Investigating the Relationship between Green Supply Chain Management and Organizational Performance: An Empirical Study from Bangladeshi Perspective

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***Abstract*- Despite widespread agreement on the significance of organizational performance, little attention has been devoted to investigating its determinants in the context of manufacturing organizations in Bangladesh. As a result, the purpose of this research is to determine the effect of green supply chain management on organizational performance in the manufacturing companies of Bangladesh. For this study, data from a total of 211 respondents (response rate 84.4 percent), comprising supply chain supervisors, managers and directors, from the Bangladeshi manufacturing industry were collected. Using two independent variables, including green innovation and green process, we were able to assess green supply chain management, while organizational performance was evaluated using two dependent variables, including environmental performance and financial performance. The SPSS (Statistical Package for Social Sciences) 26.0 program was used to gather demographic information of the respondents, while Smart PLS (version 3.3.3) was utilized to test the research hypotheses. The results show that two determinants of green supply chain management (i.e. green process and green innovation) positively influence both of environmental and financial performance of an organization. The findings also show that the green process has a greater impact on an organization's financial performance than green innovation. The results of the research have certain implications for practitioners, which are discussed further in the paper. In addition, we addressed research constraints as well as potential study topics for the future.**

***Keywords*—** *Green supply chain management; Organizational performance; Green innovation; Green process; Manufacturing organizations; Bangladesh.*

1.0 Introduction

World businesses are now in a tremendous competitive arena. The business systems, rituals, trends are changing due to fierce competition and, along with these phenomenon, sustainability of environment becomes a major concerns of today's businesses. Many organizations have realized that supply chain management (SCM) is the key to achieving a long-term competitive advantage for their products or services as a result of these issues [1]. SCM is a term that describes the entire production process, from upstream to downstream, where suppliers, manufacturers, distributors, retail outlets, and lastly the customers or users are the parts of the process [2]. Since the previous decade, academics have focused on the subject of green supply chain management, and its significance for environment-friendly businesses [3]. Green supply chain management (GSCM) is stated as incorporating environmental considerations into all aspects of the supply chain, involving product design, materials sourcing and selection, production processes, and final product delivery to customers, as well as product end-of-life management [4, 5]. Similarly, green supply chain activities include green procurement, green production or manufacturing, and distribution [6]. Organizations embrace new value-added activities in order to earn benefits and a competitive advantage in addressing environmental issues, and they seek out new chances to use green practices in corporate operations such as manufacturing, supply, goods, and logistics [7]. In addition, green practices are effective in achieving savings and earnings, therefore the firms can be determined to be more sustainable in their practices than their competitors. Moreover, additional benefits can be obtained by protecting the environment from pollution through the adoption of green supply chain activities for a healthier lifestyle. As the part

of green supply chain activities, green techniques in corporate operations assist the society on a large scale and demonstrate a socially conscious side of businesses [8]. According to the literature on green supply chain management, it is understood that the firms can maximize their profits by using green activities. Also, environmental issues have been demonstrated in the literature and empirical investigations. In order for an organization to survive and compete, it must have a competitive advantage i.e. green initiatives are being pursued by businesses management techniques for a company's effectiveness for long-term survival and progress performance [9]. In order to reduce waste and emissions into the atmosphere, the firms use the environmental management system to design and monitor environmental policies for green performance, which enables in the implementation of green practices, performance in financial and environmental aspect [10, 11]. Furthermore, the idea of green supply chain management denotes the management of the environment both within and outside of the firm. The concept of GSCM encompasses both inbound and outbound logistics, with an emphasis on incorporating environmental considerations at every stage [12].

In Bangladesh, the absence of sufficient study into GSCM and its impact on organizational performance explains why only a tiny portion of the firms apply these techniques. Thus, more research is required to improve our knowledge and understanding of green supply chain management practices, as well as to benefit managers. As a result, the purpose of this study is to provide a better understanding of the relationship between GSCM and organizational performance in the manufacturing organizations, on which the developing economy of Bangladesh relies heavily employing about 20.4 percent of the country's workforce. [13].

The rest of this article is laid out as follows. On the basis of the literature review, the corresponding hypotheses and research framework are proposed first. The research methodology is described in the next section, which includes the instruments and measure construction, survey protocol, sample, including validity and reliability tests. Then both measurement and structural model's results are given. In the final section, the significance of the findings for practitioners and researchers are examined, and the findings' validity is re-evaluated. Further research implications are discussed at the end of the publication.

2.0 Literature Review

2.1 Green supply chain management

Green supply chain management (GSCM) is seen as a feasible choice by enterprises to reduce the environmental impact of operations while boosting operational performance [14]. GSCM is defined as the integration of an environmental perspective throughout the supply chain, from product design to raw material sourcing, processing, customer delivery, and product end-of-life management [4, 15]. GSCM has been explored from a variety of angles. Its strategies include green information systems, customer participation, green purchasing, eco-design, and investment recovery, among others [16]. The GSCM was first driven by environmental degradation, diminishing raw material resources, and rising pollution levels [17]. However, its use by enterprises now helps them to increase their performance [18]. Such findings are supported by [19], who investigated how the size of the organization, top management commitment, quality management implementation, and employee training and education affect the application of GSCM procedures.

Various facets of the relationship between the environment and competitive advantage have been investigated. Initially, studies concentrated on monitoring suppliers to guarantee compliance with environmental standards in order to reduce and minimize detrimental outcomes [20]. Until now, however, environment-friendly management had been regarded as a waste of money. Engaging in environment-friendly management, from this perspective, is related to a rise in the firm's costs [14]. Despite little attention on the integration of the green initiatives with SCM, some supply chain managers who are unaware of how to manage them, adopted these practices. However, GSCM has recently emerged as a source of competitive advantage [21], and different researches have backed up the benefits of applying GSCM [18]. Furthermore, an increasing number of studies have offered a variety of cost-cutting strategies and suggested that GSCM has a favorable impact on organizational performance [22].

Recent studies have offered solutions to apply proactive GSCM practices such as generating

environment-friendly products through collaboration with partners or green processes [18]. In addition, recent research has revealed that supplier integration is a prerequisite for successful GSCM [23, 24]. They discovered that combining the buyer's logistics and technology with the suppliers could enable them to be more proactive in responding to environmental changes. [18] has empirically investigated and highlighted the necessity of managing upstream and downstream relationships in the global supply chain, identifying organizational learning as a critical success factor in GSCM. They claim that the firm's ability to achieve GSCM in the competitive global market is dependent on continual learning and improvement.

We focused on the two components of GSCM in this study: green innovation and green process. Green innovation is recognized as a key source of strategic change for companies in order to address growing social and regulatory concerns about the environment [25]. Firms can achieve long-term competitiveness as a result of this. The green process, on the other hand, refers to a company's ability to carry out or complete current environmental actions.

2.1.1 Green innovation

Green innovation (GI) is critical for organizations and communities as a crucial aspect of preserving environmental management [24, 26]. Since environmental degradation has become a serious threat to humanity's survival, GI has been embraced by a significant number of organizations and communities as a method for environmental protection and economic prosperity. In addition to environmental sustainability and economic profitability [27], GI can help firms achieve long-term competitive advantages [28]. Many managers and researchers are interested in learning more about GI. According to [29], GI assists customers in meeting their needs to protect the environment wherein they live [30]. "Green innovation," also known as "Eco-innovation," is a process that leads to the development of new products and technology with the goal of decreasing environmental risks such as pollution and negative repercussions of resource exploitation such as energy [20]. GI, often known as design for the environment, is the deliberate integration of technical advancements throughout the supply chain to reduce detrimental environmental impacts [31]. Scholars have used various terms to describe the concept of green innovation. The terms discussed in the literature are ecological innovation, environmental innovation, and sustainable innovation [32]. Green innovation is also stated as new goods and processes that deliver customer and corporate value while dramatically reducing environmental impacts [33]. This innovation in the processes has an impact on a product's whole life cycle. It is critical to acknowledge that environmental elements must be included in the early stages of design, such as planning and conceptual design, in order to develop green products [34]. It is estimated by the scholars that the design phase of a product is responsible for about 80% of all product-related environmental effects [34]. As a result, green innovation must be tackled holistically, from procurement to delivery to users. To design environmentally friendly products, manufacturing companies must collaborate with their suppliers [35].

2.1.2 Green processes

Green technologies and procedures were first launched in the 1960s as part of the industrialized world's environmental movement. Researchers have seen the use of such technologies and processes in homes, industry, energy, and products. Green technologies enable businesses and manufacturers to implement green processes into their operations, reducing the environmental impact of their operations.

Green processes are both a challenge and an opportunity for emerging enterprises, providing a competitive advantage in the environmental sphere [36]. To increase their financial performance, businesses should use ecological and technical innovation in their operations, goods, and image [35]. Green production differs from traditional manufacturing in that it focuses on the natural effects of environmental rules, which lower costs, boost profitability [23], and improve the competitiveness of businesses. Following the introduction of the Kyoto Protocol and the climate change conferences in Copenhagen and Paris, the concept of green processes and technologies has grown in prominence. Industrial output is the primary source of pollution. Environmental practices considerably increase the performance of the green supply chain, according to [37]. Green process management is the process of a company's internal environmental management practices being regulated [38]. Companies should use a design for the environment, life cycle analysis, pollution

prevention, pollution control, and an environmental management system to manage their systems [21]. A collaborative inter-organizational relationship can be used to successfully execute the green process management system. Due to environmental legislation and corporate social responsibility, green process management has grown in popularity. Green process management methods eliminate potential waste, reduce raw material usage, and reduce pollution. A number of studies have shown that green process management has a good impact on reducing harmful waste and extending the product or material's life cycle [39]. In order to perform green process management in the supply chain, coordination and communication between the buyer and suppliers are important.

2.2 Organizational performance

A company's prospective success is determined by its organizational performance, which refers to its ability to effectively implement plans in order to meet institutional goals [22, 40]. The ability of an organization's executives to implement a strategy has a significant impact on the organization's performance. The essence of leadership, according to [41], is a conditional relationship between a manager and his or her followers. Given the fact that reaching organizational goals is never easy, it's critical that leaders' tactics be adaptable enough to allow change. An organization's performance is also influenced by its employees, who are an integral part of the organization and comprise the team that works to achieve the organization's objectives [42]. Several scholars have divided organizational performance into two categories: environmental and economic performance [16, 43]. The research into the relationship between GSCM and environmental performance is still in its infancy. Financial performance, operational efficiency, and quality have always been major markers of organizational performance [24]. But the typical view of investing in GSCM to influence the organizational performance is that it entails a cost-increase for the firm that indiscriminately consumes natural resources. Indeed, conventional wisdom holds that environmental concerns deflect managers' attention away from their primary task, which is profit maximization. However, research in recent decades has suggested the significance of environmental performance [24]. Adopting GSCM techniques requires a shift in decision-making, and companies are recognizing the importance of environmental performance as a crucial indicator of a company's competitiveness [16]. Financial and environmental performance were used to assess organizational performance in this study to find its relationship with GSCM.

2.3 Relationship between green supply chain management and organizational performance

GSCM has been linked to financial profit and environmental performance in studies [6, 19, 37]. The benefits of environmental management outweigh the expenses, according to a win-win argument, and higher regulatory standards lead to better performance. [16] and [44] hypothesized that GSCM and performance of an organization have a positive association. They discovered that using an ecologically friendly proactive strategy could boost organizational performance. According to the studies, addressing environmental issues can help businesses decrease risk, which can lead to increased innovation and profitability [24, 44, 45]. Increased customer demand for environmentally friendly products and services, according to [3], leads to higher organizational performance. The elimination of waste and the reduction of toxic air emissions are mentioned as cost-cutting measures. Furthermore, public disclosures about the company's green management practices have a favorable impact on the company's image and financial performance [22]. Green innovation has been advocated as a determinant of organizational performance [31]. Based on one study, combining integrated logistics and reverse logistics increased net revenues by 21.1 percent in the green supply chain [37]. From the discussion above, the following hypotheses can be made.

H1a: There is a positive relationship between green innovation and environmental performance of an organization.
H1b: There is a positive relationship between green innovation and financial performance of an organization.
H2a: There is a positive relationship between green process and environmental performance of an organization.
H2b: There is a positive relationship between green process and financial performance of an organization.

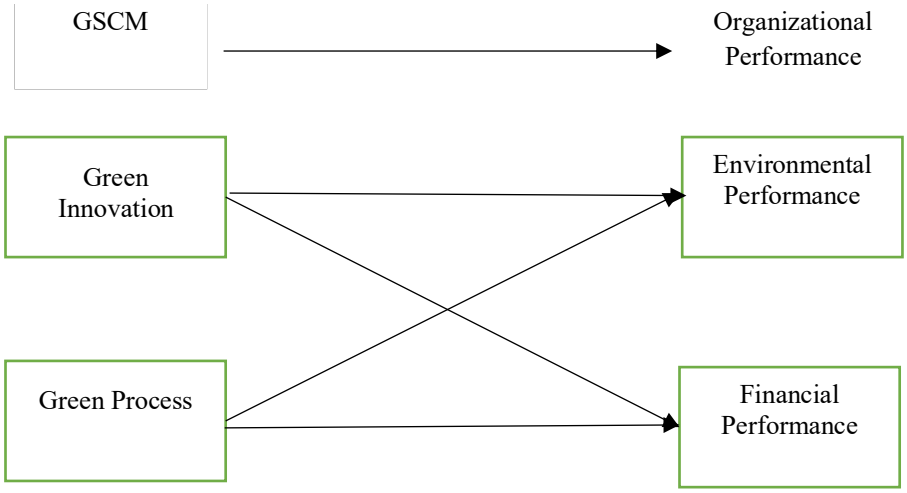

Figure 1: Conceptual model

3.0 Methods

3.1 Sample and Data Collection

The study participants are from five manufacturing organizations representing five different industries in Bangladesh: chemicals and fertilizers, accessories for clothing, footwear, fabrics for denim and plastics products. A non-probability technique for the collection of data from respondents of the selected organizations is used, in particular judgmental sampling. By employing a minimum tenure as a judgment, the sampling framework is further simplified. People with a working experience of at least two years are considered as the sample. The principle behind the use of work as a criterion for evaluation is that persons with a minimum duration in the company have a good awareness of the supply chain of the organization.

To determine the minimum sample size, the guidelines of [46] were used. According to [46], a sufficient sample size for running a model is 75 with a statistical power of 0.80, R-square of 0.25, and a maximum number of arrows pointing at a construct of two at the 1% significance level. The sample size of this study is also validated using the software G*power with the following parameters: f^2 = 0.15 (medium), and the number of predictors = 2, and the power was set at 95%; the sample size necessary for the test of this model is 74. However, the study disseminated the questionnaires and gathered responses from more participants to make the research more reliable.

The distribution of 250 surveys to respondents ensures that their identities are not revealed. Data were acquired by visiting the organizations in person. Of the 250 questionnaires, 227 were filled in, 16 of which were further eliminated for extreme outlier reasons. The final sample is therefore 211, and the response rate was 84.4%.

Among the 211 participants, 69.5% were men and 30.5% were women, while 29% were single and 71% were married. Most participants belong to the age range of 31-40 years (45%), followed by 21-30 years (35%), 41-50 years (14.3%) and over 50 years (only 57%) as shown in the table 3.1.

Table 3.1: Respondents Demographic Profile

		No of Participants	Percentage (%)
Gender	Male	146	69.5
	Female	64	30.5
Marital Status	Single	61	29%
	Married	150	71%
Age	21-30	74	35%
	31-40	95	45%
	41-50	30	14.3%
	Above 50	12	5.7%

3.2 Measures

The variables in this study are GSCM and organizational performance, with GSCM being the exogenous variable and organizational performance being the outcome variable. GSCM is made up of two constructs: green innovation and green process, and organizational performance is also made up of

two more constructs: environmental performance and financial performance. A survey questionnaire was used as the research instrument to measure these variables. Thereby, the instrument consisted of four sections except for background information. Total 19 items were included among these sections: green product innovation, green process, financial performance, and environmental performance. All the items are selected based on previous valid and reliable scales and measure in a 5-point Likert scale ranging from 1= strongly disagree to 5= strongly agree. Table 3.2 sheds light on the detailing of the study measures.

Table 3.2: Measure of the Study's Constructs

Construct	Status	No of Items	Example Item	Source
Green Innovation	Adapted	5	Our firm and supply chain partners jointly search and acquire new and relevant knowledge that is related to green products.	[47] & [48]
Green Process	Adapted	5	Our workplace is health and safety.	[49]
Environmental Performance	Adapted	5	Our air emission has been reduced.	[48], [50] & [16]
Financial Performance	Adapted	4	Our profitability has increased.	[16], [38] & [43]

3.3 Data Analysis Technique

The data is analysed mostly with SPSS (Statistical Package for Social Sciences) and Smart PLS (version 3.3.3). The Partial Least Squares (PLS) approach is employed for structural equation model in this study. The partial least square is currently a well-known business management methodology [51]. PLS-SEM facilitates analysis where the association between variables appears complex and the analysis can be carried out with a small number of samples.

There are two sub-processes in the PLS-SEM data analysis. The first is the measurement model, which is used to examine the indicators' reliability and model validity. Another is the structural model, which involves checking the stated hypotheses, coefficient of determination (R^2), predictive relevance (Q^2), effect size (f^2), and model goodness of fit.

4.0 Results

4.1 Measurement Model Evaluation

The measuring model focuses on the reliability and validity of the model. Model reliability is measured by Cronbach alpha, composite reliability measured by Jöreskog's rho (ρc), and Dijkstra-Henseler's rho (ρA). Any value of Cronbach alpha greater than .708 indicates model reliability [52]. Table 4.1.1 indicates that the model is reliable as Cronbach alpha value ranges from 0.776 to 0.905.

Another criterion for assessing internal consistency is composite reliability developed by [53], known as Jöreskog's rho (ρc). The Jöreskog's rho values between 0.70 and 0.90 range from "satisfactory to good." [52]. Similar to Cronbach alpha, Table 4.1.1 also indicates the good internal consistent reliability as the Jöreskog's rho values range from 0.856 to 0.930. However, the Cronbach alpha is considered too conservative for reliability assessment, while composite reliability may be too liberal [52]. Therefore, Dijkstra-Henseler's rho (ρA) is used to measure model reliability. The recommended threshold value for Dijkstra-Henseler's rho (ρA) is between 0.70 and 0.90. In this study, Dijkstra-Henseler's rho (ρA) value lies between 0.778 to 0.910, proving the reliability. Henceforth, the value Cronbach Alpha, Jöreskog's rho (ρc), and Dijkstra-Henseler's rho (ρA) from table 4.1.1 confirm that the measurement model is high degree of construct reliability.

On the other hand, the measurement model assesses two forms of validity, namely convergent validity and discriminatory validity. Convergent validity is tested by means of average variance (AVE). The AVE values are more than 0.5, which shows

convergent validity [46]. In this research, table 4.1.1, which shows the convergent validity of the constructs, reported AVE values ranging from 0.599 to 0.738.

Table 4.1.1: Factor Loadings, Reliability & Convergent Validity

Constructs	Indicator	Factor Loadings & Cross Loadings	Cronbach's alpha(α)	Dijkstra-Henseler's rho (ρA)	Jöreskog's rho (ρc)	Average variance extracted (AVE)
Green Innovation	GI1	0.844	0.905	0.910	0.930	0.726
	GI2	0.883				
	GI3	0.888				
	GI4	0.820				
	GI5	0.781				
Green Process	GP1	0.816	0.881	0.884	0.918	0.738
	GP2	0.872				
	GP3	0.900				
	GP4	0.846				
	GP5	0.800				
Environmental Performance	EnvP1	0.801	0.891	0.891	0.918	0.692
	EnvP2	0.798				
	EnvP3	0.831				
	EnvP4	0.861				
	EnvP5	0.866				
Financial Performance	FinP1	0.756	0.776	0.778	0.856	0.599
	FinP2	0.788				
	FinP3	0.796				
	FinP4	0.754				

Conversely, discriminant validity is tested by Fornell and Larker criterion, HTMT ratio, and cross-loading. As seen in Table 4.1.1, all indicators were found to have greater cross loadings than their loadings on all other latent variables. Besides, Fornell and Larker concluded in their research that each prediction is highly loaded against the construct, as shown in table 4.1.2. In addition, Heterotrait Monotrait (HTMT) was examined to overcome the shortcomings of Fornell & Larcker and Cross Loadings. The HTMT is between 0.564 and 0.799, which is an appropriate, according to table 4.1.3. Discriminant validity has thus been established.

Table 4.1.2: Discriminant Validity (Fornell & Larker Criterion)

Constructs	Environmental Performance	Financial Performance	Green Innovation	Green Process
Environmental Performance	0.832			
Financial Performance	0.544	0.774		
Green Innovation	0.734	0.474	0.852	
Green Process	0.704	0.605	0.541	0.859

Table 4.1.3: Discriminant Validity (HTMT Ratio)

Construct	Environmental Performance	Financial Performance	Green Innovation	Green Process
Environmental Performance				
Financial Performance	0.651			
Green Innovation	0.799	0.564		

Green Process	0.795	0.726	0.605	

4.2 Structural Model Evaluation

The structural model is assessed using t- value, P-value, collinearity testing through variance inflation factor (VIF), $R^{2,}$ F^2. Variance inflation factor, basically an indicator of collinearity testing, greater than 3.00 leads problematic effect on the result [54]. Remarkably, the VIF resulted in this study is 1.414 within the threshold limit as shown in the table 4.2.1, indicating the result is free from multicollinearity issues. In addition, figure 4.2.2 manifested the overall predictability of the model (R^2). [55] asserted that R^2 values with 0.10, 0.25, and 0.30 reflect small, medium, and significant predictive power, respectively. In this study, the R^2 value is 0.662 and 0.396, revealing the model is significant predictive power in explaining the endogenous variable. Likewise, [56] mentioned that the f^2 value equals or greater than 0.02, 0.15 and 0.35 interprets small, medium and large effect size respectively. Based on table 4.2.3, it is evident that GSCM has a substantial effect on organizational performance. Besides, the Q^2 value, presented in table 4.2.4, greater than zero, reflects that the model has low to moderate predictive relevance beyond its sample [46].

Table 4.2.1: Collinearity Statistics (Inner VIF)

Constructs	**Environmental Performance**	**Financial Performance**	**Green Innovation**	**Green Process**
Environmental Performance				
Financial Performance				
Green Innovation	1.414	1.414		
Green Process	1.414	1.414		

Table 4.2.2: Coefficient of Determination (R^2)

	R Square	**R Square Adjusted**
Environmental Performance	0.662	0.655
Financial Performance	0.396	0.383

Table 4.2.3: F square

Constructs	**Environmental Performance**	**Financial Performance**	**Green Innovation**	**Green Process**
Environmental Performance				
Financial Performance				
Green Innovation	0.494	0.050		
Green Process	0.407	0.284		

Table 4.2.4: Q square

	SSO	SSE	Q^2 (=1-SSE/SSO)
Environmental Performance	495.00	275.53	0.443
Financial Performance	396	308.32	0.221
Green Innovation	495	495.00	
Green Process	396	396.00	

4.3 Testing of Hypotheses

The study results found that all of the hypotheses were supported. The present study, therefore, demonstrated a substantial positive association between GSCM and organizational performance as shown in Table 4.3.

This study showed that GSCM helps to good environmental performance by preserving the environment from pollution by implementing the green supply chain activities such as reducing fuel consumption and optimal distribution pathways [57]. This finding is also supported by the study conducted by [58]. Additionally, green techniques have enhanced financial performance since risks and liabilities are reduced [59].

By managing the green supply chain, companies achieve competitive advantages that improve economic performance due to high reputation, loyalty, efficiency and better and long-term interactions with their suppliers and consumers [60, 61]. Although some scholars such as [16] and [62] pointed out that GSCM does not have positive influence on economic performance, the findings of our study extend the results of [63] and [43].This study also supports the findings of [64] on the positive relationship between economic and environmental performance.

Table 4.3: Test of Hypotheses

SL No.	Hypothesis	STDEV	T Value	P Value	(LLCI, UPCI)	Decision
H1a	GI-> EP	0.082	5.960	0.001	(0.370, 0.636)	Supported
H1b	GI-> FP	0.104	1.997	0.023	(0.024, 0.374)	Supported
H2a	GP-> EP	0.098	4.521	0.001	(0.255, 0.576)	Supported
H2b	GP-> FP	0.093	5.270	0.001	(0.344, 0.636)	Supported

Note: GI = Green innovation, GP = Green Process, EnvP = Environmental Performance, and FinP = Financial Performance

5.0 Discussion

The results of this study show that drivers of green supply chain practices are significantly positive in terms of organizational performance. The results show that two drivers of green supply chain practices (i.e. green process and green innovation) are important factors for the prediction of both the environmental and financial performance of an organization. The findings also show that the green process has a greater impact on an organization's financial performance than green innovation. Since this green process is an approach more short-term than green innovation, the product of the green process influences performance more immediately.

6.0 Conclusion

6.1 Implications of the Study

This study contributes to the development of GSCM theory by examining links between GSCM and corporate performance. The effect of the two GSCM aspects on both dimensions of the environmental and financial performance was investigated. This will help managers to select the right GSCM techniques in order to enhance performance areas. In addition, the competencies and knowledge needed to be managed at the company level, managers of manufacturing companies have to create supply chain management abilities and knowledge structure. The managers need to concentrate improving the GSCM to

improve the performance of companies. We reiterate the necessity of companies implementing GSCM strategies and improving the integrated processes so that they better satisfy their end-users' demands. In practical terms, managers are responsible for their business performance. If the improvement of the green supply chain and consumers' enjoyment eventually lead to an improvement in company performance, the management will embrace this strategy. The use of green practices improves companies' capacity to maintain the environment and boost the firm's financial viability. Many industrial companies have been using complete green practice control systems [22].

6.2 Limitations and Further Research

This study examined the impact of green supply chain management on Bangladeshi manufacturing businesses' environmental and financial performance. In discussing the outcomes of the study, the study's limitations should be noted. The major purpose of this study was to adopt GSCM techniques in manufacturing organizations. The model can potentially be changed to reflect different organization kinds, including wholesalers and retailers. Furthermore, the cross-sectional survey approach was used. Because of the cross sectional nature of the investigation, causal inferences cannot be explained. In addition, although the number of environmental research in Bangladesh is rising, the number of GSCM empirical investigations is extremely small. In this context, then, there is a scope for additional investigations. Finally, because the sample size was small, some of its indices were not as excellent as expected. A bigger sample would boost statistical power and yield improved findings. Financial performance was assessed by respondents' opinion rather than genuine financial facts for this study. This impression may overestimate the real performance. For future study, some of these issues might be eased with long-term data.

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