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Impact of Green Innovation and Corporate Social Responsibility on Firm Reputation with Mediation of Environmental Performance

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Abstract: *A company's long-term viability and prosperity depend on intangible assets like its reputation, which is especially important in today's globally interconnected business environment. In light of the natural resource-based view theory (NRBV), the objective of this study is to explore the effect of corporate social responsibility (CSR) and green innovation (GI) on environmental performance (EP) and firm reputation (FR). Additionally, it looks into how EP affects FR. Moreover, it explores the function of EP as a mediator between the GI-FR and CSR-FR linkages, which were previously neglected. Primary data were collected from managers of manufacturing industries via questionnaire and analyzed using SmartPLS 3.2.9. A total of 283 responses were collected using the convenience sample technique. The findings of PLS-SEM revealed that GI, CSR and EP have a significant impact on FR. Additionally, GI and CSR have a substantial impact on EP. The connections between GI-FR and CSR-FR are partially mediated by EP. This research adds to the literature by examining the mediating function of EP in the relationships between GI-FR and CSR-FR. The study also has implications, limitations and future directions.*

Introduction

A firm's long-term viability and prosperity depend on intangible assets like its reputation (FR) which is especially important in today's globally interconnected business environment (Tangngisalu et al., 2020). A company's reputation is its overall image that conveys how various stakeholder groups see it (Lai et al., 2010). Firms have a wide variety of stakeholders, such as customers, employees, and suppliers (Kamiya et al., 2021). According to Sabate and Puente (2003), a company's reputation is comprised of both its behavioural and informative aspects. They define it as "perceptions of how the firm behaves toward its stakeholders and the degree of informative transparency with which the firm develops relations with them". In today's cutthroat business climate, companies must consider environmental elements that may seem unrelated to their core operations. These factors, particularly those pertaining to the firm's external environment, are more consequential for the company's reputation (Suka, 2016).

One of the numerous aspects that can increase a company's reputation or value is its capacity to enhance its environmental performance (EP) (Khanifah, 2020). In light of the study findings, the researchers contend that environmental management initiatives contribute to the firm's overall strategy for reaching its goals (Khanifah, 2020). Since the company now thinks that its environmental responsibility is just as important as its financial success in determining its performance, EP has been included as a study variable (Khanifah, 2020). According to Chuang and Huang (2018), EP is a way for businesses to gauge how well their policies around environmental protection and management are working. A company can attain quantifiable results from its environmental management system by regulating environmental elements through environmental policies, targets, and indicators (Chuang & Huang, 2018). A scant literature on the association of EP and FR is available. The relationship between EP and FR is not clear, as prior studies showed mixed results (Khanifah et al., 2020; Blas, 2021). So, further investigation of the EP-FR link needs to be done.

Creating new products and techniques with less negative impact on the environment is what's known as "green innovation (GI)" (Li & Zeng, 2020). Sustainable development advocates see GI as a way to advance economic growth while also safeguarding the environment (Tang et al., 2018). While GI's financial results are less definite, they may have the unintended benefit of lessening pollution and raising businesses' levels of corporate social responsibility (CSR) (Chen et al., 2022). On the other hand, prior research has shown that GI boosts financial performance and profitability (Tang et al., 2018; Xie et al., 2015) for businesses. Accordingly, businesses must carefully consider their GI strategy (Chen et al., 2022). Research by Chen et al. (2022) found that environmentally friendly innovations boost a company's credibility. According to previous studies (Tariq et al., 2019), environmentally friendly innovations have a beneficial effect on the reputation of businesses.

The idea that businesses should go above and beyond what is required by law and what is in their own best interest is known as CSR (CSR) (Amoako & Dartey-Baah, 2020). According to Amoako and Dartey-Baah (2020), the concept of CSR (CSR) established a connection between the management of enterprises and the well-being of society. Industry must accept responsibility for its effects and work towards sustainable development in response to rising environmental consciousness (Madanaguli et al., 2022). CSR initiatives are gaining traction as a result of the industry's reliance on local communities, natural and human resources, and the environment; these factors also influence environmental, human rights, and fair trade concerns (Hadj, 2020). Reducing waste and improving the sustainable use of limited natural resources are also goals of CSR activities (Frey & George, 2010). Companies can aid their industry's growth efforts and improve the community at large by launching CSR initiatives (Madanaguli et al., 2022). While protecting natural resources, a successful company also shows social responsibility (Pislaru et al., 2019). Ethical behavior, community welfare, environmental sustainability, and human capital enhancement are common CSR practices (Ben Abdallah et al., 2020; Borges et al., 2018). CSR improves a company's image. Prior studies have shown that CSR positively affects a company's reputation (Tangngisalu et al., 2020). Another study by Bahta et al. (2021) explains how CSR might improve a company's reputation.

GI has a direct impact on EP (Singh et al., 2020). GI strategies have a direct and substantial impact on EP, according to the research by Ahakwa et al. (2021). In addition, the study's context involves energy corporations, and CSR (CSR) plays a vital impact in their EP (Awawdeh et al., 2021). According to the study conducted by Baah et al. (2021), there is a positive and significant relationship between the pressures

from regulatory stakeholders and the adoption of green production practices, FR, financial performance, and EP. Previous studies have shown that EP positively and significantly affects a company's reputation (Khanifah, 2020). So, the study examines EP as a mediator between the links of GI-FR and CSR-FR.

Collectively, member states of the United Nations accepted the 2030 Agenda in 2015, also known as the Sustainable Development Goals (SDGs). Achieving carbon neutrality and protecting the environment are priorities for the Pakistani government. According to Khan et al. (2024), manufacturing businesses also have significant goals included in the SDGs. Several researches have shown that developing nations are more vulnerable to environmental issues (Adenle et al., 2015; Sharma et al., 2022). As a result, organizations in these nations require assistance in optimizing their organizational assets.

The present study examines the direct impact of GI, CSR, and EP on FR. It also explores the impact of GI and CSR on EP. Secondly, the function of EP as a mediator in the relationship between GI-FR and CSR-FR will be investigated. The research was conducted in Pakistan, and it is anticipated that the results will contribute to the expanding body of literature on EP and FR in non-Western settings. Third, there is a scarcity of empirical research that has examined the mediating role of EP between the suggested connections in the manufacturing sector. Consequently, the utilization of EP as a mediator in Pakistan's manufacturing industry is a unique advancement. Furthermore, this academic article implements the natural resource-based view theory (NRBV) to investigate the relationships. Managers employed in Pakistan's manufacturing sector serve as the primary sources of data. An analysis of 283 manufacturing-related managers is conducted using PLS-SEM. Using the natural resource-based view (NRBV), this novel conceptual framework adds to the current body of knowledge and gives industrial managers useful insights into the ways in which GI, CSR, and EP impact a firm's reputation.

Theory and Hypotheses Development

Natural Resource-based View Theory (NRBV)

The ability of an organization to outperform its rivals is directly related to its resources and competencies, as stated in RBV theory (Barney, 1991). Hart (1995) further notes that RBV theory evolved into "natural resource-based view theory" (NRBV), which posits that companies can gain long-term reputation, sustainability, and competitive advantage by tackling environmental challenges. Hart (1995) finds several issues with the RBV theory. Distancing a business from its natural setting is one method to achieve this goal. Our NRBV-based assumptions are that the investigated components might aid companies in enhancing their environmental management and reputation, providing them with a competitive edge, and fortifying NRBV itself. These may have an impact on the company's performance and reputation. Benefits such as reduced risk, enhanced reputation, and a competitive advantage accrue to stakeholders when they are more actively involved in these projects (Schmelzer, 2013). In order to determine how GI, CSR, and OGC affect company performance, one study used stakeholder and NRB theory (Jabeen et al., 2024a). Using NRBV theory, previous studies (Zain et al., 2023a) investigated how CSR, GI, and green transformational leadership affected the long-term success of businesses. According to a recent study (Zain et al., 2023b), EP is a mediator between GI, GHRM, and sustainable performance by utilizing NRBV. Consequently, taking NRBV theory into account, this work utilizes GI and CSR to improve FR through EP mediation.

Green Innovation (GI) and Firm Reputation (FR)

While some researchers have looked into how GI affects a company's reputation, the majority of their studies have had significant limitations.

Green product innovation and CSR initiatives have a favourable effect on a company's reputation, according to research by Gangi et al. (2020). An earlier research project focused on publicly traded Chinese companies. The study used OLS regression to evaluate hypotheses using secondary data that had already been obtained. The research proved that GI can boost a company's credibility. It further clarified that GI lessens the amount of pollution that businesses emit. State-owned, coastal, old, and large-scale organizations are just some of the business categories that benefit from GI's enhanced reputation-boosting capabilities (Chen et al., 2023).

H1: GI has a positive significant impact on FR.

Corporate Social Responsibility (CSR) and Firm Reputation (FR)

The term CSR refers to an organization's efforts to positively affect society, the economy, and the environment (Carroll, 2016; Ruonan & Hong, 2019; Sharma, 2019). The notion of CSR has been widely applied in studies involving many socioeconomic backgrounds and circumstances (Sharma, 2019). CSR is highly important for any kind of organization (Carroll, 2016). The organizations need to concentrate on both stakeholder issues and environmental protection-related challenges (Kowalczyk & Kucharska, 2020). A company's reputation is its public perception and the opinion of outsiders about the quality of the company based on its previous performance. A company's standing in the market is the result of its consistent presentation of its core values across time (Roger & Helen, 2001). CSR efforts are being made to address everyone's social and environmental demands (Tangngisalu et al., 2020). Research by Stuebs and Sun (2011) verified the favourable and substantial effect of CSR on FR. Yet another analysis based on Fortune's List of Most Admired Companies found significant effects of CSR on FR (Liu & Lu, 2021). We hypothesized, using the aforementioned literature, that:

H2: CSR implementation has positive and significant effects on FR.

Green Innovation (GI) and Environmental Performance (EP)

Beyond merely complying with legislation, EP refers to an organization's efforts to achieve or beyond social expectations in relation to the natural environment (Chan, 2005; Chen et al., 2015). In order to meet legal environmental standards, the environmental impacts of an organization's activities, products, and resource consumption must be taken into account (Dubey et al., 2015). According to earlier research (Oliva et al., 2019; Chen et al., 2015; Dubey et al., 2015; Darnall et al., 2008), EP is influenced by the quality of environmentally friendly products, innovation in green processes and products, and the integration of ecological sustainability concerns into company operations and product development. Adegbile et al. (2017), Kammerer (2009), and Chen et al. (2006) all found that GI boosts EP and is linked to firm environmental management agendas. In addition to lowering a company's negative influence on the environment, green products and process innovation boost the social and financial performance of the organization by cutting costs and waste (Weng et al., 2015). According to Kratzer et al. (2017), Lin, Tang, and Geng (2013), and de Burgos Jiménez et al. (2013), GI is not just a response to stakeholder pressures but rather a proactive strategy to improve EP and gain a competitive advantage. Our RBV analysis leads us to believe that one of the most important organizational resources for a firm to improve its EP and gain support from important stakeholders is the development of innovative green processes and products. Hence, our hypothesis is that:

H3: GI positively influences EP (Singh et al., 2020).

Corporate Social Responsibility (CSR) and Environmental Performance (EP)

Customers nowadays are looking for eco-friendly goods and services, which is why researchers are focusing on CSR specifically. An eco-

entrepreneur is a business owner whose primary goal is the promotion of environmentally friendly products and services, as well as the mitigation of environmental problems in their respective sectors (Melay& Kraus, 2012). A number of groups have been pushed to take a stand on social and environmental concerns by groups who have a stake in the outcome of such organizations' actions (Pekovic& Vogt, 2020). CSR (CSR) has emerged as a major industry trend in the last several decades (Xiang et al., 2020). Not only that but there is no agreed-upon definition of CSR despite the abundance of literature on the topic. Consequently, carrying out such an empirical study proved to be challenging for the researchers (Orlitzky et al., 2011). Companies can't succeed unless they meet or exceed public expectations. Companies that fail to put their consumers first will fail to survive in today's business climate, whereas companies that focus on internal matters tend to fail. CSR (CSR) is an organization's duty to act in a way that benefits society as a whole, through the decisions it makes and the tactics it employs (Bowen & Johnson, 1953). A study confirmed that customer engagement is crucial for customer retention (Danyal et al., 2024), and CSR facilitates customer engagement. A previous study by Kraus et al. (2010) established that CSR does not significantly affect EP. A recent study by Chuang and Huang (2018) was done on 1,000 manufacturers in Taiwan. The study demonstrated that CSR does not have a direct, substantial impact on EP, but it does exert a large indirect influence. So, we posited the following hypothesis.

H4: CSR significantly determines EP.

Environmental Performance (EP) and Firm Reputation (FR)

The mining industry's listed sectors on the Indonesia Stock Exchange were studied previously. This study looked at developing nations to see how EP affects corporate value via the medium of FR. For the purpose of data analysis, WarpPLS 6.0 was utilized. According to PLS-SEM, EP significantly and positively affects a company's reputation. There is a negative and statistically significant relationship between EP and company value. When looking at the connection between EP and business value, reputation plays an even more important mediating role (Khanifah et al., 2020). Another study by Blas (2021) found that environmental policy has a significant impact on environmental reputation. Moreover, EP has no significant impact on environmental reputation. In doing business, every company must operate with a deep sense of responsibility to protect both society and the environment. Companies that prioritize EP will boost their reputation in the market, which in turn will boost their bottom line (Butler, 2011). A company will get social legitimacy if its environmental management practices are up to snuff. A company's standing in the community and with the government will rise if it is seen as socially and ecologically responsible. Based on the above literature, we proposed that.

H5: EP significantly affects FR

Mediating role of Environmental Performance (EP)

GI greatly promotes management (Adegbile et al., 2017). Additionally, it increases ecological and improves performance in several aspects (Weng et al., 2015). According to Chiou et al. (2011), GI affects EP, whereas green management innovation has little influence. Therefore, there is still a need for GI and EP research. EP is impacted by both product quality and environmental concerns in business operations (Singh et al., 2019). GI promotes EP and management (Adegbile et al., 2017). GI also lessens the negative ecological footprint and improves performance by reducing expenses and waste (Weng et al., 2015). In addition, the company employs GI to achieve its environmental goals (Singh & El-Kassar, 2019). The reputation of a company is also greatly impacted by GI (Hao et al., 2022; Chen et al., 2023). GI improves performance by reducing waste, costs, and the

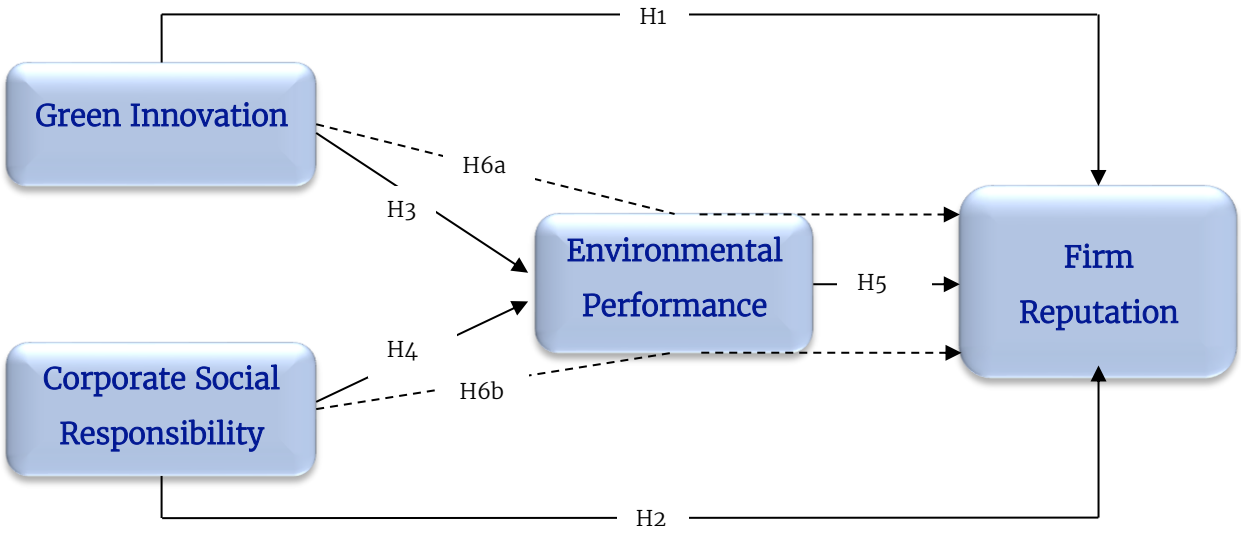
company's environmental impact (Del Giudice et al., 2019; Weng et al., 2015). Nowadays, customers not only rely on advertising, risks and trust (Jabeen et al., 2024b), but they are also conscious of the environment. The best method of determining sustainability, according to experts globally is EP evaluation (Halkos & Tzeremes, 2013; Jawahar et al., 2017)." Consumers today seek out environmentally friendly products and services, which is why CSR is receiving particular attention from researchers. An eco-entrepreneur is an enterprise owner whose main objective is to reduce environmental issues in their industry and promote ecologically friendly goods and services (Melay& Kraus, 2012). When a business engages in CSR, it is typically recognised as an executor acting in the best interests of all parties involved (Mahoney et al., 2013). CSR significantly affects both a company's reputation (Ali et al., 2023) and EP (Hussain et al., 2022). A recent study by Zain et al. (2023b) confirmed that EP mediates between GI, GHRM and sustainable performance. While the RBV theory does not support business strategies as being essential for achieving EP, reputation, and long-term success, the natural resource-based perspective hypothesis does. Environmental approaches are the focus that practitioners and academics advocate for sustainable performance (Kraus et al., 2020). The mediating influence that EP plays between financial success and sustainable supply chain management was examined using RBV and institutional theory (Ma et al., 2022). Researchers can assess firms' performance by focusing on environmental factors and applying the natural RBV theory (Menguc & Ozanne, 2005). Based on the above literature, the following hypotheses are proposed.

H6a: EP mediates between GI and FR

H6b: EP mediates between CSR and FR

Figure 1

Framework



Research Methodology

The purpose of this study was to investigate the impact of GI and CSR on FR with the mediation of EP in Pakistan. A quantitative approach is better than a qualitative approach. Therefore, the causal links between variables were examined using a quantitative approach (Saunders et al., 2007). In addition, primary data collection from a representative sample of individuals was crucial to the success of the study in meeting its aims

(Al-Dmour et al., 2021). In the present investigation, quantitative methods were employed. This study was carried out in the Pakistan context and aims to assist manufacturing enterprises by analyzing their innovation, social responsibilities, EP and reputation.

Questionnaires have been considered to be the most appropriate and reasonable method for data collection (Saunders et al., 2009). Researchers gathered information from the right people by means of a questionnaire survey. Managers from many areas, including manufacturing, marketing, HR, research and development, and environmental protection, completed the questionnaire. A convenience sample method is used in this study to collect primary data. An individual method was used to distribute the questionnaire to the samples; that is, researchers addressed each participant individually, explained the objective of the questionnaire and how to fill it out, and then asked respondents to fill it out.

According to Roscoe (1975) and Sekaran and Bougie (2016), the majority of studies may be adequately conducted with sample sizes falling within the range of 30–500. A total of five hundred questionnaires were distributed among managers associated with the manufacturing sector. The reason to choose managers is because of their involvement in decision-making (Shahzad et al., 2020). In order to acquire a good response rate, we went to their workplace multiple times. Out of five hundred, only two hundred and eighty-three (56.6% response rate) completely filled were received back. These were used for analysis by SmartPLS 3.2.9.

The survey included two parts: one dealt with the demographics of the participants and the other with the study's variables. A 5-Likert scale with responses ranging from "strongly disagree" to "strongly agree" is used in this research. Previous studies (Chen & Liu, 2020; Aboelmaged & Hashem, 2019; Chiou et al., 2011) provided the six items that makeup GI. Six items that make up CSR were culled from previous research (Bahta et al., 2021). Adapted from research by Singh et al., EP consists of five items (2020). Melnyk et al. (2003) and Daily et al. (2007) used scales from previous investigations. In this case, the firm's reputation is the dependent variable that is being measured using a five-item scale (Saeidi et al., 2015). Bahta et al. (2021) have recently utilized this scale in their research. Table 1 provides a comprehensive overview of the scales.

Table 1

Measurement scales and sources

Sr.	Construct	Items	Source
1	GI	6	(Aboelmaged & Hashem, 2019; Chen & Liu, 2020; Chiou et al., 2011)
3	CSR	6	(Bahta et al., 2021)
4	EP	5	(Melnyk et al., 2003; Daily et al., 2007; Singh et al., 2020)
5	FR	5	(Saeidi et al., 2015, Bahta et al. 2021)

Results and Discussion

Demographic Information

Participants in the study had a bachelor's degree or higher and worked in Pakistani manufacturing. Respondents' demographic details are covered. There were 270 men (95.41%) and 13 women (4.59%) out of 283 who took part in the survey. Nearly 60% of those who took the survey had a bachelor's degree or above. Those between the ages of 31 and 35 made up the largest age group of responders (51.24%). In Table 2, you can see all the responders' information.

Table 2

Demographic information

Question	Detail	Frequency	Percent
Gender	Male	270	95.41%
	Female	13	4.59%
Age	18-27	26	9.19%
	28-37	145	51.24%
	38-47	98	34.63%
	48 or above	14	4.95%
Level of Education	Intermediate	27	9.54%
	Bachelor	167	59.01%
	MS/M.Phil.	83	29.33%
	PhD	6	2.12%
Firm Type	Textile manufacturing	125	44.17%
	Food production	46	16.25%
	Pharmaceutical	54	19.08%
	Cement	39	13.78%
	Petroleum, chemical and plastic	13	4.59%
	Wood, leather and paper	6	2.12%

Descriptive Statistics and Correlation Analysis

A descriptive analysis of the study variables is given below. Table 3 displays the minimum and maximum values of each variable, together with their standard deviations. The data-gathering tool used in the study is a 5-Likert scale. The mean values of FR, EP, CSR and GI are 3.783, 3.852, 3.973 and 3.745, respectively. The correlation values are also given in Table 3. According to Morgan et al. (2004), a weak association is indicated by a value between 0 and 0.3, a moderate relation is between 0.3 and less than 0.7, and a high relation is above 0.7. There are moderate and high correlations between all of the study variables, according to the correlation data.

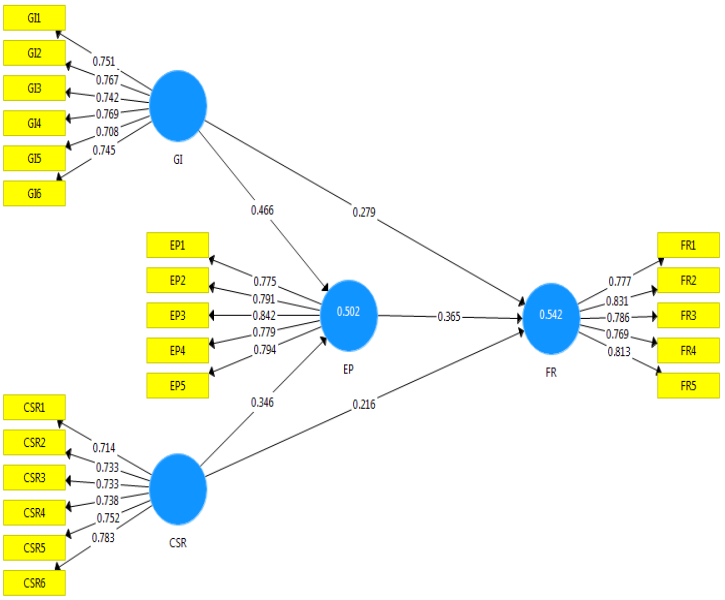
Table 3

Descriptive statistics and correlation analysis

Construct	Minimum	Maximum	Mean	FR	EP	CSR	GI
FR	1	5	3.783	0.795			
EP	1	5	3.852	0.670	0.797		
CSR	1	5	3.973	0.571	0.584	0.743	
GI	1	5	3.744	0.623	0.643	0.510	0.747

Figure 2

Measurement model



Structural equation modelling (SEM) was used to examine the research's proposed linkages. The study's associations were examined using SEM, a robust measuring tool. Therefore, the measurement model and structural model were analysed using SmartPLS 3.2.9. First, PLS analysis made sure the data was healthy by checking the measurement model. Researchers can use the structural model to test hypotheses after the data is satisfactory. The measurement model is evaluated using the SmartPLS 3.2.9 (variance-based software) program to determine the constructs' reliability and validity (Table 4-7). Because PLS-SEM is useful for evaluating both basic and complicated models, it was used to evaluate the quantitative data. Following the lead of earlier research (Hair et al., 2017; Ringle et al., 2020), we used the most recent standards for reporting.

According to the measurement model's results, all constructs have good factor loadings (Table 4). Including all items increased the research's reliability and validity. The validity and reliability of the constructs are within acceptable limits; hence, no items need to be removed. For better results, aim for a variance inflation factor (VIF) value below 5. The data was found to be free of collinearity according to the VIF results (Table 4). According to Table 5, Cronbach's alpha and composite reliability (CR) show that the constructions are quite trustworthy. Good convergent validity was demonstrated by the average variance extracted (AVE) values (Table 5). One method for determining discriminant validity is the "Heterotrait-Monotrait Ratio" (HTMT), as shown in Table 6. For the sake of being on the safe side, it's advised that the HTMT ratio between the two constructs not exceed 0.85. Discriminant validity (HTMT) of the notion was shown.

It is necessary to determine R^2 for predictive accuracy and Q^2 for predictive relevance. Table 7 represents R^2 and Q^2 results. Both FR and EP have R^2 values of 0.502 and 0.542, correspondingly. R^2 values show that the "predictive accuracy" is adequate (Hair et al., 2017). In order to get the Q^2 values, the blindfold method was also applied. According to Hair et al. (2017), the Q^2 values of 0.456 for FR and 0.485 for EP show that they are highly predictive of relevance.

Table 4

Factor loadings and variance inflation factor (VIF)

Construct	Items	Loadings	VIF
Firm Reputation	FR1	0.777	1.709
	FR2	0.831	2.089
	FR3	0.786	1.755
	FR4	0.769	1.681
	FR5	0.813	1.957
Environmental Performance	EP1	0.775	1.765
	EP2	0.791	1.777
	EP3	0.842	2.138
	EP4	0.779	1.736
	EP5	0.794	1.878
Corporate Social Responsibility	CSR1	0.714	1.658
	CSR2	0.733	1.61
	CSR3	0.733	1.588
	CSR4	0.738	1.667
	CSR5	0.752	1.622
	CSR6	0.783	1.733
Green Innovation	GI1	0.751	1.623
	GI2	0.767	1.685
	GI3	0.742	1.589
	GI4	0.769	1.771
	GI5	0.708	1.499
	GI6	0.745	1.671

Table 5

Reliability and convergent validity of constructs

Construct	Cronbach's Alpha	CR	AVE
Firm Reputation	0.855	0.896	0.633
Environmental Performance	0.856	0.897	0.635
Corporate Social Responsibility	0.838	0.881	0.552
Green Innovation	0.842	0.883	0.558

Table 6

Heterotrait-Monotrait Ratio (HTMT) (Discriminant Validity)

Construct	FR	EP	CSR	GI
FR				
EP	0.781			
CSR	0.671	0.682		
GI	0.732	0.755	0.604	

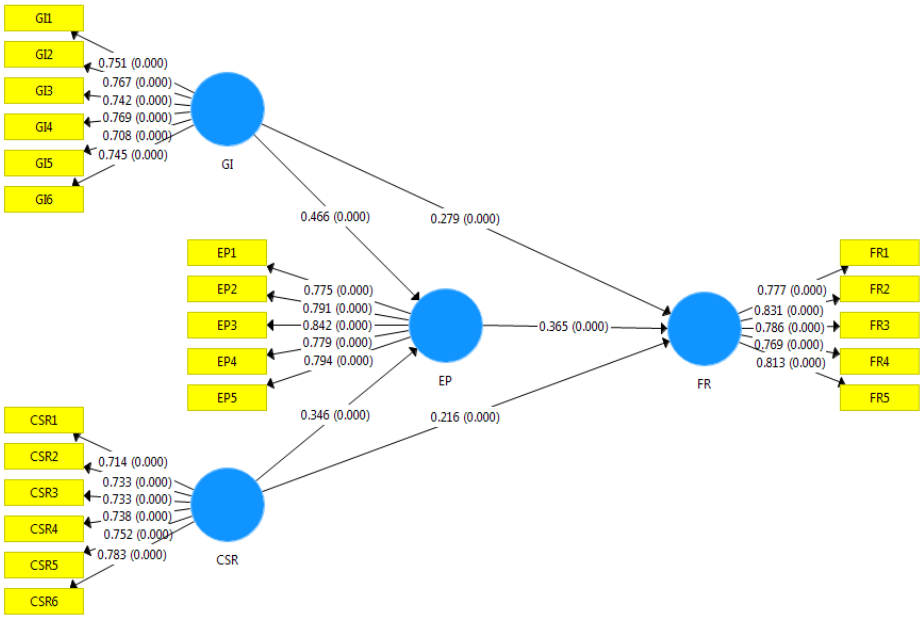
Table 7

Predictive accuracy (R^2) and predictive relevance (Q^2)

Construct	R Square	R Square Adjusted	Q^2
FR	0.502	0.499	0.456
EP	0.542	0.538	0.485

Figure 3

Structural model



Using bootstrapping across 10,000 samples, SmartPLS 3.2.9 tested the hypothesized connections in the structural model (Figure 3; Tables 8 & 9). With the goal of better understanding GI, CSR, EP, and FR activities, this study proposes seven hypotheses. All direct hypotheses results are presented in Table 8. The first hypothesis tests the idea that GI has a beneficial effect on FR. The findings showed that GI has a substantial and favourable effect on FR (β = 0.449, t = 7.915, p = 0.000). Prior studies revealed that GI has a substantial effect on FR (Chen et al., 2023; Gangi et al., 2020). Based on the findings, CSR has a substantial and favourable effect on FR (β = 0.342, t = 5.808, p = 0.000). Thus, H2 was supported. Previous research (Liu & Lu, 2021; Rehman et al., 2020) has shown comparable results. Customer involvement and customer experience have a favorable impact on FR, according to Fida et al. (2023). Promoting FR, Jabeen et al. (2023) demonstrated that CSR can increase the intention to purchase environmentally friendly products. According to the findings, GI has a substantial and favorable effect on EP (β = 0.466, t = 8.175, p = 0.000). H3 was so supported. The findings are consistent with earlier research (Adegbile et al., 2017). Research conducted by Zain et al. (2023a) and Jabeen et al. (2024a) has established that GI influences EP and business performance. The findings showed that CSR has a substantial and favorable effect on EP (β = 0.346, t = 6.163, p = 0.000). Therefore, H4 was confirmed. There has been conflicting evidence from earlier research (Kraus et al., 2010). Cheng and Huang (2018) discovered that CSR indirectly affects EP. Previous work by Zain et al. (2023a) established that CSR influences sustainable performance and contributes to EP improvement. Research by Jabeen et al. (2023) has shown that CSR can

increase consumers' desire to buy environmentally friendly products. According to the findings, EP has a substantial and favorable effect on FR (β = 0.365, t = 5.359, p = 0.000). H5 was accepted. This confirms what other research has shown (Khanifah et al., 2020). A study conducted by Blas (2021) found contradictory results.

Table 8

Total effects

Construct	β value	SD	T statistics	P values	BCI	
					LL	UL
GI -> FR	0.449	0.057	7.915	0.000	0.337	0.560
CSR -> FR	0.342	0.059	5.808	0.000	0.223	0.446
GI -> EP	0.466	0.057	8.175	0.000	0.337	0.570
CSR -> EP	0.346	0.056	6.163	0.000	0.219	0.444
EP -> FR	0.365	0.068	5.359	0.000	0.244	0.509

Note(s): β, beta coefficient; SD, standard deviation; BCI, bias-corrected confidence interval; LL, lower limit; UL, upper limit.

To investigate the role of EP as a mediator between the GI-FR and CSR-FR linkages, the study followed the guidelines laid out by Preacher and Hayes (2008) and Nitzl et al. (2016). The results of the mediation (Table 9) demonstrate the significance of all impacts, both direct and indirect. The results of H6a showed that EP acts as a partial mediator between GI and FR (β = 0.170, t = 4.271, p = 0.000). Moreover, EP partially mediates the link between CSR and FR (β = 0.216, t = 3.865, p = 0.000), confirming H6b. Prior research from Zain et al. (2023b) verifies that EP is a mediator between GI, GHRM, and long-term success. Mediation was verified by computing the indirect effect-to-total effect ratio, or variance accounted for (VAF) (Nitzl et al., 2016). Our VAF values of 37.874% (GI-EP-FR) and 36.896% (CSR-EP-FR) meet Hair et al. (2017)'s partial mediation requirement for total indirect effect.

Table 9

Mediation analysis

Construct	β value	SD	T statistics	P values	BCI	
					LL	UL
Mediation analysis						
GI -> EP -> FR	0.170	0.040	4.271	0.000	0.099	0.249
CSR -> EP -> FR	0.126	0.036	3.537	0.000	0.060	0.200
Direct effects						
GI -> FR	0.279	0.061	4.577	0.000	0.167	0.410
CSR -> FR	0.216	0.056	3.865	0.000	0.102	0.315
Indirect effects						
GI -> EP	0.466	0.057	8.175	0.000	0.337	0.570
CSR -> EP	0.346	0.056	6.163	0.000	0.219	0.444
EP -> FR	0.365	0.068	5.359	0.000	0.244	0.509

Note(s): β, beta coefficient; SD, standard deviation; BCI, bias-corrected confidence interval; LL, lower limit; UL, upper limit.

Conclusion

In this study, we will look at manufacturing companies in Pakistan to see how GI and CSR impact FR with the mediation of EP. The study utilized NRBV theory, and smartPLS used to examine proposed relations. Primary data collected from managers and results of 283 respondents showed that GI CSR and EP boost company reputation, which is in line with natural RBV theory (Hart, 1995). An improvement in the company's image may result from better GI, CSR and EP practices.GI and CSR also have had a favorable impact on FR. The results demonstrate that EP acts as a mediator between GI, CSR and FR. The company must act responsibly toward protecting the local people and the environment. Companies that prioritize EP will boost their reputation in the market, which in turn will boost their bottom line (Butler, 2011). A company will get social legitimacy if its environmental management practices are up to snuff. Companies whose actions are viewed as socially and ecologically responsible by both the government and society at large tend to have an improved reputation.

Theoretical Contributions

The objective was to investigate the influence of GI and CSR on FR, with EP serving as a mediator. The novel theoretical framework also has some implications. This study provides a unique perspective on how GI and CSR affect FR with EP as a mediator, adopting the NRBV theory. Our results substantially advanced GI and FR research. The study found a strong association between GI, CSR, and FR. Our results strongly support NRBV theory and show that GI and CSR affect EP and FR. Second, the study shows a strong EP-FR link. Our data supports NRBV theory and shows that EP improves FR. Third, the study found that GI and CSR improve EP. Fourth, EP as a mediator is a novel theoretical perspective because few studies have examined it. Fifth, this study adds to the NRBV literature by focusing on emerging nations and showing that EP is still important to FR. Statistics show that EP mediates GI-FR and CSR-FR connections. The study also advances the NRBV hypothesis in academia and research. Additionally, this study enhances the existing body of knowledge by conducting a detailed examination of the proposed model of FR in the manufacturing sector of Pakistan. The results indicated that all variables are essential for enhancing FR.

Managerial Contributions

The results of this research can help managers improve their companies' EP and standing in the market. In order to improve the company's image and EP, managers may find this study useful when making decisions about CSR (CSR) initiatives and GI. This study offers evidence for the idea that GI, CSR, EP, and company reputation are all positively correlated. Managers can incorporate these findings into their strategy to enhance the firm's reputation. Marketing and product quality aren't the only things that can boost a company's reputation. People are cautious about their impact on our environment. We must set aside some time to think about society and the environment. CSR and environmentally friendly innovations are so highly valued because they boost both EP and image. However, they contribute to the agenda of sustainable development targets 2030 agenda.

Limitation

Similar to earlier studies, this one has certain shortcomings that can be addressed by future researchers. The study was conducted in Pakistan. The research utilized a sample size of 283. Various managers associated with the manufacturing sector are taking part in this study as respondents. The quantitative research method is utilized in this investigation. GI and CSR are the two independent variables in this study. EP is the mediating variable, while FR is the dependent variable. The study did not use any moderating variable.

Recommendation

Some suggestions have been made for future research. Future researchers may work on this model in other countries or geographical regions of the world, as this study is exclusively conducted in a Pakistan setting. In future, researchers may apply this framework to other industries, such as the hospitality industry. The sample size for this study was 283, but if other researchers wanted to do research on the same model, they would increase the sample size. Researchers may utilize sampling techniques other than convenience sampling in future. Future researchers may utilize other statistical tools, such as SPSS or AMOS, for results. Future researchers may use moderators in this model, such as organization agility or environmental dynamics.

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