Corporate social responsibility and environmental sustainability: achieving firms sustainable performance supported by plant capability

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ABSTRACT

In the contemporary industrial setting, corporations face direct and indirect pressures from multiple intrinsic and extrinsic environmental constituents, including competitive entities and resource limitations, hindering their continuity and sustainability. Against this backdrop, Corporate social responsibility (CSR) is an industrial dynamic that enables firms to address the pressures imposed by these environmental constituents. Therefore, this study examines the impact of CSR on firm's sustainable performance conditioned at different plant sizes. In doing so, the data was collected using a survey instrument comprising close-ended items with five-point likert scales on each item for measuring managerial perceptions from manufacturing industries. Through non-probabilistic sampling, a sample of 399 responses from middle to top-level management was collected. Smart PLS was utilized to analyze the data for validating the hypothesized relationships between the latent constructs. To enhance the reliability of the tests used for the analysis, bootstrapping was used to iterate the sample size and refine significance levels. Overall findings indicate that environmental sustainable development is essential to explain the relationship between 'CSR for consumer' and 'Firm sustainable performance'. The relationship between 'CSR to employees' and 'Firm sustainable performance' is significant both with and without the explanatory role of sustainable environmental performance. The link between CSR to community and firm sustainable performance is not being explained by environmental sustainable development. These results offer valuable policy recommendations.

1. Introduction

The criticality of Corporate social responsibility (CSR) in the corporate sector plays through the many complexities of management sciences, warranting a flexible outlook

of management via research. Therefore, the respective focus on CSR is of great concern (Skarmeas et al., 2014) regardless of marginal efforts by organizations to increase awareness on global warming, climate, etc. (Kardooni et al., 2018; Ourbak & Magnan, 2018). For achieving benefits in the form of eco-friendly and economic sustainability the Ecologists have praised industrial societies for incorporating CSR activities and green philosophy into their works (Raimi, 2017). In contrast, most of the production and process-oriented industries are functional in developing nations like Africa and Asian countries for whom environmental concerns are low in priority (Puppim de Oliveira & Jabbour, 2017).

In recent days the global climatic changes are forcing countries to take precautions to save the environment. Similarly, Pakistan as a developing nation is subject to high risk. Due to adverse climatic prevalence, sustainable development should be a top priority objective for Pakistani firms. Accordingly, Pakistan is taking initiatives for social and environmental sustainability in overall economic growth (Bakhttyar, 2019). (Bakhttyar, 2019) So in light of this, it is imperative to understand the strategies that can help achieve the firm's sustainable performance through environmentally sustainable development. Sustainable business performance has always been questionable in Pakistan, specifically due to dynamic transformations in corporations to cater changing customer trends along with the energy crisis, political, governance issues, etc. (Ahmad et al., 2018). A careful approach towards CSR by active firms may represent a solution towards sustainable performance (Awais et al., 2019). The focus of this study is to identify the specific contribution of CSR for attaining sustainable performance at the corporate level.

In the ever-changing corporate settings for existence and smooth processes, the investigators have uncovered the integration of social, environmental, and economic aspects into corporate strategies (Ikram et al., 2019; Svensson et al., 2018). Awan et al. (2019) argued that the consumers could be attracted towards the organizations certified socially and environmentally through their CSR practices. The best way to reduce the environmental damages, cost of production, and wastage is by applying CSR activities (Wang et al., 2016). Previous researchers have evaluated the direct and positive effects of CSR measures on corporate green performance, green adoption, and sustainable corporate performance (Abbas, 2020; Suganthi, 2019). CSR has been defined differently initially Carroll (1979) described it as 'social responsibility of organizations includes the legal, economic, ethical, and philanthropic expectations that society has of businesses at a given point in time'. CSR has four essential components economic, legal, ethical, and philanthropic (Carroll, 1979, 1991; Matten & Moon, 2008). And this concept took importance, so different concepts and dimensions come in front. Further, Dahlsrud (2008) suggested socio-economic, environmental, stakeholders, and those who voluntarily perform it. Turker (2009) turns them into two broad terms, social and non-social. The study of Farooq et al. (2014) divided CSR into four broader concepts, as CSR to the environment, employees, community, and consumers.

Because the above shreds of evidence encouraged the development of the framework of this study? Pakistan requires understanding all possible strategies that can ignite sustainable environmental development and achieve the firm's performance. It

is prominent in the literature that CSR activities are an important phenomenon to accomplish the target. The model is developed through the integration of the study to give a boost and further development in theory. Further, this study also examined the CSR to the environment, employees, community, and consumers on achieving environmental sustainability and then achieving the firm's performance. Based on the above debate, the following research questions are developed:

RQ1: Do the different dimensions of CSR help in establishing sustainable performance?

RQ2: Does sustainable environmental development have an active role in explaining the relationship between CSR and Sustainable performance?

RQ3: Does firm operational size (plant size) augment sustainable environmental development?

2. Hypothesis development

2.1. CSR to environment

It is discussed in different kinds of literature such as Turker (2009), Farooq et al. (2014), Shahzad et al. (2020) CSR to the environment is specifically the activities organization performs to save the environment, climate, wastages and reduce the wastage releases. Today, the corporate bodies are more focused on saving the environment in their all dealings and forced by the regulatory authorities to meet the environmental standards, which are assured through different ISO certifications. Performing social responsibilities towards the environment is very helpful in achieving sustainable environmental development. But this can be achieved through preservation and safeguarding nature. As a result of captivating active procedures intended for saving in natural hazards and toxic waste (Mishra & Suar, 2010). Further in the study of Babiak and Trendafilova (2011) highlighted that management practices are not left alone, and the organizations are also taking initiatives to meet the challenges of sustaining the natural environment. They are making every effort to decrease the effects on the climate and the environment. Moreover, the stakeholders attached to the organizations are crucial for making CSR efforts to save the environment (Montiel, 2008). It is noted that environmental CSR does provide not only environmental protection but also provides a competitive advantage to the firms. It is also indicated by Madueno et al. (2016), Al-Abdin et al. (2018) in developing countries CSR on the environment has considerable influence on the performance of the economy and environment.

The following hypothesis is proposed from the literature above:

H_{01}: CSR to Environment has no significant impact on achieving Environmental Sustainable development.

H_{A1}: CSR to Environment has a significant impact on achieving Environmental Sustainable development.

2.2. CSR to employees

In the conception of the CSR another aspect discussed by the researcher which is related to the employees' Abbas (2020), Battaglia et al. (2014), Farooq et al. (2014),

Shahzad et al. (2020) defined this concept as the organizational activities which are associated to the employees, as providing them growth opportunities, including in the decision making, work for the employee wellbeing, provide them multiple training opportunities, making the work environment feasible and supportive for the employees as well as providing the equal opportunities to all the employees without any biases.

The research study highlighted the importance of CSR to employees as one of the important factors to achieve the organizational objective and help the organizations to achieve sustainability. Further, it is also highlighted that employees are the internal stakeholders and are an important aspect to make organizations prosper and achieve the desired objective for the organizations (Suganthi, 2019). The internal stakeholder's role is one of the most important roles which give a boost to organizational productivity (Aguinis & Glavas, 2012). The core message is also hidden in the messages of the organization i.e., 'Costumer Focused' and 'Market Oriented' and seems to respond more towards the external CSR instead of internal. But these messages themselves show the hidden message that is employee commitment. Committed employees can make the organizations achieve the impossible (Turker, 2009). Several types of research De Roeck and Farooq (2018), Battaglia et al. (2014), Mishra and Suar (2010) highlighted, employees, can bring their performance into the action, which is environmentally accountable. If the organization shows concern in the internal code of conduct (i.e., environmental training). Moreover, the literature; Sharabati (2018), Ferreira and de Oliveira (2014) found out the positive relation of CSR to employees in maintaining the engagement, enthusiasm attitude as well as behavior concerning the environment. Better internal policies for the employees lead them towards achieving organizational objectives. It will also help the employees to show more creative ways of working and make most of the contribution towards a sustainable environment.

H$_{02}$: CSR to Employees has no significant impact on achieving Environmental Sustainable development.

H$_{A2}$: CSR to Employees has a significant impact on achieving Environmental Sustainable development.

2.3. CSR to community

Another important aspect of CSR is to serve the community and it has been defined in multiple types of research Abbas (2020), Shahzad et al. (2020), Battaglia et al. (2014), Farooq et al. (2014), Turker (2009) the organizations working in the society so they need to give something back to the society for their betterment in terms of the well-being of the society, like supporting the society financially and supporting and running the NGO.

In the literature Farooq et al. (2014) it has argued the organizations that operate in the community always required strong backing from society to prosper more. Jamali et al. (2015) extended that, there were a lot of organizations involved in the CSR activities, in terms of giving charity to the humanitarian grounds in the developing countries. CSR to the community is very helpful for the organizations to seek

opportunities in their operations serving the community. In return the organizations pay them back, in which they use the resources to prosper their business, these activities help their businesses to sustain themselves (Arsić et al., 2017).In another research Chen et al. (2017) highlighted that CSR to the community is termed as the responsibility of the organizations to help the society to enhance their lifestyles, and provide the society with multiple opportunities (i.e., providing educational opportunities, arts, climate prosperity, enhancing the air quality, and providing pure drinking water and protection of the environment).

As documented by Wang and Qian (2011), Zhang et al. (2014) that CSR to the community is found out one of the strong predictors to enhances the socio-environmental enactment, Horng et al. (2017) cost-effectiveness and the social identity, Sharabati (2018) environmental sustainable development.

H_{03}: CSR to Community has no significant impact on achieving Environmental Sustainable development.

H_{A3}: CSR to Community has a significant impact on achieving Environmental Sustainable development.

2.4. CSR to consumer

CSR has taken another dimension in the current era and is related to the consumers. It is the concept defined by Abbas (2020), Battaglia et al. (2014), Farooq et al. (2014), Shahzad et al. (2020) that the social and environmental awareness provided to the consumer, providing the labels of eco-friendly in the products and making eco-friendly products. Most importantly using ethical marketing strategies to show they care and provide maximum satisfaction to the customers instead of focusing just to earn profits.

CSR is distributed into two broader concepts external and internal. Whereas in the internal stakeholder's employee is the most important factor to take care of. Similarly, in the external stakeholders, consumers are one of the most important stakeholders. The firm's success and failure are highly dependent upon the acceptance, rejection, and level of satisfaction received by the consumers (Turker, 2009). It has been reported in the literature Trudel and Cotte (2009) that organizations apply unethical practices creates an adverse effect on the consumer purchase intention (PI) on the negative side and decreases consumer loyalty (CL). Moreover, a positive relation has been found of CSR to consumer PI and CL. Prior studies, Horbach et al. (2013) reports that consumer preferences are changing drastically. Being a producer, the organization needs to act faster and smarter while understanding consumer preferences. Now, the consumer is more focused to purchase products that can save the environment with the maximum benefits and increase environmental performance. The statistics of the survey in the US show that almost 80% of the consumers are using the product from the producers who are making environmentally friendly products for saving the environment Fatma & Rahman, 2015). Furthermore, Albort-Morant et al. (2016) highlighted fulfilling the costumer's wants and needs, with saving the environment, CSR activities are playing a vital role to achieve this objective efficiently. Organizations are working harder to make eco-friendly products. Demand for

green products is increasing day by day and it requires adopting the best environmental saving practices to achieve environmental sustainability (Deswanto & Siregar, 2018).

H_{04}: CSR to Consumer has no significant impact on achieving Environmental Sustainable development.

H_{A4}: CSR to Consumer has a significant impact on achieving Environmental Sustainable development.

2.5. Environmental sustainable development firms performance

Environmental sustainable development is been incorporated overall the world for seeking sustainable performances, and for having a competitive edge. A study was conducted in India after which India was in front of environmental issues and enhancing the environment quality (Chopra, 2016). The study talks about the numerous organizational issues (i.e., corruption, ambiguity in rules and regulations to comply the environmental issues (CII-Deloitte, 2013). As suggested by Jaiswal (2010), OECD (2006) assurance of environmental protection can be achieved if the government officials specifically the 'State Pollution Control Board' take this issue on a serious note, and ensure the norms and rules are been followed. Further, evidence from the literature is presented by Biswas and Roy (2015), environmental awareness and sustainable protection and information to the consumers are leading in the developing countries specifically in India. Moreover, a study of Ramayah et al. (2010) shows the evidence that consumer shows less enthusiasm towards the issue. It has been found out and proved that CSR to the environment is one of the most important influencing factors on achieving the firm's sustainable performance (Mishra & Suar, 2010). There are two types of advantages to the industries also mentioned of the environment-friendly products. Albort-Morant et al. (2016) the commercial benefit for saving the environment and help to improve the climate change which will benefit the whole world not only the specific community. The other is the economicbenefit which will enhance the profitability of the industries and provide the consumers the numerous opportunities to use the environmentally friendly product.

H_{05}: Environmental Sustainable development does not mediate the relationship between CSR to the environment, employee, community, and consumer and Firms' sustainable performance. (There is a direct relation between CSR components and Firm sustainable Performance)

H_{A5}: Environmental Sustainable development mediates the relationship between CSR to the environment, employee, community, and consumer and Firms' sustainable performance. (There is no direct relation between CSR components and Firm sustainable Performance or it can be explained further with the presence of environmental sustainable development)

2.6. Plant capability as moderation

Implementing environmental sustainable development also depends on the structure and the capability of the industry's plant and is considered to be the potent factor. Process technology-based manufacturing is one of the significant factors which have a

high influence on the environment. The efficiencies in the production, specifications in raw material, consumptions of water and energy, recycling, and the overall pollution because of manufacturing are the major factors that harm the environment (Charmondusit et al., 2016).

It has been argued by Klassen and Whybark (1999) inclusion and investment in the latest technologies have a strong positive influence on environmental saving. As the new and the most advanced technologies including in the manufacturing plant above all provide the advantage over the competitor. On the other hand, it is also more important by including the latest technologies brings the advanced option in making the products, with more options to bring sustainability in the environment. The new technologies are very much efficient and making according to the requirement of the new era, it rings the efficiency in the production without harming the environment (Shrivastava, 1995).

H_{06}: Plant capability does not moderate the relationship between environmental sustainable developments and a firm's sustainable performance

H_{A6}: Plant capability moderates the relationship between environmental sustainable developments and a firm's sustainable performance

2.7. Variable descriptions

CSR to Environment: The active involvement of firms in associating their productive practices with a framework suitable for the surrounding environment is represented by all the policies in CSR to environment which are regularly followed. CSR to Employees: Polices in firms designed and followed to support employees according to short comings, work place comfort, leverage for additional work, collaborative facilitation and realization are representative of CSR to employees. CSR to community: Similar to the outlook and care present for environmental support, CSR to community represents practices which are followed by organizations for carrying out production while respecting the surrounding community by utilizing production processes which take social safety, health and welfare into account. CSR to consumer: The production of firms if standardized to provide consumers with safe utility and minimize any kind of social detriment is represented by manufacturing practices of firms if the CSR to consumer is considered and realized at a high degree.

3. Methodologies

As per the requirement of the research, the data were collected from the different manufacturing companies in Pakistan. Specifically, the companies which are listed in the stock exchange commission of Pakistan (SECP). The sample is taken from the employees in the officer, supervisory, and senior management positions who are very much aware of the policies and the procedures of the manufacturing companies like textile, pharmaceuticals, food, and beverages, and wood and furniture, following the study of Shahzad et al. (2020) also used the same for the sample in the similar study. Furthermore, the data is collected through the adopted questionnaire the scale for CSR to environment 05 items, CSR to community 05 items, CSR to employee 06

items initially but one item was deleted because of the lowest factor loading, CSR to consumer 05 items and environmentally sustainable development 05 items Farooq et al. (2014), Turker (2009) has been used. Moreover, Gadenne et al. study has been used for the scale of a firm's sustainable performance, that scale included the items related to the firm's environmental performance, product development performance, and capital effective performance a total of 05 items used. A similar scale was also used by Abbas et al. (2019) while studying the CSR on sustainable performance. At last, for the scales of plant capabilities Sardana et al. (2020) used a similar 05 items scale.

3.1. Sampling

The non-probability multistage type of sampling was used (i.e., convenience and snowball sampling). Due to the pandemic, it was very difficult to physically go and trace the employees for the data collection. So, the researcher has used convenience sampling and then use the referral from those who have been chosen on the convenience so that data can be collected from sufficient samples. As snowball sampling has also been used in a similar study of Shahzad et al. (2020) referrals were used for the sampling technique in a similar study. This approach is suggested by Bryman and Bell (2011) as this method is very useful for maximum responses in the limited time with lesser cost. As far as the sample size is concerned initially a total of 650 questionnaires were sent for the data collection. The response rate was 80% the total of 520 questionnaires was received, after which the data cleaning process was initiated. The data cleaning includes firstly, it was checked for the missing values. Almost 80 questionnaires were deleted having high missing values. Secondly, the unengaged responses have checked the values having less than 0.5 standard deviations was also deleted as they were having the possible unengaged response and might be the possibility, they filled the questionnaire in a hurry. So, for the clear testing process researcher has also deleted those responses, a total of 41. Finally, a total of 399 sample data were selected for the final testing. Table 1 provides demographics of the collected data. Following the study of Shahzad et al. (2020), the total sample includes

Table 1. Demographic of sample.

Gender	Frequency	Percentages
Male	245	61.40%
Female	154	38.60%
Total	399	100%
Age group		
20 to 29 years	40	10.02%
30 to 39 years	279	69.92%
40 to 49 years	59	14.78%
50 and above	21	5.28%
Total	399	100%
Experience		
0–5 years	39	9.77%
6–10 years	220	55.13%
11–15 years	80	20.05%
15 and above	60	15.05%
Total	399	100%

Source: Author's estimations.

60.15% males and 39.85% females, whereas, the most people belong to the 30 to 39 years of age a total of 69.92% from this age bracket, 10.02% from 20 to 29 years 14.78% from 40 to 49 and 5.28% from 50 to 59 years of age. As far as the experience is concerned, a total of the most people in the sample were 55.13%, belong from the 6 to 10 years of experience, 20.05% from 11–15 years, 14.8% from more than 15 years' experience, and 10.02% from 0–5 years of experience.

3.2. Data analysis

The collected data has been analyzed by using the structural equation modeling (SEM) by using Smart-PLS. As suggested by Hair et al. (2010). Smart-PLS is one of the modern tools specifically for primary data analysis. It is very resourceful in the theoretical contribution and for checking the multiple relationships among the variables as was the case in this study. Studies including the mediations and the series of mediation models have also used the Smart-PLS (Farooq & Salam, 2020). Initially, the data clearing process was applied in which almost 251 data were deleted and discarded due to the missing values, and unengaged responses. As suggested by Johnson (2005), Mason and Suri (2012), the data clearing process is one of the important steps to take before the final testing as it sorts out the data and clears it from the uninvited errors in the data. Furthermore, after that smart PLS gives an edge to check the data for quality criteria (i.e., consistency and accuracy) from multiple sources. Moreover, the relationships and the hypothesis constructed were finally tested by running the bootstrapping, and results were sorted out for mediation and moderation. PLS-SEM was selected for this study in contrast to prior studies which have utilized CB-SEM because of its capacity to validate and explain theoretical extensions made to previously tested models (Hair et al., 2019). Figure 1 presents the variable's links and model framework of this study.
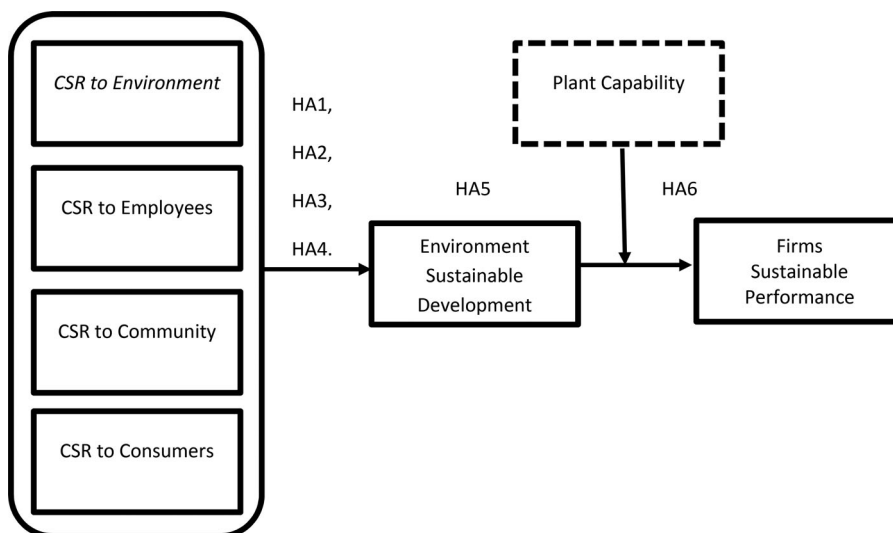

Figure 1. Model framework.
Source: Author's estimations.

Table 2. Construct reliability and validity.

	Cronbach's Alpha	rho_A	Composite reliability	Average variance extracted (AVE)
CSR community	0.833	0.838	0.882	0.600
CSR consumer	0.764	0.772	0.841	0.516
CSR employee	0.804	0.812	0.864	0.561
CSR environment	0.854	0.858	0.896	0.633
Environmental sustainable development	0.838	0.839	0.886	0.609
Firm sustainable performance	0.783	0.794	0.853	0.540
Moderating effect ESD*PC	1.000	1.000	1.000	1.000
Plant capacity	0.755	0.765	0.835	0.504

Source: Author's estimations.

4. Results and analysis

It is highlighted that internal consistency is the most important aspect to check before applying the final testing, to understand whether the results drawn from the data are reliable or not. As suggested by Haier et al. (2014), Taber (2018) the acceptable range of the reliability (i.e., Composite reliability, rho-A, and Cronbach's alpha) are 0.7 and above. Furthermore, Chin (1998), Fornell and Larcker (1981) suggested that the accuracy of the data is the second most important aspect before applying the final testing. The convergent validity tells the same, it shows the validity of the instruments within the constructs, and it is checked through the AVE, the threshold value of AVE is 0.5 and above. Table 2 shows that convergent validity, rho-A, composite reliability, and AVE meet the standard values and are termed reliable and valid.

Collinearity diagnostics in Tables 3 and 4 indicate that the data is free from common method bias since all values for inner and outer VIFs are below the 3.3 thresholds as suggested by Kock (2015).

The criterion for establishing content validity is represented by factor loadings of every item with every latent construct. All items in Table 5 show factor loading scores of near or more than 0.7 with their respective constructs which is the threshold value for indicating that the items are statistically associated with their respective construct. The second criterion for establishing content validity is that the factor loadings of all items with the constructs they are not meant to represent should be weak (i.e., less than 0.4 or near) and the difference of loadings with their respective constructs and loadings with their unassociated constructs should be high which is the case as shown in the table below.

Another important quality criterion is to check the discriminant validity. It is different from the convergent validity. The discriminant validity checks the relation of the individual items in constructs which should be discriminated from all the other constructs. As each item is the perfect predictor of their constructs and does not make any relation with the other constructs. For checking this the researcher has gauged the two most important tools to check the discriminant validity Fornell-Larcker Criterion and Heterotrait–Monotrait Ratio (HTMT). As suggested by Fornell and Larcker (1981) that the square root of the AVE (i.e., the diagonal values) must be greater than the off-diagonal values. Hence if this criterion is met then the data will be termed as having discriminant validity. Table 6 is showing the results and all the diagonal values of all the constructs are greater than the off-diagonal values. Moreover, Henseler et al. (2015) suggested that all the constructs included in the path

Table 3. Inner VIF.

	CSR com	CSR con	CSR emp	CSR env	ESD	FSP	Mod ESD*PC	Plant Cap
CSR com					1.183	1.236		
CSR con					1.547	1.726		
CSR emp					1.178	1.333		
CSR env					1.506	1.665		
ESD						1.596		
FSP								
Mod ESD*PC						1.009		
Plant Cap						1.586		

Source: Author's estimations.

Table 4. Outer VIF.

	VIF
CSRcom1	1.484
CSRcom2	2.119
CSRcom3	2.330
CSRcom4	1.904
CSRcom5	1.344
CSRcon1	1.292
CSRcon2	1.430
CSRcon3	1.557
CSRcon4	1.409
CSRcon5	1.438
CSRem2	1.620
CSRem3	1.673
CSRem4	1.371
CSRem5	1.503
CSRem6	1.658
CSRen1	2.030
CSRen2	2.159
CSRen3	2.217
CSRen4	1.713
CSRen5	1.573
ES1	1.609
ES2	2.024
ES3	2.071
ES4	1.900
ES5	1.515
Mod ESD*PC	1.000
FSP1	1.499
FSP2	1.582
FSP3	1.716
FSP4	1.717
FSP5	1.199
PC1	1.316
PC2	1.477
PC3	1.478
PC4	1.441
PC5	1.367

Source: Author's estimations.

analysis must not make the relationship greater than 0.85. If this condition meets the data will be termed as discriminately valid. Hence Table 7 is showing the results of the HTMT and all the relationships are less than the threshold value of 0.85. So, from both the methods it is proved that the data is showing discriminant validity.

The variance explained by the endogenous constructs through the exogenous variables are shown up by the capacity of the r-square is gauged through the PLS-algorithm in Smart-PLS (Hair et al., 2016). Moreover, Cohen explained the R-

Table 5. Factor loading.

Items	CSR com	CSR con	CSR emp	CSR env	ESD	FSP	Mod ESD*PC	Plant Cap
CSRcom1	**0.735**	0.304	0.197	0.266	0.236	0.331	−0.035	0.277
CSRcom2	**0.824**	0.216	0.161	0.288	0.204	0.351	0.046	0.277
CSRcom3	**0.849**	0.298	0.247	0.282	0.272	0.347	0.033	0.326
CSRcom4	**0.755**	0.148	0.137	0.237	0.153	0.231	−0.003	0.233
CSRcom5	**0.702**	0.249	0.188	0.222	0.210	0.383	−0.006	0.327
CSRcon1	0.179	**0.626**	0.231	0.282	0.295	0.219	0.014	0.290
CSRcon2	0.261	**0.730**	0.183	0.447	0.358	0.321	0.008	0.361
CSRcon3	0.178	**0.760**	0.303	0.350	0.348	0.295	−0.013	0.348
CSRcon4	0.250	**0.719**	0.213	0.479	0.379	0.288	0.011	0.325
CSRcon5	0.278	**0.747**	0.324	0.392	0.403	0.329	0.036	0.396
CSRem2	0.218	0.287	**0.771**	0.237	0.316	0.310	0.026	0.359
CSRem3	0.211	0.343	**0.796**	0.262	0.340	0.357	0.029	0.369
CSRem4	0.173	0.215	**0.677**	0.125	0.276	0.256	0.116	0.183
CSRem5	0.176	0.266	**0.718**	0.196	0.313	0.228	0.023	0.286
CSRem6	0.139	0.192	**0.778**	0.261	0.303	0.325	0.054	0.311
CSRen1	0.314	0.521	0.211	**0.806**	0.343	0.316	0.082	0.378
CSRen2	0.281	0.429	0.241	**0.822**	0.384	0.370	0.049	0.370
CSRen3	0.296	0.436	0.269	**0.844**	0.433	0.363	0.032	0.393
CSRen4	0.201	0.428	0.257	**0.765**	0.409	0.281	0.032	0.342
CSRen5	0.244	0.376	0.183	**0.737**	0.360	0.339	0.076	0.320
ES1	0.277	0.364	0.269	0.350	**0.726**	0.379	0.033	0.352
ES2	0.276	0.401	0.348	0.419	**0.829**	0.369	0.001	0.373
ES3	0.196	0.371	0.338	0.354	**0.822**	0.337	0.016	0.321
ES4	0.211	0.429	0.282	0.395	**0.797**	0.321	0.014	0.296
ES5	0.143	0.382	0.373	0.375	**0.720**	0.332	0.025	0.289
Mod ESD*PC	0.010	0.016	0.064	0.067	0.023	0.171	**1.000**	0.026
FSP1	0.287	0.275	0.285	0.346	0.373	**0.757**	0.110	0.531
FSP2	0.351	0.362	0.320	0.255	0.346	**0.769**	0.129	0.514
FSP3	0.348	0.266	0.292	0.317	0.292	**0.775**	0.155	0.444
FSP4	0.340	0.314	0.321	0.308	0.312	**0.780**	0.137	0.461
FSP5	0.266	0.282	0.240	0.334	0.317	**0.574**	0.096	0.337
PC1	0.206	0.346	0.363	0.350	0.275	0.327	0.052	**0.619**
PC2	0.274	0.380	0.349	0.334	0.370	0.454	0.045	**0.746**
PC3	0.276	0.289	0.274	0.253	0.227	0.442	−0.029	**0.718**
PC4	0.236	0.321	0.214	0.307	0.261	0.438	0.034	**0.727**
PC5	0.329	0.378	0.278	0.374	0.347	0.536	0.003	**0.732**

5% levels of signifies in bold.
Source: Author's estimations.

square value as 0.26, strong, 0.13 as the medium, and 0.02 as the weak variance. On the other hand, Q-Squared values of 0.35, 0.15, and 0.02 are termed as the Strong, medium, and weak predictive relevance of the relationship between exogenous and endogenous variables (Henseler et al., 2015). Table 8 shows the results and it is quite clear that the capacity of r square and Q square of Firm sustainable performance is showing strong and greater in terms of variance explained through the other variables in the model.

Table 9 is showing the results of bootstrapping. The results above showing that CSR to community is not supported or making any relation with the environmental sustainable development (*T*-value, 0.989 < ± 1.96; *P*-value 0.323, > 0.05) and directly it is showing the significant positive relation with the firm sustainable performance (*T*-value, 3.678 > ± 1.96; *P*-value 0.000, < 0.05). This result suggests that CSR to community enhances the firm's sustainable performance directly no mediation of environment sustainable development.

On the other hand, CSR to consumer and CSR to environment are showing the positive relation with the environment sustainable development (i.e., *T*-value, 4.147 &

Table 6. Discriminant validity Fornell-Larcker criterion.

	CSR community	CSR consumer	CSR employee	CSR environment	Environmental sustainable development	Firm sustainable performance	Moderating effect ESD*PC	Plant capacity
CSR community	0.775							
CSR consumer	0.323	0.718						
CSR employee	0.246	0.350	0.749					
CSR environment	0.336	0.548	0.293	0.796				
Environmental sustainable development	0.284	0.500	0.414	0.487	0.780			
Firm sustainable performance	0.434	0.408	0.398	0.421	0.447	0.735		
Moderating effect ESD*PC	0.010	0.016	0.064	0.067	0.023	0.171	1.000	
plant capacity	0.378	0.482	0.409	0.454	0.420	0.629	0.026	0.710

Source: Author's estimations.

Table 7. Heterotrait-Monotrait ratio (HTMT).

	CSR community	CSR consumer	CSR employee	CSR environment	Environmental sustainable development	Firm sustainable performance	Moderating effect ESD*PC	Plant capacity
CSR community								
CSR consumer	0.389							
CSR employee	0.293	0.442						
CSR environment	0.396	0.675	0.347					
Environmental sustainable development	0.331	0.621	0.503	0.573				
Firm sustainable performance	0.527	0.524	0.497	0.519	0.553			
Moderating effect ESD*PC	0.035	0.026	0.074	0.074	0.025	0.193		
Plant capacity	0.461	0.632	0.527	0.566	0.523	0.798	0.053	

Source: Author's estimations.

Table 8. R-square.

	R square	R square adjusted	Q square
Environmental sustainable development	0.367	0.360	0.216
Firm sustainable performance	0.502	0.491	0.261

Source: Author's estimations.

4.360 $> \pm$ 1.96, P-value 0.000, & 0.000 < 0.05) but not making any significant relationship with the firms sustainable performance (i.e., T-value, 0.786 & 1.717 $< \pm$ 1.96; P-value 0.432 & 0.086 > 0.05). This relation makes it clear that there is full mediation found as far as the CSR to consumer and the environment is concern. As both of the constructs are making firm sustainable performance through the mediation of environmental sustainable development. As it is also confirmed by the results of indirect effects of Table 5 (i.e., T-value, 2.298 & 2.347 $> +$ 1.96, P-value 0.022, & 0.019 < 0.05). These effects are also reported in Figure 2 namely Bootstrapping Relationship Chart.

Furthermore, CSR to employee has been proved for creating the firm's sustainable performance (i.e., T-value, 2.776 $> \pm$ 1.96; P-value 0.006, < 0.05) directly and through the environment sustainable development (i.e., T-value, 4.364 $> \pm$ 1.96; P-value 0.000, < 0.05). Hence it is proved that firms involved in the CSR to the employee they are more likely to enhance the direct firm's sustainable performance as well as also enhance the environmentally sustainable development termed as the partial mediation. Moreover, the mediation of environmentally sustainable development and firm's sustainable performance is showing a significant relation which makes all the mediation either partial or full mediation a significant relation.

Last but not the least the moderation effect of plant capability in between firms sustainable performance and environmentally sustainable development is also significant (i.e., T-value, 3.893 $> \pm$ 1.96; P-value 0.000, < 0.05) which suggest that, whether CSR to community, environment, employee or consumer makes the mediation relationship, either partial or full are significant only if the plant capability takes into consideration. Plant capability has been found out a true moderation that can bring change in the relationship between a firm's sustainable performance and environmentally sustainable development. If plant capability is sufficient then the relationship between a firm's sustainable performance and environmentally sustainable development is significant else it will decrease or maybe signify the relationship.

5. Discussion

The results of the study revealed that CSR to the community is the factor that fails to make any relation with the environment sustainable development; instead, it is making the direct relation with the firm sustainable performance. The above result shows the inconsistency with the prior results as Farooq et al. (2014), Horng et al. (2017), Shahzad et al. (2020) found out that there is a positive relation between CSR to community and the environment sustainable development. The reason as the community wastes most of the product which eventually harms the environment. Ultimately producers try to maintain as much awareness as they can but some of the community perceptions differ from the perspective of the company so they don't understand it

Table 9. Bootstrapping.

|	Original sample	Sample mean	Standard deviation	T statistics	P values	Results
Specific effects						
CSR community -> Environmental Sustainable Development	0.056	0.056	0.057	0.989	0.323	Unsupported
CSR consumer -> Environmental Sustainable Development	0.259	0.260	0.062	4.147	0.000	Supported
CSR employee -> Environmental Sustainable Development	0.234	0.236	0.054	4.364	0.000	Supported
CSR environment -> Environmental Sustainable Development	0.257	0.258	0.059	4.360	0.000	Supported
CSR community -> Firm Sustainable Performance	0.195	0.197	0.053	3.678	0.000	Supported
CSR consumer -> Firm Sustainable Performance	0.042	0.045	0.054	0.786	0.432	Unsupported
CSR employee -> Firm Sustainable Performance	0.124	0.125	0.045	2.776	0.006	Supported
CSR environment -> Firm Sustainable Performance	0.090	0.091	0.053	1.717	0.086	Unsupported
Indirect effects						
CSR community -> Firm Sustainable Performance	0.008	0.008	0.009	0.892	0.373	Unsupported
CSR consumer -> Firm Sustainable Performance	0.037	0.037	0.016	2.298	0.022	Supported
CSR employee -> Firm Sustainable Performance	0.034	0.033	0.015	2.286	0.022	Supported
CSR environment -> Firm Sustainable Performance	0.037	0.036	0.016	2.347	0.019	Supported
Mediation						
Environmental Sustainable Development -> Firm Sustainable Performance	0.144	0.141	0.052	2.771	0.006	Supported
Moderation						
Moderating Effect ESD*PC -> Firm Sustainable Performance	0.122	0.121	0.031	3.893	0.000	Supported
Plant Capacity -> Firm Sustainable Performance	0.431	0.429	0.054	8.008	0.000	Supported

Source: Author's estimations.
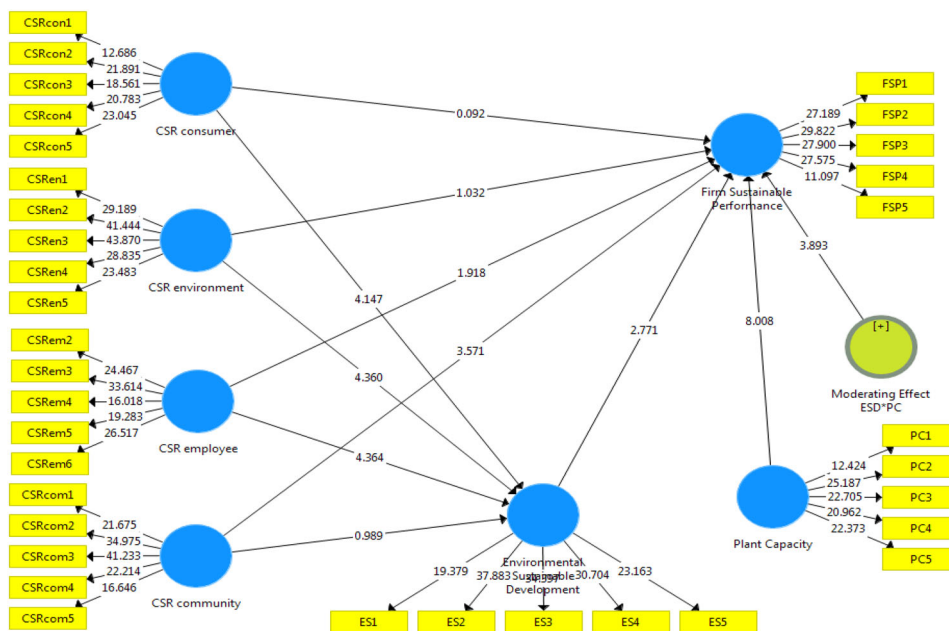
Figure 2. Bootstrapping relationship chart.
Source: Author's estimations.

and act oppositely. On the other hand, the result of CSR to the community is consistent with Abbas (2020) studied a positive and significant relationship of CSR to community and the firm's sustainable performance. CSR to consumer boosts the consumer to use the products of the producers for their sake which ultimately enhances the firm's sustainable performance.

Furthermore, the other CSR aspects (i.e., consumer and environment) show the full mediation they both enhance the environment sustainable development as well as the firm's sustainable performance. These results are consistent with the results of Abbas (2020), Farooq et al. (2014), shows that there is clear evidence that CSR ultimately enhances as a positive relation with the environment sustainable development and the firm's sustainable performance. In another study by Shahzad et al. (2020) it was also found that CSR to environment and consumer has a full mediation about enhancing the environmentally sustainable development and the green practices. In this study, this relationship is with the firm's sustainable performance which gives a unique insight into the model. The reason is obvious that something is done for the betterment of the environment and consumer the producers making eco-friendly product and showing their concern to the future of the consumers and country. It ultimately saves the environment and attracts the consumer towards the product which gives a boost to the firm's performance and competitive edge.

Another important aspect of CSR to employees the study shows the partial mediation. As this aspect of CSR is making the relation with and without the mediator environmental sustainable development to enhance the firm's performance. The results are somehow consistent with the study of Shahzad et al. (2020) which shows

that CSR to employees has full mediation in the relation of environmentally sustainable development and green practices. The results are not fully consistent because in this study the endogenous was the firm's sustainable performance. The other reason of the result that employee is one of the important internal resources of any organization which can create wonders and wins any battle for the organizations. The more focused on the internal CSR give the employee more opportunity, for their development motivates them to work to save the environment. On the other hand motivated employee is the key competitive advantage that can help any organization to achieve the sustainable performance

Environment sustainable development also shows that there is a positive relationship with the firm's performance. The results support the study of Sardana et al. (2020) which has found out a similar relation and also argued that environmentally sustainable development is one of the most important factors in this era which is attracting the different stakeholders and helping the firms to enhance their performance. Moreover, the study revealed that plant capability moderates the relationship between environmental sustainable development and firm performance. This means not only by creating the environment sustainability brings the firm performance but also the plant must have the capability in terms of availability of the resources which help achieve the firm sustainable performance (i.e., tools, fixtures, technology and most importantly personnel's). The above results are supporting the results of Klassen and Whybark (1999), Shrivastava (1995) as the plant capacity is one of the major factors studied to save the environment and achieve the competitive advantage through firms sustainable performance. As plant capability moderates the relationship between supplier sustainability and the firm's performance Sardana et al. (2020). This study proves that it also moderates the relationship between environmentally sustainable development and a firm's sustainable performance.

6. Practical implications

Industrial standards in developing economies are still subject to a multi-tier evaluative feedback framework due to irregularities which stand as barriers to attaining sustainability desired by their respective globalized partners and/or parent companies. These hindrances represent considerable dimensions for improvements because of the underlying uncertainties faced by the industrial corporations in Pakistan. From the end-user's perspective, environmental sustainable development is an essential explanatory dimension because consumers are gaining industrial intellect which implicitly transforms the overall perspective of the consumer base leading towards either continuity or plausible liquidity when not backed up by CSR activities. Accordingly, environmental practices are part of societal observation with the overall foundation of a globalized image representing standardized production practices which makes the support of environmental sustainable practices highly essential. Employees and the community are highly differentiable when correlated with the explanatory aspects of environmental sustainable development since the intrinsic-extrinsic differentiation establishes their foundational requirements.

7. Conclusion and future directions

After analytically studying the composites of Corporate social responsibility according to their associations with firm sustainable performance; the supported hypotheses represent implications for managerial personnel and emphasize that participation in environmental supportive practices for enhancing environmental quality, future outlook, or sustainability would not catalyze a firm's sustainable performance positively without intertwined objectives to augment core outcomes and procedures with such environmental practices. Therefore, the processes utilized for manufacturing core products should be environment friendly as well as the products themselves for substantiating the CSR efforts targeted towards consumers and the environment. Albeit, the community-oriented CSR efforts are not proven to be associable with environmentally sustainable practices meant for augmenting products and procedures. They are rather directly concerned with firm sustainable performance implying that supportive activities with motives such as fortifying financial foundations, resolution-based operations, or well-being enhancing activities would generally enhance market share, profitability, sales, etc. The CSR efforts focused on employees which recommend them towards participative efforts in enhancing environmental practices, skill enhancement, experiential learning, etc. augment the level of firm sustainable performance directly enhancing the chances of core objective fulfillment.

Moreover, future researchers are welcome to see the effect of the model on the CSR to the consumer on green marketing practices and environmentally sustainable development, similar to the CST to employees. This will open new horizons based on specific functional departmental contributions in maintaining environmentally sustainable development.

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