

## A Model to Explain How an Organization's Corporate Social Responsibility (CSR) Contributes to Corporate Image and Financial Performance: By Using Structural Equation Modeling (SEM)

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### Abstract

#### Keywords

Corporate Social Responsibility;  
Corporate Image;  
Financial Performance;  
Structural Equation Modeling (SEM).

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Corporate Social Responsibility (CSR) has grown to be an issue of much concern in the 21st century for domestic and international business arena. It has been compiled that many of studies on the relationship between CSR and financial performance have concentrated on large industry. Small and Medium-sized Enterprises of manufacturing industry have received less attention in this area. To best of our knowledge, there are no peer-reviewed studies that integrated model to explain how an organizations' CSR contributes to financial performance through mediating effect of corporate image. The objective of this study is to build and test a theoretical model to identify the mediating effect of corporate image in the linkage between CSR and financial performance in the manufacturing firm's context. The study population consisted of the 36073 manufacturing companies for this study. The stratified sampling was used where each manufacturer represents a stratum. A sample was then drawn from each stratum that meet the criteria. Self-administered questionnaire was used as a tool to gather data. Data were collected from 392 firms across Bangladesh. Furthermore, several hypotheses were generated to examine the model. Structural Equation Modeling (SEM) was employed to determine significant determinants affecting financial performance. The study revealed that corporate social responsibility is having significantly positive influence on corporate image and financial performance. Moreover, corporate image also affects positively and significantly to financial performance. Empirical results indicated that corporate image mediates the relationship between CSR and financial performance. The study recommends, manufacturing firms should engage in doing corporate social responsibility activities and develop good corporate image to ensure successful corporate performance in competitive environment. The study's sample was drowning from one sector (manufacturing) which might limit the generalizability of these findings to other sectors. Future studies should verify these findings across sectors. The research findings can be a basis for further research to validate and develop better models to explain firm performance in the large-scale manufacturing firms related to CSR and corporate image initiative.

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## 1. Introduction

In current business environment, corporations try to find the ways of optimization to triple bottom line concept of sustainability management (Besieux et al., 2018; Torugsa et al., 2012). Triple bottom line (TBL) is an important concept to create a positive impact of business organization in the society, environment, and the business community. The objective is to achieve sustainability by equally balancing economic, environmental and social criteria (Aguinis & Glavas, 2012; Mahoney & Roberts, 2007). Corporations bridge interrelationship between economic, social and environmental aspects through their business (Ali, 2007; Wu, 2006). This concept is famously known as corporate social responsibility (CSR), and is focus of business literature since recent decades (Cegarra-Navarro et al., 2016). Corporate social responsibility (CSR) often referred as corporate citizenship, corporate social performance and sustainable responsible business, is focus of management researchers and business practitioners (Choi et al., 2010; Dienes & Velte, 2016; Wang, 2017).

Carroll's (1999) studied on the CSR definitions in academic literature dates the first formal definition to Bowen (1953). He defined the social responsibilities of a businessman as follows: 'It refers to the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society'. According to the report of European Commission (2018) CSR is 'the responsibility of enterprises for their impact on society'. Companies can become socially responsible by following the law, as well as by integrating social, environmental, ethical, consumer, and human rights concerns into their business strategies and operations. Corporate social responsibility is defined by Wood in 1991, as "a business organization's configuration of principles of social responsibility, processes of social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships."

Corporations today are much conscious to publish their CSR activities on their websites, sustainability reports and their advertising campaigns in order to get the sympathy of the customer (Luo et al., 2015; Esa, & Anum Mohd Ghazali, 2012). CSR is also practiced because customers as well as governments today are demanding more ethical behaviors from organizations (Park & Ghauri, 2015; Bayoud et al., 2012). In response corporations are volunteering themselves to incorporate CSR as part of their business strategies, mission statement and values in multiple domains, respecting labor and environmental laws, while taking care of the contradictory interest of various stake holders (Hawani Wan Abd Rahman et al., 2011). Another justification in favor CSR actions by the leading corporations today is to gain competitive advantage which may not be enjoyed by the peer corporations. CSR actions in this respect also help corporations to attract, retain not only customers but motivated employees as well which in turn ensure long-term survival of the corporation. Lichtenstein et al. (2004) supported that companies with sound CSR actions develop positive social identity and enjoy increased loyalty from both customers and employees. CSR actions are also often associated with better financial performance of the organizations. Margolis and Walsh (2001) has found significant positive relationship between CSR and corporate financial performance. CSR actions have potential to create additional value for corporates. CSR offers organizations various opportunities not only to differ eventuate themselves from competitors but also for reducing costs. If managed adequately, a CSR approach creates value for both business and society simultaneously (Nolan, 2009; Dahlsrud, 2008; Roberts & Dowling 2002).

In Bangladesh, mostly multinationals are doing CSR actions and local organizations are not paying required attention to this subject. This perhaps might be due to resource

constraints within the local organizations. However, little research has been done to analyze the effects of CSR in the field of corporate image and financial performance. In this paper, we analyze the effects of CSR in the relationship between corporate image and financial performance. This research is an important advancement in the literature of CSR because it uses a model that combines CSR actions, and corporate image to measure their impact on financial performance. This research will help business scholars, marketing managers, and corporate stakeholders, who are taking into account corporate social contribution as a more strategic way to benefit community as well as do well to their business.

The paper is organized as follows: Section 2 discusses the theoretical background for the research study relating to CSR and present the research hypotheses; section 3 provides the research method including constructs and their operationalization, and sampling and data collection, the results of the study are presented in the section 4. The last section offers the discussion along with study limitations and suggestions for further research.

## 2. Literature Review

In 1953, Bowen defined CSR as the obligation of merchants, through appropriate decisions, to meet the goals and values expected by society, and to take the desired concrete actions, which will finally enhance the sustainability of society as a whole (Shang et al., 2014; Pérez, 2015). After half a century of development, the research on CSR has focused either on individuals, stakeholders, or whole enterprises. Carroll examined CSR for almost 20 years. He states that CSR embodies the responsibilities that society wishes enterprises would take, meaning that enterprises should not only be concerned with their own business needs or economic mission, but should also strive to adhere to the law and pay attention to ethics (Moir, 2001; Porter & Kramer, 2006). Moreover, (Palmer, 2012; Story & Neves, 2015) argued that CSR is an ongoing commitment; it stipulates that companies should contribute to economic development while operating according to ethical standards, and thereby improve the quality of life in employees' communities. Jitaree et al. (2014) carried out a comprehensive overview by analyzing 37 different CSR definitions, finding that in the course of profit creation, enterprises should not only meet the interests of shareholders, but also bear the responsibility of stakeholders (Rajput et al., 2012). They should also adhere to standard business ethics, protect the environment, and contribute to the community.

Discussions on CSR issues have received considerable attention from academic researchers and practitioners for many decades. At the early stage, (Matten, & Moon, 2004) defined CSR as actions that the leadership in business is expected to undertake in response to a given situation as matters of right, whether legal or illegal. In sum, defining CSR is difficult because the concept is a broad and complex phenomenon (Carroll, 1999). To sum up the notion of CSR in the previous literature, the core concept of CSR is to reflect the entire obligation of a company to its internal stakeholders, including stockholders, employees, and external stakeholders, such as customers, suppliers, and community (Orlitzky et. al., 2011).

With the gradually increasing consciousness about environmental protection and social responsibility, the problem of whether investment in CSR results in a competitive advantage for a company has become a major issue for both academia and practice. According to the concepts underlying CSR, a company must provide products and services that are not harmful to the environment. To produce high-quality and attractive environmentally friendly products, a company may have no choice but to adopt a new technology, which may consequently induce product differentiations and improve financial

performance (Berning, and Venter, 2015; King & Lenox, 2002). Similarly, a company's internal process may be enhanced as a result of this improvement activity. For example, one company may need to reduce its pollution emissions to the environment by saving materials and energy (Merkl-Davies & Brennan, 2007). However, it needs to redesign its production process, and consequently may enhance production efficiency and reduce production costs (Christmann, 2000).

### ***2.1. Relationship between CSR and Financial Performance***

According to (Barnett, 2007; Shen & Chang, 2009), a firm's investment in CSR generally does not benefit a firm and its shareholders. CSR activities, such as establishing relationships with employees and the community, protecting the environment, and improving corporate governance, will increase a firm's costs because of a shift in focus from the maximization of shareholder value to the advancement of the interests of a wider set of stakeholders (Merkl-Davies & Brennan, 2007). Firms are increasingly seen as being accountable not only for their financial, but also social and environmental impacts (Cai et al., 2012). By contrast, many other studies revealed that CSR is positively associated with corporate performance (Wang et. al., 2008; Wagner et. al., 2009), CSR contributes to the development of a favorable company image (Cai et. al., 2012) enabling the firm to secure critical resources (Fombrun et al., 2000) enhance product competitiveness (Fombrun e. al., 2000) and boost employee productivity (Greening & Turban, 2000). Although a consistent conclusion on the effect of CSR on firm performance has been lacking in previous literature, these studies provided ample evidence on the direct relationship between CSR and firm performance. Thus, taking into account prior research the following hypothesis is proposed:

**H<sub>1</sub>:** *Financial performance of a manufacturing firms are positively influenced by engagement in (a) environmental protection (b) economic (c) social (d) legal (e) ethical (f) philanthropic-CSR over time.*

### ***2.2 Relationship among Corporate Social Responsibility, Corporate Image, and Financial Performance***

Corporate image is the sum of corporation-related beliefs, experiences, information, emotions and impressions that occur in the mind of the public (Nguyen & Leblanc, 2001). CSR is an important tool to create a positive corporate image (Porter & Kramer, 2002) because companies create positive impression regarding the corporation through influencing their target audience with social responsibility activities (Vlachos et al., 2009). Previous research indicates that having a favorable corporate image and reputation can provide a company with a distinctive and credible appeal, as well as a source of competitive advantage. It is believed that corporate image is not just a matter of window dressing but a reliable indicator of whether a company will survive in the future (Pomeroy & Johnson, 2009). Through creating a positive corporate image in the eye of customers, companies can achieve a sustainable competitive advantage within the competitive environment (Porter & Kramer, 2006). Researchers have emphasized that all CSR practices are a perfect variable influencing corporate prestige and image (Zairi, 2000; Balmer et al., 2009).

In addition, it was found in many studies that CSR affects corporate image positively and significantly (Lamond et al., 2010; Gupta & Pirsch, 2008). Customers prefer companies with a positive corporate image (Bloemer & De Ruyter, 1998). Taking into account the previous studies the corporate image is the total of all general impressions regarding the corporation. In literature, there is no common understanding upon how corporate image structure is perfectly defined and implemented (Nguyen, 2006). To

measure corporate image, the scale of Nguyen and Leblanc (2001) was used. Including general impressions of customers regarding the corporation, the scale is composed of one dimension and four items. Martínez and del Bosque, (2013) determined that CSR affected customer loyalty through corporate image. Although there are particular researchers who have found a direct relationship between CSR and customer loyalty and corporate image (Mandhachitara & Poolthong, 2011).

CSR is quite an effective way of creating and increasing both corporate images. Studies indicate that corporate image affects company performance, loyalty, reputation both directly and indirectly (Nguyen & Leblanc, 2001; Wang, 2010; Richard & Zhang, 2012). Researchers reveal that wide range of variables in the relationship between CSR and corporate image was examined in which the mediating role is not available in literature. Thus, it is expected that CSR practices would contribute to corporate image. Based on the findings and arguments of prior researchers, we propose the several hypotheses as follows:

**H<sub>2</sub>:** *Employees perceptions of the firm's CSR engagement in (a) environmental protection (b) economic (c) social (d) legal (e) ethical (f) philanthropic responsibility are positively associated with corporate image of manufacturer over time.*

**H<sub>3</sub>:** *The achievement of the corporate image of manufacturer will determine the extent to which the manufacturing firm achieves improved financial performance.*

**H<sub>4</sub>:** *Corporate image mediates the relationship between employee's perceptions of the firms CSR engagement and financial performance.*

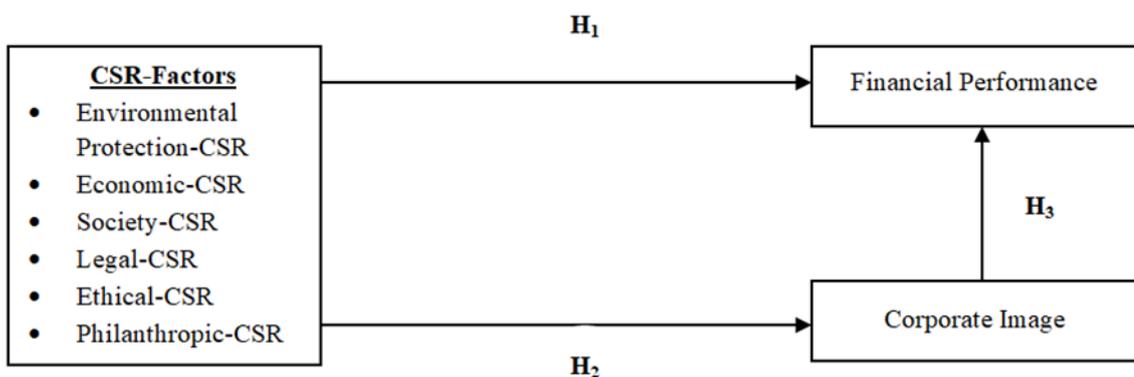


Figure 1: Conceptual Framework

Despite the widespread academic and business interest in the issue, a comprehensive theoretical framework for the underlying determinants of CSR disclosure is still elusive. According to the theoretical analysis and hypothesis above, the theoretical framework is shown in Figure 1. To understand the relationship between CSR and firm financial performance, we propose an integrated model that integrates corporate image as a mediator into the relationship between CSR and firm financial performance. In this model, we argue that CSR is significantly associated with firm financial performance (H1), and also CSR is significantly associated with the firms' corporate image (H2), which in turn corporate image increases firm financial performance (H3). In other words, corporate image will mediate the relationship between CSR and firm financial performance (H4).

### 3. Methodology of The Study

#### 3.1 Constructs and their Operationalization

Research instrument was developed according to the validated measures that have been used in the previous studies. To collect data, the questionnaire technique was utilized in the

study. The respondents are required to evaluate their perception of CSR on corporate image and financial performance of manufacturing firm using the “five-point Likert scale” (from strongly disagree to strongly agree). A questionnaire draft was developed and pilot tested with two academicians and two manufacturing industry experts who specialized in this field. To measure the perception of CSR, the variables of the scale development were adopted from Maignan & Ralston, (2002) for environmental protection –CSR; Maignan (2001) for economic-CSR; Masurel & Rens (2015) for societal-CSR; Carroll (1991) for legal-CSR; Carroll & Shabana, (2010) for ethical and philanthropic-CSR; Nguyen & Leblanc, (2001) for corporate image; and Fauzi et al., (2007) for financial performance. The scale is composed of eight dimensions and 25 items. Table-1 shows the items and scales used in our measurements.

Table 1: Research Instruments for Operationalizations

Construct	Items		Sources
Environmental Protection-CSR	ENV-1	My company manufactures eco-friendly products.	(Maignan & Ralston, 2002)
	ENV-2	My company purchases environmentally friendly product.	
	ENV-3	My company takes action in order to reduce waste.	
	ENV-4	My company is well equipped in order to improve the sustainability.	
Economic-CSR	ECO-1	My company is committed to profitability.	(Maignan, 2001)
	ECO-2	My company has a strong competitive position.	
	ECO-3	My company has a strategy for long-term growth.	
Societal-CSR	SOC-1	My company ensures workplace health and safety.	(Masurel & Rens, 2015)
	SOC-2	My company sponsors students in educational institutions.	
	SOC-3	My company offers industrial attachments to students.	
Legal-CSR	LEG-1	My company fulfills its legal obligation.	(Carroll, 1991)
	LEG-2	My company meets minimal legal requirements related to goods and services.	
	LEG-3	My company obeys various state and local regulations.	
Ethical-CSR	ETH-1	My company recognizes and respects new ethical/moral norms.	(Carroll & Shabana, 2010)
	ETH-2	My company prevents unethical behaviors in order to achieve organizational goals.	
	ETH-3	My company makes efforts to be good citizenship.	
Philanthropic-CSR	PHI-1	My company supports culture and art activities of local community.	(Carroll & Shabana, 2010)
	PHI-2	My company supports private and public educational institutions.	
	PHI-3	My company assists to enhance quality of life in the local community.	
Corporate Image	CORI-1	I have always had a good impression of this firm.	(Nguyen & Leblanc, 2001)
	CORI-2	In my opinion, this firm has a good image in the minds of consumers.	
	CORI-3	I believe that this firm has better image than its competitors.	
Financial Performance	FINP-1	My company profit growth has been substantially better.	(Fauzi et al., 2007)
	FINP-2	My company return on assets has been substantially better.	
	FINP-3	My company return on investment has been substantially better.	

### 3.2 Sample and Data Collection

The study population consisted of the 36073 manufacturing companies for this study. The sample was representative of all manufacturers of products; as the sample were gathered from Small-Medium-Large establishment.

Table 2: Population and Sample Size per Manufacturer

Manufacturer ID	Total Establishment				Percent age of Total Populat ion	Sample Size	Actual Sample Size			Incomplete
	Small	Medium	Large	Total			Distributed	Returned	Response Rate	
	(a)	(b)	(c)	(d) = [(a)+ (b)+ (c)]			(e) = [(d)*100/3607 3]	(f) = [384*(e)/100]	(g)	
1	6670	284	275	7229	20.04	76.95	95	62	65.26	1
2	32	2	16	50	0.14	0.53	5	3	60	0
3	112	21	78	211	0.58	2.25	5	3	60	0
4	10882	1092	1030	13004	36.05	138.43	150	100	66.66	2
5	2129	302	2765	5196	14.40	55.31	75	50	66.66	1
6	687	68	81	836	2.32	8.90	19	15	78.94	0
7	346	13	5	364	1.01	3.87	8	5	62.50	0
8	323	66	52	441	1.22	4.69	9	6	66.66	0
9	692	26	20	738	2.05	7.86	16	12	75	1
10	14	4	2	20	0.06	0.21	6	2	33.33	0
11	248	53	57	358	0.99	3.81	10	6	60	0
12	160	44	51	255	0.71	2.71	16	10	62.50	0
13	651	66	50	767	2.13	8.16	16	10	62.50	0
14	1397	805	903	3105	8.61	33.05	60	43	71.66	2
15	219	80	95	394	1.09	4.19	16	7	43.75	0
16	808	63	36	907	2.51	9.66	20	16	80	0
17	29	8	5	42	0.12	0.45	5	4	80	0
18	217	34	30	281	0.78	2.99	10	5	50	0
19	141	13	14	168	0.47	1.79	16	12	75	0
20	36	4	4	44	0.12	0.47	4	3	75	0
21	118	21	21	160	0.44	1.70	5	3	60	0
22	983	35	19	1037	2.87	11.04	23	14	60.86	0
23	215	3	1	219	0.61	2.33	12	5	41.66	0
24	217	11	19	247	0.68	2.63	10	3	30	0
Total	27326	3118	5629	36073	100	384	611	399	65.30	7

\*Used for Data Analysis = Amount of Returned Questionnaire – Incomplete Questionnaire = (399 – 7) = 392

**NOTE:** 1 = Manufacture of Food Products, 2 = Manufacture of Beverages, 3 = Manufacture of Tobacco Products, 4 = Manufacture of Textiles, 5 = Manufacture of Wearing Apparel (RMG), 6 = Manufacture of Leather Related Products, 7 = Manufacture of Wood and Products of Wood and Cork, 8 = Manufacture of Paper and Paper Products, 9 = Printing and Reproduction of Recorded Media, 10 = Manufacture of Coke and Refined Petroleum Products, 11 = Manufacture of Chemical and Chemical Products, 12 = Manufacture of Pharmaceuticals, Medicinal chemical Product, 13 = Manufacture of Rubber and Plastic Products, 14 =

Manufacture of Other non-metallic Mineral products, 15 = Manufacture of Basis Metals, 16 = Manufacture of Fabricated Metal Products, Except Machinery and Equipment, 17 = Manufacture of Computer and Electronic and Optical Product, 18 = Manufacture of Electric Equipment, 19 = Manufacture of Machinery and Equipment, 20 = Manufacture of Motor Vehicles, Trailers and Semi-Trailers, 21 = Manufacture of Other Transport Equipment, 22 = Manufacture of Furniture, 23 = Manufacture of Repair and Installation of Machinery and Equipment, 24 = Other Manufacturing.

Source: Bangladesh Bureau of Statistics, Planning Department (2018).

According to the report of Bangladesh Bureau of Statistics (BBS), Planning Department the total number of registered manufacturers was estimated to be around 37000 (N). Table 2 shows the distribution of this population according to the different manufacturer of Bangladesh. After defining the stratum, the computation of sample size calculated as follows:

$$\text{Sample Size (n)} = \left[ \frac{Z^2 * P * (1 - P)}{C^2} \right]$$

Where, Z is the value corresponding to 95% confidence level assuming normal distribution; P is the percentage picking a choice; C is the confidence interval (Viechtbauer et al., 2015). In this research study, the values were set as follows: Z = 1.96, P = 0.50, C = 0.05 and therefore the sample size was found to be:  $n = \left[ \frac{1.962 * 0.50 * (1 - 0.50)}{0.052} \right] = 384$ . However, on order to gain a high response rate, 611 individuals were chosen for this research. The sample size was then distributed among the 24 stratum proportionally according to the population size in each manufacturer as shown in Table 2.

The stratified sampling was used where each manufacturer represents a stratum; within each stratum are assumed to be homogeneous. A sample was then drawn from each stratum that meet the criteria. The sample for this research was taken from individuals who are in the managerial position in charge of the CSR section in their respective firms. A survey method was used to verify the hypothesis of this study. Respondents were given clear instructions regarding filling of the questionnaires. Self-administered questionnaire was used as a tool to gather data. A professional data collector was engaged to assist the researchers to collect data who given clear instructions regarding filling of the questionnaires. The questionnaire was accompanied by a cover letter. To control for social desirability bias, anonymity and confidentiality were emphasized orally as well as in the cover letter (Chung & Monroe 2003). In addition to anonymity and confidentiality, we emphasized that there is no right or wrong answers to further decrease social desirability bias (Randall & Gibson 1990). Informants were given 1 week to fill their responses and two reminders were sent to those respondents during aforementioned period to increase the response rate. Data were collected from January 2019 to April 2019. Most of the manufacturing firms are engaged in textile and manufacture of wearing apparel (RMG), that account for 150 firms. We distributed 611 copies of the questionnaire and obtained 399 responses. The response rate for combined sample was 65.30%. It is an acceptable response rate as per the methodological studies (Anderson & Gerbing, 1988; Hair & Black, 2010). A very few questionnaires were discarded due to incomplete data after analyzing missing values the final sample comprised (n) 392 responses.

### 3.3 Analytical Strategy

The data was analyzed through software Statistical Package for Social Sciences (SPSS) and AMOS. Structural equation modelling techniques is considered as good to the development of theoretical model, hypothesis and testing these hypothesis and final model fit. We analyzed the data in three steps. In a first step, skewness and kurtosis values were examined to fulfill normal distribution assumption. We also tested common method variance using multiple methods (Podaskoff et al., 2003) to ensure the quality of the data.

Secondly, we examined measurement validity and reliability using confirmatory factor analysis (CFA) for all of the measures. After establishing convergent and discriminant validity, we tested the hypothesized structural model using SEM. Therefore, our focus was on determining the direct and indirect effects of CSR components on corporate image and financial performance. Finally, we used a phantom model approach (Macho & Ledermann, 2011) with SEM to assess the single mediation of corporate image and to assess total and specific indirect effects.

#### 4. Data Analysis and Results

##### 4.1 Demographic Characteristics of the Informants

Table 3 provides summary of the descriptive statistics about characteristics of the acquired samples who was participating in the study.

Table 3: Demographic Characteristics of the Informants

Demographic Traits	Attributes	Frequency (n=392)	Percentage (%)
Gender	Male	310	79.08
	Female	82	20.92
Age	21-29 years	83	21.18
	30-39 years	142	36.22
	40 and above years	167	42.60
Education Level	Bachelor degree	111	28.32
	Postgraduate degree	268	68.37
	Ph.D.	13	3.31
Jo tenure with your organization	3-5 years	130	33.16
	6-10 years	159	40.56
	11-20 years	93	23.73
	Above 20 years	10	2.55
Your job position	Junior manager	57	14.54
	Middle manager	137	34.95
	Senior manager	198	50.51
Age of the firm	Less 10 years old	283	72.19
	More 10 years old	109	27.81
Status of your organization	ISO 9000 certified	104	26.53
	Planning to obtain ISO certification	167	42.60
	Non-ISO certified	121	30.87

The demographic profile of our samples is shown in Table 3. The sample for this research was taken from individuals who are in the managerial positions (lower, middle, and senior) in charge of the CSR dealing activities in their respective firms. Because managers can get more information of their enterprises, we mostly invited managers to fill out questionnaires. The sample in this study contains a total of 392 respondents out of which 79.08% (n=310) are male 20.92% (n=82). This sample is also relatively young age as 36.22% (n=142) are in the age range of 30-39 years old whereas 42.60% (n=167) of the respondents were found in the age group of 40 years and above. The study sample also comprises of relatively well-educated individuals as 68.37% (n=268) have both bachelor degree, and postgraduate degree; 28.32% (n=111) are only bachelor degree holders whereas the remaining small percentage of about 3.31% (n=13) were Ph.D degree holder. The study samples also represents job tenure with organization in terms of frequency years of experience as 33.16% (n=130) are in the range of 3-5 years, 40.56% (n=159) have 6-10

years job experience, 23.72% (n=93) are in the range of 11-20 years' experience; and remaining small percentage of about 2.55% (n=10) were found in experience period of 20 years and above. In addition, the questionnaires were filled out by 50.51% (n=198) was senior manager of the whole respondents, 3.95% (n=137) was middle manager, and 1.54% (n=57) was junior manager. The 72.19% (n=283) of the manufacturing firm had been established for more than 10 years ago, and only 27.81% (n=109) had been established for more than ten years. Also, sample shows that around 42.60% (n=167 firms) are planning for the obtain ISO certification, whilst approximately 26.53% (n=104 firms) had ISO 9000 certified certification, and about 30.87% (n=121 firms) were non-ISO certified. In particular, there are 392 managers from individual enterprises. These demographic traits of the respondents show that our data was not from enterprises with one specific feature but were distributed over a wide range. Thus, the data could be considered as a representative of these enterprises who have actively taken CSR initiatives in their respective firm.

## 4.2 Descriptive Statistics

Table 4 presents the descriptive statistics of all of the variables used in this study. In addition, the means, median and, standard deviations of each variable are shown in the second, third and fourth rows respectively. Averages of CSR are 4.19 for its environmental protection dimension, 4.15 for economic dimension, 4.00 for societal dimension, 4.10 for legal dimension, 4.14 for ethical dimension, and 4.09 for philanthropic dimension. Averages of other scales are 4.03 for corporate image and 4.08 for financial performance. Average of CSR is 4.1167. The average level of CSR relating to dimensions disclosure in the sample is not low. These results show manufacturing firm carry out CSR activities at a moderate level. All measurement of dispersion among the scales is significant ( $x \geq 3.49$ ).

*Table 4: Descriptive Statistics for the Dependent and Independent Variables*

Variable	ENV	ECO	SOC	LEG	ETH	PHI	$\bar{x}$	CORI	FINP
Mean	4.19	4.15	4.00	4.10	4.14	4.09	4.11	4.03	4.08
Median	4.00	4.00	4.00	4.00	4.00	4.00		4.00	4.00
Stand. Dev.	0.870	0.892	0.778	0.834	0.895	0.793		0.868	0.952
Minimum	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Maximum	5.00	5.00	5.00	5.00	5.00	5.00		5.00	5.00

*Note:* ENV = Environmental Protection-CSR, ECO = Economic-CSR, SOC = Society-CSR, LEG = Legal-CSR, ETH = Ethical-CSR, PHI = Philanthropic-CSR, CORI = Corporate Image, FINP = Financial Performance

## 4.3 Testing Constructs Normality

Normal distribution test is important to assess the normality assumption, which should be taken into considerations for employing parametric statistics tests (Bennet et al., 2015). In this study normality is tested using statistical technique such as Pearson's Skewness and Kurtosis parameters. The acceptable range of these parameter is between -1.96 to +1.96 (Azzalini et al. 2014). The normality test results the value of critical ratio skewness and kurtosis which is less than the table value of critical value  $\pm 1.96$  with the significance level of 0.05 (p value = 5%). Therefore, the results also indicate that all values of the variables were within the acceptable range and therefore it can be concluded that data is normally distributed. The parametric test of statistics of the relative constructs is tabulated as below in Table 5.

*Table 5: Pearson's Skewness and Kurtosis for the research constructs.*

Constructs	ENV	ECO	SOC	LEG	ETH	PHI	CORI	FINP
Skewness	-1.303	-1.124	-1.139	-0.867	-1.176	-0.894	-1.064	-1.356
Kurtosis	1.910	1.068	2.704	0.637	1.359	0.815	1.514	2.032

#### 4.4 Reliability Measurement

Reliability of the construct is used to measure the internal consistency across items of each measurement scale. Cronbach's alpha is used to compute the average of inter-item correlations and measurement of internal consistency (Nunnally, 1975). The acceptable reliability scale should be 0.70 and above to indicate internal consistency (Bonett & Wright, 2015). SPSS package was used to compute reliability coefficient for each construct. Furthermore, the eight constructs showed high internal consistency and reliability, with Cronbach's alpha values between 0.824 and 0.959. We examined the Cronbach's alpha of the constructs and the results (Table 6) showed that all alpha values are greater than the standard threshold of 0.70 which implies that the constructs are indeed highly reliable (Hair & Black, 2010).

*Table 6: Results of the Cronbach's alpha of the constructs*

Constructs	ENV	ECO	SOC	LEG	ETH	PHI	CORI	FINP
Items Used	4	3	3	3	3	3	3	3
Cronbach's alpha ( $\alpha$ )	0.959	0.854	0.824	0.869	0.953	0.907	0.870	0.879

#### 4.5 Confirmatory Factor Analysis

The quality of the measurement model is judged based on the reliability and validity of the constructs in the measuring instruments. Two-step analysis was applied with the aim to first examine the measurement model and then assess the hypothesis by examining the fitting of structural model. Confirmatory Factor Analysis (CFA) was performed to define the goodness-of-fit between the models constructs and the collected data. The goodness-of-fit was achieved by the assessment of convergent validity, discriminant validity, and construct reliability. CFA was performed using AMOS 23 to compute the required results (Besnoy et al., 2016). Before testing the hypotheses, we first examine the psychometric properties of the scales described by assessing convergent validity, and discriminant validity of the measurement model.

##### 4.5.1 Convergent Validity

Convergent validity aims to test the association between several measurement scales. It is considered as one type of construct validity, which acts as an instrument associated highly with other scales and constructs that are hypothetically related. Convergent validity primarily depends on average variance extracted (AVE). The AVE is used to compute the explanatory power of the variables of the measurement to the average variations (Alarcón et al., 2015). In this study, AVE and composite reliability (CR) were used to examine the convergent validity of the constructs. As a rule of thumb, AVE should be above 0.50 in order to be considered as high convergent validity and high reliability (Fornell & Larcker,

1981). The values for both AVE and CR are greater than the 0.70 required in the early stages of research and then the stricter value of 0.70 for basic research (Nunnally, 1975).

Table 7: Outcomes of the measurement model

Variables	Items	Factor Loading	CR	AVE
Environmental Protection-CSR	ENV-1	0.909	0.876	0.800
	ENV-2	0.837		
	ENV-3	0.939		
	ENV-4	0.890		
Economic-CSR	ECO-1	0.943	0.928	0.811
	ECO-2	0.934		
	ECO-3	0.821		
Societal-CSR	SOC-1	0.856	0.901	0.763
	SOC-2	0.924		
	SOC-3	0.839		
Legal-CSR	LEG-1	0.890	0.926	0.806
	LEG-2	0.907		
	LEG-3	0.896		
Ethical-CSR	ETH-1	0.831	0.898	0.747
	ETH-2	0.932		
	ETH-3	0.825		
Philanthropic-CSR	PHI-1	0.942	0.912	0.778
	PHI-2	0.888		
	PHI-3	0.809		
Corporate Image	CORI-1	0.949	0.943	0.845
	CORI-2	0.901		
	CORI-3	0.907		
Financial Performance	FINP-1	0.946	0.951	0.865
	FINP-2	0.941		
	FINP-3	0.903		

The construct reliability is further confirmed based on the CR values that are greater than their respective recommended values as shown in Table 7. Second, we assessed the CR and found that all CR are also above the threshold of 0.70, leading to a conclusion that the constructs are substantially reliable (Leong et al., 2012; Farrell, 2010). From the examination of the results in Table 7 shows that all composite reliabilities (CR) are above the criterion of 0.70, which is a signal that there is no overlap between the constructs. Furthermore, Table 7 represents that AVE for each construct is above the criterion of 0.50. AVE indicated values greater than the recommended rule of thumbs of 0.50. Hence, all the constructs of the model exceed this condition and it can be argued that all of constructs are reliable.

#### 4.5.2 Discriminant Validity

Discriminate validity is used to check whether respondents' answers to the survey items are either lightly correlated or not correlated at all with other latent variables (Alarcón et al., 2015). To examine the discriminant validity of each construct, it is necessary to compare the square roots of AVE values and the correlations of constructs. Only when the

$\sqrt{\text{AVE}}$  values of the variable are larger than the correlation coefficients, the discriminant validity can be acceptable.

Table 8: Variable correlation coefficient and square root of mean variance extraction

Variables	1	2	3	4	5	6	7	8
ENV	<b>0.894</b>							
ECO	0.267	<b>0.901</b>						
SOC	0.264	0.128	<b>0.873</b>					
LEG	0.123	0.364	0.131	<b>0.898</b>				
ETH	0.160	0.121	0.322	0.176	<b>0.864</b>			
PHI	0.339	0.125	0.109	0.304	0.194	<b>0.882</b>		
CORI	0.126	0.129	0.189	0.167	0.118	0.312	<b>0.919</b>	
FINP	0.363	0.526	0.221	0.289	0.029	0.168	0.234	<b>0.930</b>

Besides that, we also checked the discriminant validity of the constructs based on Fornell-Larcker's criterion. Using this approach, we found that all square roots of the AVEs (Table 8) are greater than their respective correlation coefficients which are supported by the Fornell-Larcker's ratio of less than one. As shown in Table 8, the values in diagonal brackets were the  $\sqrt{\text{AVE}}$  of ENV, ECO, SOC, LEG, ETH, PHI, CORI, and FINP. They fluctuated between 0.86 and 0.930, and all of them were greater than the correlation coefficient between the row and column of its own. Table 8 also indicates that all values of the square root of the AVE across the diagonal cells are greater than the inter-correlations between constructs, which tested the discriminant validity of the scales and supported it. Therefore, all the correlation coefficients were significant at the level of 0.01, this means the discriminant validity in this research was acceptable.

#### 4.6 Results of the Structural Model

The structural model assessment follows different procedures, which include assessing the squared multiple correlations, an inspection of the model fit indices and the standardized path coefficients. The SEM provides indications on the strength, significance or insignificance of each path. The beta values indicate the weight of each path and examine its strength (Al-Busaidi & Al-Shihi, 2012).

##### 4.6.1 Results of Hypothesis Testing

In order to confirm the support of hypothesized relationships it is recommended that standardized path coefficients to be significant at  $p < .05$  to its minimum (Besnoy et al., 2016). Bootstrap using 5000 samples was performed using AMOS 23 with no sign change. The results revealed that the proposed research model explained an overall variance of 64% in CORI, and 51.7% in FINP. This demonstrates the significant impact of CSR factors such as environmental protection-CSR, economic-CSR, society-CSR, legal-CSR, ethical-CSR, and philanthropic-CSR in predicting manufacturing firm's corporate image towards financial performance over time. The highest coefficient value from the original sample is 0.544 for CSR  $\rightarrow$  CORI followed by CSR  $\rightarrow$  FINP (0.318), while CORI  $\rightarrow$  CORI-FINP (0.278) and CORI  $\rightarrow$  FINP have the least values of 0.270 respectively.

Table 9: Results of the Structural Equation Modelling and Hypothesis Testing

Path Analysis				Path-Coefficient	C. R.	p-value	Results
H <sub>1</sub>	CSR	→	FINP	0.318	3.078	0.002**	Supported
H <sub>2</sub>	CSR	→	CORI	0.544	4.981	0.000**	Supported
H <sub>3</sub>	CORI	→	FINP	0.270	2.587	0.005**	Supported
H <sub>4</sub>	CSR	→	CORI-FINP	0.278	2.808	0.001**	Supported

As can be seen in Table 9, there is a positive relationship between CSR and financial performance as the path coefficient value was found to be significant. Thus, H1 is fully supported. H2 posited that employee's perceptions of the firm's CSR engagement in (a) environmental protection (b) economic (c) social (d) legal (e) ethical (f) philanthropic responsibility is positively associated with corporate image of manufacturer over time. The achievement of the corporate image of manufacturer will determine the extent to which the manufacturing firm achieves improved financial performance.

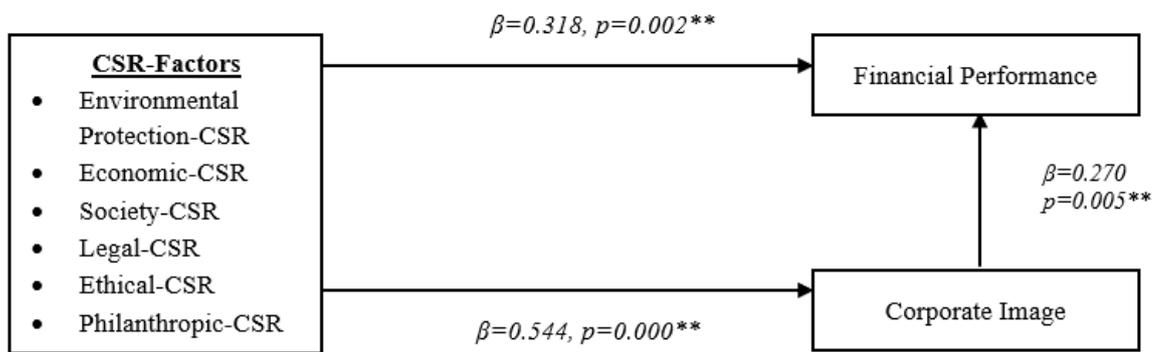


Figure 2: Structural Model

The final model was constructed as shown in Figure 2. The result of the R<sup>2</sup> was 0.640, and 0.517 for corporate image and financial performance respectively.

#### 4.6.2 Structural Model: Goodness-of-fit Results

After identifying the structural equation model, the initial model was fitted with 392 sample data. However, the influence of relational dimensions of CSR and CORI on FINP was significant in the confidence interval of 95%. These mean that the fitting degree of the initial model reach the ideal standard and therefore satisfactory level (Schermelleh-Engel et al., 2003). In light of the empirical evidence, the structural model fit indices were tabulated as shown in Table 10.

Table 10: Model fit indices

MoI	$\chi^2$	df	$\chi^2/df$	IFI	TLI	CFI	NFI	RMR	RMSEA
De.R.			< 3	> 0.09	> 0.09	> 0.09	> 0.09	< 0.09	< 0.08
Model	202.90	113	1.79	0.0913	0.0952	0.0817	0.0811	0.0714	0.056

*Note:* MoI = Modification Indices, DeR = Desirability Range, IFI = Incremental-fit Index, TLI = Tucker Lewis Index, CFI = Comparative-fit Index, NFI = Normed-fit Index, RMR = Root Mean Square Residual, RMSEA = Root Mean Square Error of Approximation

The results show that the overall model indicates a good-fit with Chi-square ( $\chi^2$ ) =202.90, degree of freedom (df=113),  $\chi^2/df=1.7955$ , p-value<.001. The normed Chi-square value of 1.7955 indicates very good because it is lower than 3.0, the CFI, NFI, TLI and AGFI are above 0.90 and RMR = 0.07, RMSEA=0.056 is less than the cut-off point of 0.06 (Byrne et al., 2016). This means that the research data can be used to support the structural models proposed. All the values of the index have shown good model feasibility

criteria. It is evident from the results that modification indices were within the acceptable range.

#### 4.7 Specific Mediating Effects

Following the recommendations of Preacher & Hayes (2008), a post-hoc indirect effect analysis is performed to test the indirect effect of the independent variable on the dependent variable by way of the mediators (see Table 10). In doing so, a two-step procedure for testing mediation is followed: (1) the specific model is analyzed with both direct and indirect paths included and 5000 bootstrap re-samplings are performed and then the product of the direct paths that form the indirect path are calculated. (2) Significance was determined using percentile bootstrap. This generated 95% confidence intervals (CI) for the indirect relationships under study. Specific effects are of focal interest in multiple mediation approaches (MacKinnon et al., 2000). They permit comparisons and rankings of the mediators which provide a better understanding of the mediation processes. In our case, the effect of the CSR components on FINP is carried through parallel mediating paths via CORI. Therefore, it is of interest to know which mediated effect is stronger and more relevant (MacKinnon et al., 2000). The recent phantom model approach enables the estimation and comparison of the specific mediation effects (Macho and Ledermann 2011).

Table 10: Specific indirect effects (phantom modeling approach)

CSR-factors	Indirect effect through CORI		
	Estimate	BCCI	
		Lower	Upper
Environmental-protection-CSR	0.116***	0.1210	0.3243
Economic-CSR	0.011***	-0.013	0.1004
Society-CSR	0.110***	0.0317	0.1151
Legal-CSR	0.126***	0.1910	0.3128
Ethical-CSR	0.110***	0.1190	0.1328
Philanthropic-CSR	0.101***	0.1190	0.1322

*Note:* BCCI = Bias-corrected confidence intervals, CORI = Corporate image, \*Significant at 0.05. \*\* Significant at 0.01.

The phantom approach of the hypothesized model enables estimation of the specific effects listed in Table 10. Results indicate that the legal-CSR is significantly stronger (indirect effect = 0.126,  $p < 0.01$ ) than the CSR factors of ECO, SOC, LEG, ETH, and PHI mechanism for building corporate image from CSR initiatives. To test mediating effect of corporate image on the relationship between CSR and FINP, along with FINP is regressed on the relationship between CSR and CORI. The slope of the intersection term is significantly positive ( $p < 0.001$ ) indicating that effect of CSR on FINP in corporate image is more than that in non-corporate image relating manufacturing firms. As table 10 shows, result of the mediating model indicate that corporate image outputs mediate the relationship between CSR-factors and financial performance.

#### 5. Discussions

In the following sections, we discuss the findings of this study in the CSR setting. This study examines whether CSR factors can play a role in enhancing CORI and FINP or not. This study also investigates the moderating effects of corporate image in the relationships between CSR and FINP. In sum, the most significant finding from our analysis is that there is a significant effect of CSR on FINP over period of time. The results of this study carried out in Bangladeshi manufacturing industry context that are similar to previous empirical evidence from Western and Asian countries showing that CSR activities positively impact

on firm performance (Aguinis & Glavas, 2012; Besieux et al., 2018; Maignan & Ferrell, 2000; Al-Shuaibi, 2016; Orlitzky & Swanson, 2008; Stuebs & Sun, 2011; Waddock & Graves, 1997). In comparison with previous studies, our results support the view that the involvement in CSR has the potential to lead to improved firm performance. We can therefore conclude that by applying analysis on the effects of CSR on firm performance, our result of the empirical study helps to clarify the causal effect of the relationship between CSR and firm performance. Moreover, while firms have an obligation to promote social welfare and to behave as good corporate citizens, it is important that they spend the resources allocated to CSR initiatives in ways that yield optimum benefits to society as well as to the stakeholders of the company. However, the moderating effect of corporate image in the relationship between CSR and FINP is identified. This result is compatible with previous studies (Mandhachitara and Poolthong, 2011; He & Li, 2011; Pérez & Del Bosque, 2013; Fatma et al., 2014; García de Leaniz & del Bosque Rodríguez, 2015; Martínez et al., 2014). It is important that the higher the level of corporate image is CSR has a positive effect on FINP more. In addition, the direct effect of CSR on FINP is higher than its indirect effect via corporate image. If customers believe the company is a socially responsible corporate citizen, they will quite likely have positive impressions (corporate image) regarding the corporation and this will increase FINP. Consequently, corporate image's mediating role indicates that companies should introduce their economic, social and environmental responsibility to their target audience, as corporate image plays an important role in leading higher FINP. Besides, to develop corporate image through social responsibility activities, companies are recommended to pay attention on corporate advertising activities. Therefore, firms should ensure that they proactively maximize their CSR budgets. Firms may consider their involvement in some CSR initiatives such as community and environment support. Research findings clearly support the theoretical model and all the developed hypotheses. According to the findings, CSR affects both corporate image and financial performance positively. This study contributes to an overall understanding of CSR level by examining CSR dimensions. Besides, it is expected that this study would contribute to the theoretical information, as it is one of the few empirical studies examining CSR – in terms of sustainable development (Martínez et al., 2013, 2014) – and also has put forward the mediating role of corporate image in the relationship between CSR and FINP.

## 6. Implications

The findings offer several implications for theory and research on CSR, and financial performance. First of all, it is proved that there is a positive effect of CSR activities on the financial performance of the companies. This study shows that CSR positively influences CORI more than FINP and legal CSR is the most important factor of CSR while economic CSR is the least factor. On the other hand, building corporate image base is an important foundation for developing a sustainable competitive advantage. The practical implications arise from these findings. First, contribution to environmental protection were added to Carroll's CSR constructs (economic, legal, ethical and philanthropic responsibilities) in this study. This is because many Bangladeshi people are not concerned with environmental contribution and consumer protection recently. It is necessary to educate consumers on the importance of environmental contribution. Through this research not only contributes to the information regarding CSR in the manufacturing firm's policy makers but also leads the practitioners.

## 7. Conclusions

This study completely relies on the CSR information provided by the firms. In the Bangladeshi context, most of the companies did not report their CSR expenditure prior to

2018. Most of the companies provided an estimated data for CSR amount rather than the actual expenditure both at a firm level and at the sector level. Data from lowly reputed firms was used as most of these firms are unlisted and do not undertake any CSR activities. Moreover, even if they spend on CSR activities, they do not report it. Focusing on a single industry and on every stakeholder would definitely provide different results. The firms need social collaboration initiative with external parties in an effort to direct CSR to better the firm performance. This, eventually, will lead to solve social and environmental problems, as well as improve stakeholders trust and the efficiency and the effectiveness of business activity.

## 8. Limitations and Suggestions for Future Research

The objectives of this study were to build and test a theoretical model to identify the mediating factors in the linkage between CSR and financial performance in the manufacturing firms. Though the theoretical model provided in the research is supported, this research has limitations, as well. We also identify some limitations of current study and suggest for future research. First, the study's sample was drawn from one sector (manufacturing industry), which might limit the generalizability of these findings to other sectors. Future studies should verify these findings across sectors. Future studies should be conducted overcoming the limitations described above. Future studies could use the measurements (in accounting terms) provided by this study. Future studies should consider all the firms of an industry, both reputed and non-reputed, which may provide different dynamics amongst the firm and its stakeholders that observed in this study. In addition, to increase the explanatory power of the research model, public relations (PR) techniques (e.g. corporate advertising) could be used as mediating variables in the relationship between CSR and corporate image. Despite all the aforementioned limitations, it is expected that this research would provide new information on CSR and its benefits and contribute to the related field.

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