supply Chain Management (SSCM) would be included the followings-
    - o Number of supplier audits completed.
    - o Labor rights violations or complaints.
    - o Employee health and safety incidents.
- ➢ **Economic:** The economic monitoring part of Sustainable Supply Chain Management (SSCM) are included those followings-
    - o Cost savings from energy efficiency.
    - o Procurement from local or sustainable sources.
    - o Return on investment (ROI) from sustainability initiatives.
- ✓ **Supplier Performance Monitoring:** The monitoring of the supplier performance might be achieved through the followings-
- ➢ **Audits and Assessments**: Regular audits (on-site or third-party) to evaluate suppliers' environmental and social practices.
- ➢ **Self-reporting Tools**: Requiring suppliers to submit sustainability data via surveys or platforms.
- ➢ **Scorecards**: Grading suppliers based on sustainability performance to drive improvement or determine future collaboration.

- ✓ **Traceability and Transparency Tools:** The followings might be used as for the traceability and transparency tools in order to proper monitoring of sustainable supply chain management (SSCM).
- ➢ **Block chain and Digital Ledger Tech**: To ensure authenticity of sourcing data and prevent green washing.
- ➢ **QR Codes / RFID**: For tracking product origins and lifecycle information.
- ➢ **Supplier Management Software**: Platforms like SAP Ariba, EcoVadis, or Sedex offer tools for monitoring supplier sustainability.
- ✓ **Reporting and Disclosure:** There are many ways of reporting of strong monitoring for doing successful sustainable supply chain management (SSCM). These are given below-
- ➢ **Internal Reporting**: Regular sustainability reports to internal stakeholders for strategy alignment.
- ➢ **External Reporting**: The following of external reporting which can be used for monitoring SSCM.
  - o ESG (Environmental, Social, Governance) reporting.
  - o CDP (Carbon Disclosure Project).
  - o GRI (Global Reporting Initiative).
  - o UN Global Compact.
- ✓ **Continuous Improvement Mechanisms:** The followings are the continuous improvement mechanisms for the proper monitoring of SSCM.
- ➢ **Corrective Action Plans**: For suppliers who don't meet standards.
- ➢ **Training and Capacity Building**: Helping suppliers improve their practices.
- ➢ **Benchmarking**: Comparing performance against industry standards or best-in-class companies.
- ✓ **Feedback Loops:** Different feedback loops are used for monitoring of SSCM.
- ➢ **Stakeholder Surveys**: Collecting feedback from customers, employees, and communities.
- ➢ **Incident Tracking Systems**: Recording and analyzing supply chain disruptions or violations.

- ✓ **Periodic Reviews:** Periodic reviews are also used for the strong monitoring mechanism of SSCM. Periodic reviews can be done through-
  - ➢ Monthly, quarterly, or annual reviews of supply chain sustainability goals and performance.
  - ➢ Strategic updates based on global sustainability trends and evolving regulations.

4.14 Challenges of Practicing Sustainable Supply Chain Management:

Though BRAC Printing Pack (BPP) successfully working with practicing sustainable supply chain management, it's facing some challenges still. Those identified challenges were such as-

- ✓ **Cost and Financial Barriers:**
  - **High upfront costs:** Implementing sustainable practices like investing in eco-friendly equipment, adopting new technologies, and engaging in supplier development often requires significant upfront investments.
  - **Balancing costs and sustainability:** Businesses must find a way to make sustainability economically viable while also achieving their environmental and social goals.
  - **Lack of financial resources:** Many organizations, particularly small and medium-sized enterprises (SMEs), lack the financial resources needed to invest in sustainable initiatives.
- ✓ **Supply Chain Complexity and Transparency:**
  - **Global and intricate supply chains:** The complexity of global supply chains makes it challenging to identify and manage environmental and social impacts across all levels.
  - **Lack of transparency:** Transparency in the supply chain is crucial for understanding and addressing sustainability issues, but it can be difficult to achieve due to the intricate nature of supply chains.
  - **Managing uncertainties:** Supply chain disruptions and uncertainties can make it difficult to plan and implement sustainable practices effectively.
- ✓ **Technological and Operational Challenges:**
  - **Inadequate technology:** The availability and affordability of sustainable technologies may be limited, hindering the adoption of eco-friendly practices.
  - **Lack of expertise:** Businesses need to invest in training and development to equip their workforce with the necessary skills and knowledge to implement sustainable practices.

- **Data and information gaps:** Collecting and analyzing data related to sustainability performance can be challenging, making it difficult to track progress and make informed decisions.

✓ **Social and Ethical Challenges:**

- **Social responsibility issues:** Ensuring ethical labor practices, fair wages, and safe working conditions throughout the supply chain can be a significant challenge.
- **Lack of awareness and education:** Many stakeholders, including suppliers and consumers, may lack awareness of the importance of sustainable supply chain management.
- **Cultural and mindset shifts:** Adopting sustainable practices requires changes in organizational culture and mindset, which can be a challenging process.

✓ **Regulatory and Institutional Challenges:**

- **Lack of clear regulations:** The absence of clear regulations and standards related to sustainable supply chain management can make it difficult for businesses to know what to do.
- **Regulatory differences:** Different countries and regions have different regulations and standards, which can complicate the implementation of sustainable practices across global supply chains.
- **Lack of enforcement:** Weak enforcement of sustainability regulations can also hinder the adoption of sustainable practices.

✓ **Aligning Sustainability with Other Objectives:**

- **Balancing sustainability and economic viability:** Businesses must find a way to make sustainability economically viable while also achieving their environmental and social goals.
- **Managing tradeoffs:** Sustainable supply chain management often involves trade-offs between different objectives, such as cost, quality, and environmental impact.
- **Integrating sustainability into core operations:** Sustainability must be integrated into all aspects of the supply chain, from sourcing to distribution, to be truly effective.

Chapter: 05

Findings

5.1 Findings:

The study on sustainable supply chain management of BRAC Printing Pack (BPP) in Bangladesh has provided valuable insights into the strengths, challenges as well as opportunities for improvement. The Major finding of this study are outlined here:

- ❖ **Sustainable supply chain management activities of BRAC Printing Pack (BPP):**
- ✓ **Green Manufacturing Practices:** BPP worked on sustainable supply chain which helped to reduce optimizing manufacturing aligning with green manufacturing. It has been shown to positive environmental impact especially the performance in Bangladesh's supply chain.
- ✓ **Recycled Handmade Paper Production:** The initiative and production of BPP's recycled handmade paper not only reduces waste but also decreases the demand for virgin paper, thus contributing to environmental sustainability widely.
- ✓ **Alignment with Circular Economy:** The adoption of circular supply chain management is gaining traction in Bangladesh and it is offering both economic and environmental benefits. Thus this approach contributing to a more sustainable supply chain management of BPP in Bangladesh.
- ✓ **Integration of Green Supply Chain Management (GSCM):** BPP's integrates environmental considerations into its supply chain management with alignment of GSCM improves the efficiency of supply chain more.
- ✓ **Contribution to Sustainable Development Goals (SDGs):** BRAC Printing Pack (BPP) is already worked with sustainable supply chain which actually supporting various SDGs most importantly.
- ❖ **Opportunities of practicing sustainable supply chain management of BRAC Printing Pack (BPP):**
- ✓ **Reduction of Environmental Footprint:** BPP can significantly contribute to the global sustainability by adopting green supply chain practices.
- ✓ **Cost Efficiency and Resource Optimization:** BPP, through implementing sustainable supply chain management, is doing its cost savings and optimization of resources. For example- BPP's focus on efficient production methods has already resulted in capacity growth from 120 to 1,500 metric tons in a few years.
- ✓ **Enhanced Brand Image and Market Competitiveness:** Consumers and businesses are increasingly favoring such organizations that demonstrate environmental stewardship. By

integrating sustainable practices into its supply chain, BPP is enhancing its brand image, attract environmentally conscious clients, and gain a competitive edge in both local and international markets.

- ✓ **Compliance with Regulatory Standards:** BPP is proactively adopting sustainable supply chain management practices with its' own regulatory standards aligning with maintaining international standards.
- ✓ **Contribution to Circular Economy:** Engaging in circular economy practices, such as recycling and reusing materials, allows BPP to minimize waste and maximize resource efficiency. This approach not only benefits the environment but also opens avenues for new business models and revenue streams.
- ✓ **Employees' Satisfaction and Community Impact:** Sustainable practices often lead to improved working conditions and community well-being. BPP's commitment to providing fair wages and employment opportunities, especially for women, aligns with social sustainability goals and fosters a positive corporate culture.

❖ **Sustainable practices contribute to the BRAC Printing Pack's (BPP) overall sustainability and supply chain efficiency effectively:**

- ✓ **Environmentally Friendly Materials:** In line with BRAC's broader commitment to sustainability, BPP has ceased using PVC banners and single-use plastic materials, opting instead for cloth and other eco-friendly alternatives. This shift reduces environmental impact and aligns with organizational policies aimed at lowering carbon emissions.
- ✓ **Optimized Production Processes:** BPP employs a streamlined production approach where sales' staff collect precise orders detailing design and quantity. This method minimizes overproduction, reduces waste, and eliminates the need for an extensive design team, leading to cost savings and improved efficiency.
- ✓ **Supporting BRAC Enterprises:** Initially established to provide quality packaging for BRAC's dairy, salt, and seed products, BPP now serves over 150 business clients. By internalizing the packaging supply chain, BPP ensures consistent quality, reduces costs, and strengthens the overall efficiency of BRAC's product distribution.

Chapter: 06

Recommendations and Conclusion

6.1 Recommendations:

The following recommendations are proposed to overcome challenges and to enhance sustainable supply chain management of BRAC Printing Pack (BPP) of Bangladesh based on the findings and analysis.

- ✓ Adopt green packaging solutions more and more.
- ✓ Implement circular economy practices more widely.
- ✓ Collaborate with more certified suppliers.
- ✓ Technology plays a pivotal role in supporting supply chain sustainability initiatives. Artificial intelligence (AI) and machine learning (ML) can enhance supply chain visibility by tracking and analyzing data across the value chain.
- ✓ Enhance supply chain transparency more with the focus of sustainable supply chain management.
- ✓ Engage in activities of continuous improvement and keep up-to-date on sustainable supply chain management practices.
- ✓ Use of up-to-date technology and tools for sustainable supply chain management. For example, the Blockchain technology can improve traceability by providing a secure and transparent record of transactions which is very much useful in verifying sustainable sourcing and ensuring social sustainability.

6.2 Conclusion:

In conclusions, it can be said that BRAC Printing Pack (BPP) in Bangladesh is a successful case of doing sustainable supply chain management from its practices of managing the entire supply chain from raw materials to final disposal of products and services. It is integrating the environmental, social and financial considerations into the sourcing, production and distribution of services. The BPP exemplifies of its commitment to sustainable supply chain management by implementing green manufacturing practices, utilizing recycled materials, and aligning with circular economy principles. These sustainable initiatives not only enhance BRAC Printing Pack's operational efficiency but also contribute to the broader goal of environmental stewardship within Bangladesh's manufacturing sector as well as broader sustainable development objectives of Sustainable Development Goals (SDGs).

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