

Amelioration of RMG Industry by Utilizing Green Supply Chain Management: Bangladesh Perspective

Muhammad Sanaulah¹

Abstract

Amelioration is the act of making something better. It is the improvement of a particular sector from what presently it has in its working environment. Green supply chain management (GSCM) has currently appeared for adhering to rules and regulations of environmental preservation. Over the past decades, it has come up with the idea of growing environmental issues. From the very beginning, suppliers' environmental liabilities were vested upon manufacturing companies. There is a crying need, to bridge the gap between the walls of the companies and also beyond the unbroken supply chain. This study was delineated to identify the correlation between the integration of Green Supply Chain and amelioration of RMG industry in Bangladesh. There are number of studies, those dealing with economic, social, and environmental issues of RMG industry. Those research works are mostly in an isolated fashion. It is being observed that some studies are metaphysical with a greater dimension to implement in the RMG sectors. Exhaustive studies on Sustainable Supply Chain Management (SSCM) encompassing various issues, like social, economic, and environmental facets are very meager. Considering the gap in the gamut of RMG industries, an endeavor has been made to promote a complete SSCM structure in the real scenario of the study found that GSCM practices are time-worthy in promoting the attainment of supply chains. At last, this study certainly ameliorates the condition of the RMG industry in our country through the proper use of GSCM practices.

Keywords: Amelioration, Green supply chain management (GSCM), Green supply chain (GSC), Ready-made garments(RMG)

1. Introduction

The term Green Supply Chain Management (GSCM) unearths the concept of incorporating sustainable environmental processes into the conventional supply chain. It is related to the processes of design of the product, sourcing of materials, and selection of parameters. It also deals with production, operation, and end-of-life management. There are a number of definitions of Green Supply Chain (GSC) that are in vogue in the relevant literature. Some have called it a Sustainable Supply Chain (SSC) (Ageron, et al., 2019), an environmental supply chain, and an ethical supply chain (Beamon, 2018). It has also been described as a socially responsible supply chain (Salam, 2017).

Foreign currency is earned by various sectors in our country. In Bangladesh, RMG is the foremost sector to contribute maximum in economic aspects. In terms of ranking in the world apparel sectors, next to China, our country is the second-largest garment exporting country. At least 4 million people are working in 6020 garment factories. It is to be noted the 85% of them are female employees. "Green" standards and techniques have become a fundamental issue for the organizations as widespread familiarity with their environmental

¹Lieutenant Colonel, General Staff Officer Grade-1 (Research), Military Institute of Science and Technology (MIST)
E-mail: mssanaul35@gmail.com

impacts. Today, all stakeholders are more health-conscious and deliberately support a greener lifestyle. Additionally, GSCM is perceived as SSCM.

GSCM practices ameliorate to pursue an environmentally-focused strategy. Improved environmental conditions are needed for the execution of GSCM practices. It is best described by reductions in emissions, effluent waste, solid waste, and the consumption of toxic materials. Improved market share and profitability depend on environmental sustainability efforts. The motto of the local stakeholders should be to assist the Supply Chain Management (SCM) first and secondly their organizations (Green et al., 2018). Briefly, they should follow “globalize to localize”. If we achieve success at the supply chain level, that will lead us to achieve success at the organizational platform (Chopra and Meindl, 2019).

It is being observed that significant study has been carried out in terms of SCM and also GSCM. But how best the GSCM practices can be incorporated to ameliorate our RMG industry is yet to be explored. There are studies on GSCM in advanced countries. GSCM practices are required to gain more benefit out of it. In our country, it is yet to be practiced on the ground and needs proper attention for the future development of the RMG industry.

2. Objectives

The study called on to scrutinize and assess the multifaceted aspects of the garments sector and its impact on the environmental state of Bangladesh. In such a context, the main objective of the study is to analyze the amelioration through the implementation of GSCM in the RMG industry of Bangladesh.

This will be achieved through the secondary objectives which are:

- ❖ to overview the result of GSCM through green amelioration
- ❖ to examine the outcome of GSCM on environmental amelioration
- ❖ to study the end result of GSCM on operational amelioration
- ❖ to evaluate the success of GSCM on economic amelioration

3. Problem Statement

RMG is the most important economic sector in Bangladesh. As per the report of Bangladesh Garment Manufacturers and Exporters Association (BGMEA), this sector's contribution to GDP is 11.83% in the financial year 2018-19. It also contributes 83% of the overall export earnings of Bangladesh. Presently, GSCM practices are on with the growing concern of environmental preservation. As far as the number is concerned, studies on SSCM are not very encouraging. Few studies are focusing on rules and regulations to be adhered to by RMG industries. In the future, we need to see this sector is booming and contributing to countries' economy in much bigger expectations. The gap is observed as to how best the garment sector can be developed by following the GSCM practices in Bangladesh. Researchers, economists, sociologists are yet to unearth this part of the garment sector. We need to have an in-depth study of the amelioration of the RMG industry of Bangladesh by the proper utilization of GSCM. We should solve the issue of amelioration of our garment sector by continuous persuasion of GSCM practices.

4. Literature Review

4.1 Understanding the Subject Matter

This study underscores various issues that are pertinent to research dynamics. Numerous scholars and potential writers have worked on the concept of GSCM and the performance of the organization. Round the enterprise, GSCM is a coordinated endeavor. It is not only materializing some ecological performance, rather a combined posture for developing environmental and organizational performance. It transcends from a lower level to a higher level of management. GSCM is a concerted endeavor across the business and is not only applying some ecological practices, rather a rational approach for improving environmental and organizational performance. Nature sustainability is a big issue for future days to come (Zhu et al., June 2020). Furthermore, GSCM is termed as following equation (Hervani et al., 2019):

"Green supply chain management (GSCM) = Green Purchasing + Green Manufacturing/ Materials Management + Green Distribution/Marketing + Reverse Logistics."

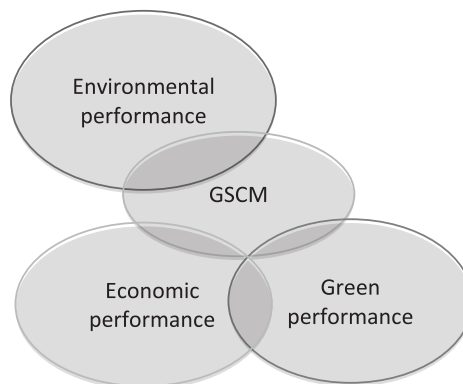


Figure 1: Demonstration of GSCM (Brockhaus et al., 2018)

4.2 Green Amelioration

Previous literature has offered insight on potential patterns of supply-chain relations for Green amelioration. For supporting positive relationships in terms of the literature itself, it is said to be relatively strong. Improvement in green performance is directly related to inter-firm linkage. For the adoption and development of innovative environmental technologies, the relationship within the suppliers is a big factor. Nature sustainability requires green amelioration (Zhu et al., 2020). In China, environmental performance is best achieved by the interaction of customers, the staff of the suppliers, agreements of partnership, collective research, and development. The adoption and development of innovative environmental technologies are aided by relations with suppliers at all levels. Improvement in environmental performance is best described by the interaction with customers, suppliers, and evaluation of SSCM practices (Omid Narimissa, 2019). In addition, reverse logistics is a new concept to keep our environment 'green'.

4.3 Environmental Amelioration

Worldwide environmental attainment is primarily measured through operative parameters. In this study, the environmental initiatives denote the reduction of air emission, wastewater reduction, reduction of consumption for hazardous materials, and improvement in an organization's environmental condition. Organizations have both direct and indirect impacts on the natural environment. First-tier suppliers have influences on sustained direct environmental impacts. Suppliers of second-tier are directly linked with indirect environmental bangs (Darnall et al., 2018).

The link between the company and the environment is best described by the environmental reports of the companies. In France, there are a number of tangible and intangible performance metrics that are included in the environmental performance reports (Hervani et al., 2019, Revised). The absolute performance or relative performance determines the environmental performance (Matinez et al., 2019).

4.4 Economic Amelioration

Economic representation includes cost reduction for purchasing materials, energy utilization, waste management, and waste discharge. Negative economic performance is observed through the increase of costs regarding investments and purchasing environmentally friendly materials (Kenneth Methu, 2019). In this study, negative economic representation is described as an increase in investment, operational costs, purchasing eco-friendly materials, and an increase in the cost of training.

It is nevertheless a mixed feeling, whether GSCM practices are related to positive or negative economic performances. It is perceived that environmental management such as GSCM has a positive relationship with an organization's economic performance. In the USA, inter-firm relations provide formal and informal mechanisms that promote trust, reduce risk, and in turn increase innovation and profitability (Bulent Sezen, 2018).

4.5 Operational Amelioration

Reductions in cost, quality assurance, flexibility, and delivery matters are reflected in the operational level of the organizations. This study denotes operational amelioration as development in on-time delivery of goods, level of inventing, and rate of scrap in a lowered state (Bulent et al., 2019). Manufacturers that implement customer biased GSCM can effectively reduce costs. This is ultimately improving quality, delivery, and flexibility in operations (Chavez et al., 2019). Manufacturing performance improvement is articulated by environmental collaboration with suppliers.

In the UK, participation regarding operational aspects with suppliers, produces the same benefits as non-green supplier participation, due to an increased level of integration. Operational performance like lower production costs are perfectly linked with suppliers and GSCM. There is close connectivity of management and operational aspects of GSCM (Ruoqi Geng and Ennet Aklas, 2020).

5. Methodology

5.1 Design

The study was conducted from a rational point of view and a suitable method was used to respond to the research questions. The key purpose is to acquire mostly qualitative data through knowledge sharing and discussion. An interview approach has been adopted in this study so that the researcher may better understand the pros and cons of the research area for further study. The review of the literature has contributed to the framework for the primary advancement of the interview questionnaires. The literature review also helped in refining the interview questions so that it fits better with the actual situation.

5.2 Sample

The targeted population of this study was 4286 RMG companies listed in BGMEA that conduct their operations across the countries. RMG companies that have at least one international recognition on enduring aspects were picked up as a sampling frame. In this aspect, it would be possible to pick 20 companies as a sample for one survey. Another survey was conducted by taking 15 enterprises.

5.3 Data and Collection of Data

In this study secondary data is used to gather preliminary knowledge about the study topic and a range of information sources. The secondary sources of data for the study were Google generic and scholar search tools. Raw data was collected through a survey conducted via face-to-face interviews, telephone interviews & questionnaires. All data collected, were put into analysis.

5.4 Questionnaire Design, Data Collection, and Analysis

A semi-structured questionnaire was developed as a means of conducting the survey for collecting raw data. Another survey was done and response was encouraging as 15 of them out of 18 had been agreed to participate in the interview. The data were transcribed immediately after the interview so that the senses and tunes of the interview are reflected properly. To analyse gap and interpret, a few variables were taken under three main factors. During the survey, extra care was rendered to collect authentic, relevant, and perfect data. The data collected were analysed using a descriptive model and presented in terms of percentages, bar charts, pie charts, generated by Microsoft Excel.

6. Findings and Analysis

An overall idea about the amelioration of RMG by GSCM can be obtained from the interviews on particular issues that are shown in Table 1.

Table 1: Factors and Variables of RMG Green Perspective.

Factor	Variable	Enterprises														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Environmental performances	Controlling water Pollution (ETP)	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	-
	Controlling air pollution	Yes	Yes	Yes	Yes	-	Yes	-	Yes	Yes	Yes	Yes	-	-	Yes	-
	Disposal of waste carefully	Yes	Yes	Yes	Yes	-	Yes		Yes	Yes	Yes	Yes	-	-	-	Yes
	Waste Recycling	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	Yes
	Hazardous materials controlling	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Complying environmental legislation	Yes	Yes	Yes	Yes	Yes	Yes		-	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Operational performances	Delivery lead time	Yes	Yes	Yes	Yes	-	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Quality	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes		Yes	Yes	Yes	Yes
	Reliability regarding quality, design, and other specification	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Efficient and Updated Machinery and technology	Yes	Yes	Yes	-	Yes	Yes		Yes	Yes	Yes	Yes	-	Yes	-	-
	Factory getup	Yes	Yes	Yes	Yes	-	Yes		Yes	Yes	Yes	Yes	Yes	Yes	-	-
Economic performances	Sales and business volume	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Cost	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Profit	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	-	Yes	Yes
	Sales growth	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	-	Yes	-	-

6.1 GSCM Fulfillment in RMG Sectors of Bangladesh

GSCM practices are modern issues in the RMG industry of Bangladesh. Day by day, RMG companies are trying to manufacture their items in sustainable ways. Several firms continue in making effort to maintain the production process in better ways. The collected information from the queries and the other origins are examined for evaluation.

6.2 Companies Responsiveness on GSCM

Figure 2 given below shows companies consciousness on sustainable manufacturing where 50% (10 out of 20) companies are thoroughly acquainted with sustainable manufacturing. These 10 companies have a sustainable related international LEED certificate, ISO 14401:2018 certificate. Some companies have suitability reports and policies. The rest 35% (7 out of 20) and 15% (3 out of 20) companies are moderately and somewhat conscious of issues because they have other certificates along with ISO.

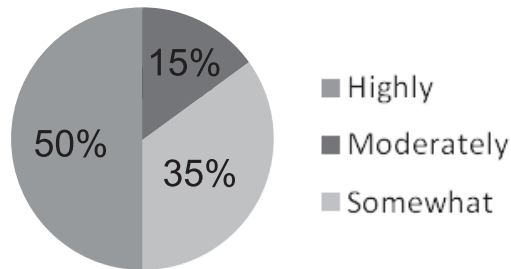


Figure 2: Awareness of RMG companies on Sustainable Manufacturing

6.3 Waste Management

The remnants left out after each process during production remain as waste. The human-controlled collection, treatment, and disposal of different wastes are best described by waste management. It serves dual purposes by making industrial activities more aggressive as well as protecting the environment. The common waste management process followed by the RMG industry in Bangladesh is ETP for nursing watery waste and again using water for cleaning washrooms. It is also used in sprinkling onto the gardens and plantations. In figure 3, preferred manufacturers of RMG followed by the waste management are shown with few cardinal points:

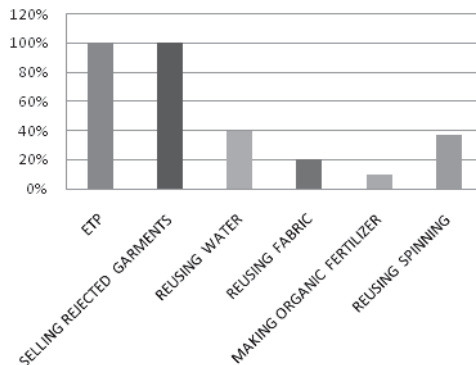


Figure 3: Waste Management Practices

100% (all 20 respondents) of the manufacturers use Effluent Treatment Plant (ETP) for managing liquid waste sourced from different production processes specially the dyeing section. 100% (20 out of 20) of the companies are selling their rejected garments to a third party or local markets.

6.4 Sustainable Manufacturing Process

This process consists of reduction of energy consumption, usage of renewable energy, abatement of water consumption, and abatement of noise pollution proceedings.

6.4.1 Reduction of Energy Consumption

According to figure 4, 100% (twenty out of twenty) of the companies reported that they are using energy-efficient LED light and sewing machines fitted with servo motors. These initiatives have resulted in the reduction of electricity consumption by 35-40%.

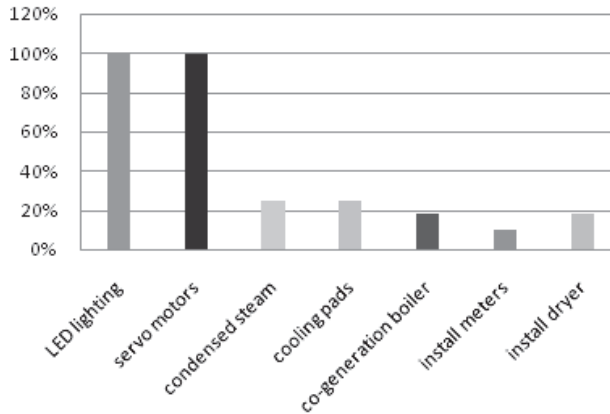


Figure 4: Reduction of Energy Consumption Practices

One-fourth (five out of twenty) of the companies asserted that condensed steam is reprocessed by them. This heated water is supplied to the boiler to produce steam. Only 15% (3 out of 20) used a co-generation boiler which also saves fuel gas. The natural cooling pad is used by 25 % (5 out of 20) companies instead of air conditioners, thereby saving electricity. 15% (3 out of 20) of the companies declared that they install dryer exhaust to preserve gas used in the dyeing section. Only 5% (1 out of 20) of the companies installs meters to reduce energy consumption.

6.4.2 Renewable Energy

The energy that is collected from the resources that are naturally replenished on a human timescale is called renewable energy. Today, the world emphasizes more on renewable energy. Nowadays organizations as well as industries are trying to shift to renewable energy systems from the traditional system. The surveyed data showed in figure 5 that 70% (14 respondents out of 20) of the companies partially install renewable energy systems in their industries and 30 % (6 out of 20) are still not taking any steps to establish renewable energy systems.

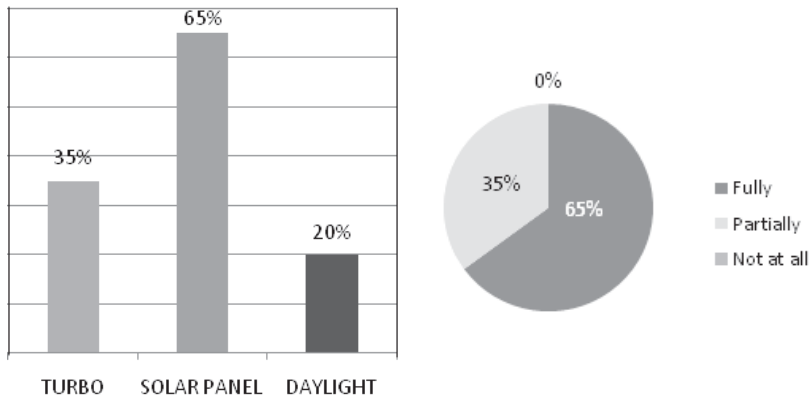


Figure 5: Usage of Renewable Energy

Among 20 RMG companies, 35% (7 out of 20) use turbo ventilation, 65% (thirteen out of twenty respondents) use solar panel and 20% (four out of twenty) use daylight as a renewable energy system to fulfill their partial energy requirements.

6.4.3 Water Consumption Reduction

As per figure 6, in Bangladesh, 60% (12 out of 20) companies reported that they reuse their processed water that can save their water consumption. 85% (seventeen out of twenty) companies use water economizing apparatus such as servo motors, air dyeing machines that can save water consumption in the RMG industry.

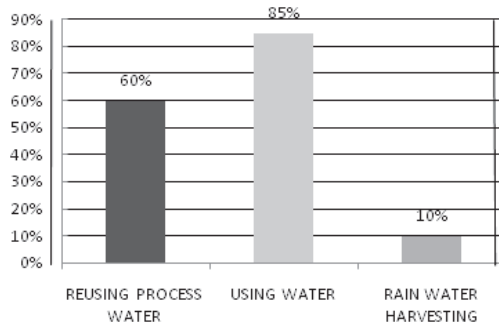


Figure 6: Reduction of Water Consumption

It is observed that 10% (two respondents out of twenty) companies utilize the top of the roof or some other free space to use rainwater. This rainwater harvesting plant is utilized to dye and wash fabrics, and many other purposes.

6.4.4 Noise Pollution Reduction

RMG companies take two types of measures to reduce pollution. Those are active

measures and passive measures. Most of the companies generally take active initiatives to reduce noise pollution. Figure 7 shows various measures along with their percentage of usage among the companies.

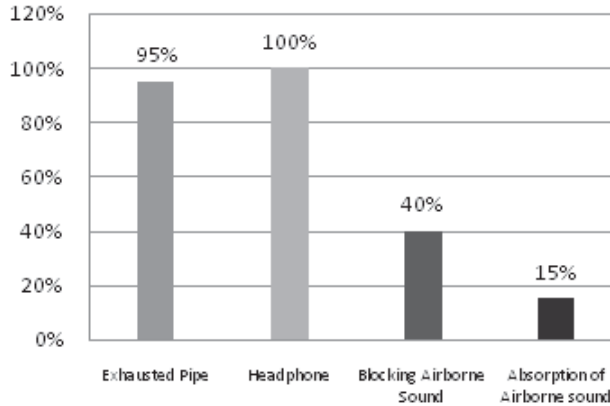


Figure 7: Reduction of Noise Pollution Practices

6.5 Sustainable Materials

Sustainable Materials include the use of sustainable raw materials; harmless chemicals, and stuffing materials; reducing, recycling and reusing of materials.

6.5.1 Long Term Supportable Raw Materials

The benefits of economic, social, and environmental issues are provided by using long term supportable raw materials. These protect public health and the environment over their whole life cycle. RMG industry of Bangladesh is highly concerned about sustainable raw materials because of the awareness of the high-end-brands as customers.

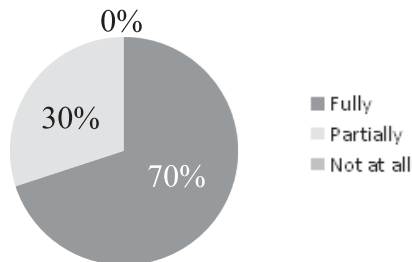


Figure 8: Procurements and Admissible Raw Materials Practices

In figure 8, it is found that 14 respondents out of twenty (in percentage 70%) companies believed that they fully utilized long term supportable raw materials for their production house. The remaining of 30% (6 respondents out of twenty respondents) companies declared that they reasonably use long term supportable raw material.

6.5.2 Reduce, Recycle, or Reuse Materials as Reverse Logistics

Except for fabrics of garments, the other materials are known as garment accessories. The common garment accessories are buttons, zippers, interlining, etc.

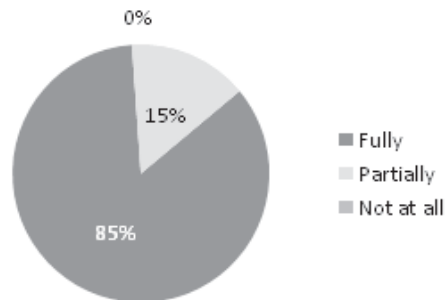


Figure 9: Usage of Recyclable or Reusable Accessories

In figure 9, 15% (three out of twenty) manufacturers demand that they use recyclable or reusable accessories for their production house and 85% (17 out of 20) claimed that they partially fulfill the recyclable accessories. Most of the companies opined that buyers' prerequisites are the main criteria to use recyclable accessories.

6.5.3 Chemicals Not Harmful to Human Health

For coloring the fabric and cleaning the garments, RMG firms use various chemicals. According to ISO, a firm should use chemicals that are not detrimental to public health.

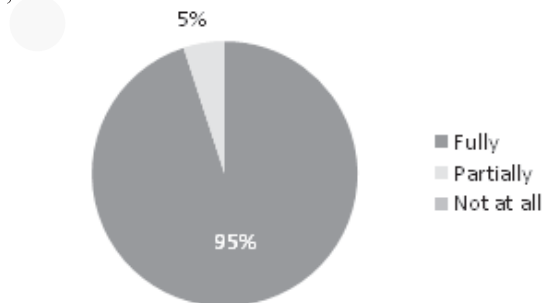


Figure 10: Purchase of Chemicals Not Harmful to Human Health

As per figure 10, in Bangladesh, 95% of RMG firms partially procure chemicals that are not harmful to human health. The remaining 5%, to some extent are not fulfilling the international standards of procuring safe chemicals.

6.5.4 Packaging Materials Not Harmful to Human Health

As per figure 11, 100% (twenty out of twenty) companies partially used packing materials that are not harmful to human health or the environment. Packing materials are recyclable or reusable and thus, eco-friendly.

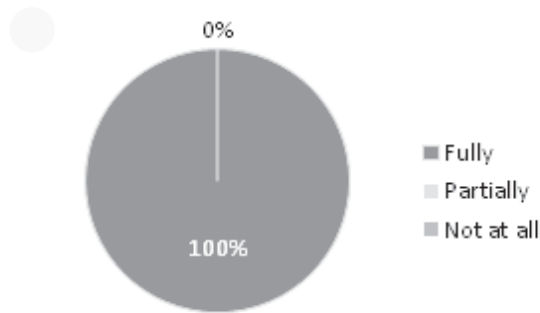


Figure 11: Purchase of Packaging Materials Not Harmful to Human Health

6.6 Findings and Analysis of Green Amelioration

The conditions laid down by the buyers are the main aspects of sustainability in the supply chain domain. The RMG manufacturers of Bangladesh are almost export-oriented and largely depend on western buyers. These buyers face pressure from consumers, activists, and the government to ensure social and environmental quality on the supply side. Buyers set some prerequisites to attain sustainability in RMG sectors. The foreign buyers enforce some social and environmental conformities to RMG manufactures and firm owners. If the RMG supply chain members do not comply with these requirements they will not get an order from buyers.

6.7 Findings and Analysis of Environmental Amelioration

RMG buyers are imposing pressure on RMG manufacturers and suppliers to comply with environmental issues as well. It is the content analysis and from table 1 the majority of the participants are concerned about the environmental issues. For example, more than 80% of the respondents (Total 13) focused on controlling water pollution and about 70% of the respondents (Total 10) mentioned about controlling air pollution. To them, buyers now want to see, to what extent the RMG manufacturers and their suppliers are complying with environmental issues

RMG supply chain members expressed high concern about the use of environmental and health-hazardous ingredients (Total 15).

6.8 Findings and Analysis of Operational Amelioration

Buyers always look for maintaining lead-time, standardization in quality and product specifications. Buyers may cancel the orders, which often creates problems in maintaining good buyer-seller relationship. Table 1 portrays that except for factory getup, all participants laid emphasis on conformance of quality of products, delivery lead time, maintaining reliability on specifications. We should understand that RMG products are designed following some standards. These are design sensitivity, matching colors, and using accessories. Approval is taken beforehand from the buyers so that they are satisfied with the products. This is an important issue for the manufacturer before they start to produce in a huge quantity. The non-conformity of the sample with the bulk often leads to rejecting some batches of products by the buyers. Most of the RMG products are liable to

sensitiveness in design, color, and use of many accessories. Before producing in a huge quantity, the manufacturers submit samples to buyers for compliance. After the approval, the manufacturers start producing in a bulk quantity.

6.9 Findings and Analysis of Economic Amelioration

If an organization cannot show economic efficiency, it cannot compete in the market. Table 1 shows that respondents mentioned about the economic aspects such as sales volume, cost, profit, and sales growth. All of the 15 participants supported the importance of sales volume, cost, and profit. They focused on sales growth for economic sustainability. They mentioned the importance of sales order to make a profit and to pay the workers regularly. Sometimes, if the order is not enough they cannot run the production floor and cannot bear the costs. Suppliers of RMG manufacturers opined that their business and profit depend on the business growth of garments manufacturers. Some of them opined that the domestic and international market poses greater challenges which increases competition. In such a situation, if the garments manufacturers cannot quote a competitive price, eventually they lack competitiveness.

7. Conclusions

Nowadays, sustainability has become the most talked-about issue for increasing expenses of energy, industrial contamination, ecological imbalance, and also scarcity of resources. All over the world, saving the environment and reducing pollution is of crying need. It requires awareness at all levels of GSCM and all-out movement by the stakeholders. Firms and industries are needed to be focused on saving the environment from pollution.

RMG is one of the biggest profitable industries in Bangladesh. This is the biggest and most productive industry which involves a huge number of firms, employees, and capitals. Environmental issues have a far-reaching effect on the total global market scenario. The RMG industry should follow sustainable manufacturing practices. It deserves the prime importance of sustainable GSCM. Firms should maintain proper way of waste management and other issues related to environment.

In order to sustain, the RMG supply chain members need to agree with the social, environmental, economic, and operational requirements of the supply chain and other stakeholders. In this regard, some of the organizations realise that, if they ensure a good working environment and keep the workers satisfied they can run the operation smoothly and can improve economic performance. This sort of realisation will accelerate the development of SSCM in the RMG industry of Bangladesh by practicing GSCM.

We should capitalize on the benefit of the GSC seen all over the garments industry. Our RMG industry can be ameliorated by following the rules and regulations of GSCM. Today's world is looking for a better environment, better business, and in turn a sustainable world. In the RMG sector, it is only possible by GSCM.

8. Recommendations

- Consciousness on GSCM should be increased to fulfill the ultimate goal of ameliorating the garments industry.
- Waste management practices through ETP and different production process should be adhered to at all levels.
- Sustainable manufacturing process through reduction of energy consumption, emphasizing on renewable energy, reduction of noise pollution should be given proper care to attain green environmental conditions.
- Sustainable materials like materials that can be reduced, reused and recycled; chemicals, and packing materials that are not harmful to human health to be given due considerations for sustained GSCM practices.
- Environmental, operational, and economic amelioration should be planned, focused, and executed to achieve green amelioration for the ultimate amelioration of our garments industry.

References

- Ageron, B., Gunasekaran, A. & Spalanzani, A., 2019. Sustainable supply management: An empirical study. *Int. J. Production Economics*, 140(1), p. 168-182.
- Beamon, B. M., 2018. Environmental and sustainability ethics in supply chain management.
- Brockhaus, S.-Kersten, W.- Knemeyer, A. M. (2018) Where do we go from here? Progressing sustainability implementation efforts across supply chains. *Journal of Business Logistics*, 34 (2), 167-182.
- Bulent et al., Effect of GSCM Practices on Sustainable Performance, January 2019.
- Bulent Sezen, GSCM Theory and Practices, January 2018.
- Chavez et al., 2019, Firm performance, and customer driven GSCM.
- Darnall et al., 2018, The comprehensiveness of the environmental management system.
- Green et al., 2018, Health promotion planning, and strategies.
- Hervani, A. A., Helms M. M., & Sarkis, J., 2019. Performance measurement for Green Supply Chain Management. Benchmarking. *An International Journal*, 12(4), pp.330-353.
- Kenneth Mathu, Green Supply Chain Mgt: A precursor to Green Purchasing, June 27, 2019.
- Matinez Jhully et al., A relationship in GSCM and Performance GSCM: Evolution of the Concept, Practices and Trends, June 2019.

Omid Narimissa et al., Evaluation of Sustainable Supply Chain Management Performance: Dimension and Aspects, July 05, 2019.

Ruoqi Geng and Emel Aktas, June, 2020.

Salam, M. 2017. Corporate social responsibility in purchasing and supply chain. *Journal of Business Ethics*, 85(2), pp.335-70.

Sunil Chopra and Meindl, 2019, Supply Chain Management, 5th Edition-Pearson.

Zhu, et al., Nature Sustainability, June 2020.

BUP Journal Website:
<https://bup.edu.bd/publications>