

Article

The Relationship between Innovation and the Performance of Small and Medium-Sized Businesses in the Industrial Sector: The Mediating Role of CSR

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Abstract: This paper analyses the effect of innovation on the performance of Small and Medium Enterprises (SMEs) and how Corporate Social Responsibility (CSR) mediates this relationship. In order to evaluate our assumptions, a partial least squares structural equation model (PLS-SEM) was applied to a sample of 769 Spanish SMEs through a telephone survey conducted with company managers. The findings show that innovation and CSR have an impact on performance. Additionally, to these strong direct effects, CSR has a side effect that strengthens the beneficial effects of innovation on performance. Finally, the results demonstrate significant implications for both SME managers and owners, as they help them to develop innovation-related strategies, which will lead to higher organizational performance.

Keywords: competitive advantages; industrial sector; innovative capacity; innovation strategies; SME performance; corporate social responsibility



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1. Introduction

In all countries of the world, small and medium-sized enterprises (SMEs) account for the majority of enterprises in almost all economic sectors, and they are the main generators of employment and productivity. In Spain, there were a total of 2,935,000 companies in 2022, of which 99.83% were SMEs (INE n.d.b). As a result, they contribute to around 62.5% of the Gross Value Added and are responsible for 65.89% of total entrepreneurial employment (INE n.d.a).

Their relevance implies that any policy aimed at improving the country's positioning in the global economic environment should give priority consideration to SMEs (Ministry of Industry and Commerce and Management 2019).

Nowadays, SMEs face a constantly changing and unpredictable environment (Kutieshat and Farmanesh 2022), which forces them to constantly look for new solutions to ensure they can achieve competitive advantages (Guerrero-Villegas et al. 2018; Hamisi 2011). In this context, SMEs must face intense national, regional, and international competition from large companies while improving competitiveness and operational efficiency to withstand business turbulence (Hamisi 2011). A company's ability to innovate is a more significant factor in determining its competitiveness than its efficiency (Becattini 1999). The ability to innovate is now recognized as one of the key drivers of competitive advantage among companies (Marques and Ferreira 2009). As a result, SMEs have been motivated to implement innovative strategies to adapt to the changes demanded by the market (Kumar et al. 2012; Hogan and Coote 2014). Therefore, in recent years, innovation has become an area of growing importance in the SME business industry. Moreover, the recent COVID-19 crisis has favored the development of innovative strategies for products and services, including technological adaptation and sustainable development.

Innovative capacity refers to a company's ability to foster and maintain new ideas, experimentation, and procedures, resulting in the development of new products, services, or technology (Soto-Acosta et al. 2016). This allows SMEs to gain a competitive edge through introducing or adopting these new offerings and technological advancements and practices (Fan et al. 2021). Innovation enables companies to develop new capabilities that provide superior performance (Lestari et al. 2020). Thus, adopting of innovation-related strategies is vital for business performance (Biemans and Griffin 2018; Martin et al. 2016; Casidy et al. 2020). On the other hand, Corporate Social Responsibility (CSR) is an area that is becoming increasingly important in the innovation strategies implemented by SMEs. CSR is companies' commitment to improving the welfare of their stakeholders (customers, suppliers, employees, society, etc.) by reducing current social and environmental issues (Palacios-Manzano et al. 2021). In this sense, SMEs are considered the backbone for developing new products and technologies (Hilmersson 2014), and should comply with CSR principles in their manufacturing practices by using new technologies that are environmentally friendly (Gallego-Álvarez et al. 2011). For this reason, recent empirical evidence considers innovation a vehicle for implementing CSR practices in organizations (Ivana 2020; Sanzo et al. 2012).

In the organizational context, the generalization of the research published so far establishes that innovation facilitates the establishment of CSR practices, which leads to companies improving competitive advantages in the marketplace and thus obtaining higher returns (Prior et al. 2008). However, this effect has not yet been extensively investigated in SMEs because the previous studies deal mainly with larger organizations (Yang et al. 2020; Cifuentes-Bedoya et al. 2021). On the other hand, there are numerous investigations that address the impact of CSR on innovation, but few address the relationship in the opposite direction. Therefore, the gap in this research lies in analyzing the direct and indirect effect, through CSR, of innovation on the performance of SMEs in the industrial sector. The main reason for conducting this research was to help such an important economic sector find ways to increase its performance. This is very important during such a sensitive time as the present, when the economic environment is so changeable and affected by threats of all kinds such as COVID-19, the high inflation rate, the war in Ukraine, etc. (León-Gómez et al. 2022).

Consequently, this research aims to enhance the comprehension of the role of innovation in SME performance. Moreover, we also examine how CSR influences this relationship as a mediator. Consequently, some research questions arise, for example: Is SMEs' performance affected by innovation? Does CSR mediate this influence? To address these inquiries, we establish a structural equation model using the partial least squares structural equation modeling (PLS-SEM) method and apply it to a sample of 769 businesses to evaluate our hypotheses with confirmatory and predictive purposes.

After this introductory section, Section 2 presents the development of the proposed hypotheses. The methodology is presented in Section 3. Section 4 shows the findings, while Section 5 discusses those findings. Lastly, the conclusions are presented in Section 6.

2. Literature Review

At the present time, firms are operating in an ever-changing atmosphere, obliging them to constantly discover new methods to maintain their edge over competitors (Guerrero-Villegas et al. 2018). The RBV (Resource-Based View of the company) is a popular paradigm for analyzing how organizations obtain competitive advantage and how that competitive advantage can be maintained in the long term (Peteraf 1993; Barney 1991). Specifically, RBV posits that firms can be comprehended as collections of resources and that these resources are unequally spread among firms. It also suggests that these disparities in resources persist over time (Amit and Schoemaker 1993; Mahoney and Pandian 1992). Based on these assumptions, it has been proposed that when companies possess resources that are valuable, unique, difficult to imitate, and cannot be replaced by other resources, they can establish a sustainable competitive advantage over rivals by implementing new strategies that other

companies do not easily replicate (Eisenhardt and Martin 2000; Barney 1991). In this context, innovation has become a necessary requirement for all companies, helping them to react more quickly to sudden changes in the market (Hogan and Coote 2014). It is claimed that the idea of innovation defines the manner in which organizations can potentially pave the way for the execution of positive developments that drive organizational growth (Gaynor 2002; Cegarra-Navarro et al. 2016). Consequently, the greater a company's capacity for innovation is, the more responsive the environment will be (Rhee et al. 2010).

It is commonly accepted that an organization's ability to innovate allows it to formulate a variety of strategies that enhance its opportunities for growth and survival in the marketplace (Zakaria et al. 2016; Rennings and Rammer 2011). This is because these organizations adopt different operational strategies to adapt to flexibility and quality capabilities (Kiende et al. 2019), allowing them to survive in the market and maintain their profitability (Hamel and Prahalad 2000; Hull and Rothenberg 2008).

Innovation is considered the primary catalyst for business expansion as it encourages the company to realize its value creation potential (Roach et al. 2016; Demirel and Mazzucato 2012) by contributing to its performance and long-term viability (Porter and Kramer 1985). In this sense, empirical evidence suggests that innovation positively influences firm performance (Kitapci et al. 2012; McDermott and Prajogo 2012). Other authors have even found relationships between CSR and financial performance with the moderating effect of employee involvement and supplier collaboration (Zhou et al. 2020). Firstly, innovation leads to improved quality and increases product variety and diversification, which in turn, benefits turnover and employment (Guinet and Pilat 1999). Additionally, innovation helps to expand market shares, improve operational efficiency and reputation, and reduce costs (Guerrero-Villegas et al. 2018). Companies with innovative products can gain additional advantages from lower competition (González-Fernández and González-Velasco 2018). Consequently, it is generally accepted that innovation allows organizations to acquire new abilities that give them an edge over the competition and improve their overall performance (Perez-Luño et al. 2014; Singhal et al. 2020; Shefer and Frenkel 2005; Auken et al. 2008; Zahra et al. 2000; Palacios-Manzano et al. 2021).

However, the empirical literature developed so far does not show reliable evidence of this relationship in SMEs. In this regard, some researchers consider that innovation benefits smaller firms as they are more flexible and agile in their decision making to accommodate to the changing environment. (Rosenbusch et al. 2011; Heunks 1998; Nooteboom 1994). However, other authors have affirmed that innovation is susceptible to risks and uncertainties (Eisenhardt and Martin 2000). Moreover, a small firm may not be able to bear the costs of an innovation project that does not produce the intended outcomes (Liao and Rice 2010). Thus, the innovative effort takes resources that may be scarce in the case of SMEs (Acs and Audretsch 1988).

Based on the theory and findings discussed above, the following hypothesis is proposed:

H1: *Innovation positively affects firm performance.*

On the other hand, innovation plays a central role in the creation of value and sustainable competitive advantage. In this context, CSR is of great relevance as it establishes the commitment of companies to the environment, society, and their employees (Kim et al. 2015). Thus, the examination of the link between Corporate Social Responsibility (CSR) and innovation has caught the attention of several researchers in recent times (Bahta et al. 2020; Palacios-Manzano et al. 2019; Santos-Jaén et al. 2021; Ratajczak and Szutowski 2016). As mentioned above, it has been recognized that innovation is one of the foundations of responsible and sustainable business (Bos-Brouwers 2009; McWilliams et al. 2006; Pavelin and Porter 2008). This is because innovation allows companies to incorporate technology and more flexible processes into their business (MacGregor and Fontrodona 2008), which gives them a greater capacity to implement CSR practices, as there will be less resistance to change in their organizations (Guerrero-Villegas et al. 2018). In addition, investments in innovations leading to new or upgraded organizational production processes and prod-

ucts will enable organizations to address their social and environmental concerns and improve their relations with stakeholders (Ruggiero and Cupertino 2018). However, more specific studies show that the direct and positive relationship between CSR and financial performance is positively influenced by investment strategies in green projects, although the environmental volatility perceived by stakeholders has a negative influence on this relationship (Achi et al. 2022).

Thus, implementing innovative activities will make it possible to include a series of practices to improve workers' well-being (Guerrero-Villegas et al. 2018) so that they will have created better working teams and will therefore be better prepared to take on new CSR-related practices (Sanzo et al. 2012). Innovation-driven CSR also helps companies improve their reputation in the marketplace and gain a competitive advantage from products that better match the preferences and values of their current and potential customers (Brammer and Millington 2008). Innovation is therefore seen as a vehicle for implementing CSR practices in organizations (Ivana 2020; Sanzo et al. 2012). Therefore, company managers tend to favor this type of strategy because of the competitive advantages they obtain (Gallardo-Vázquez et al. 2019).

Furthermore, the effect of CSR on corporate performance is increasingly difficult to ignore (Ortiz-Martínez et al. 2023). According to the stakeholder theory, CSR and business performance are typically expected to have a positive relationship (Palacios-Manzano et al. 2019). Research in this area suggests that companies' CSR practices increase their market value, operating profitability, reputation, and employee engagement (Ali et al. 2020). Consequently, the generalization of the research published so far affirms that there is a positive relationship between CSR and performance (Palacios-Manzano et al. 2019; Mahmood et al. 2021; Torugsa et al. 2012). This positive effect is due to the fact that companies that invest in CSR manage to improve their reputation, brand, and trust (Russo and Fouts 1997; Porter and Kramer 2006; Kramer and Porter 2011; Flammer 2015; Slack et al. 2015; Barney 1991). In turn, such actions can attract new customers (socially conscious customers, "green" consumers, Etc.), increase the profitability of companies, and improve their competitiveness (Flammer 2015). Similarly, organizational dedication to CSR translates into benefits for stakeholders: greater profitability, the creation of new jobs, social investment, and the continuation of supplier agreements, for instance. The building of the social fabric is directly correlated to all of this (Aguilera Castro and Becerra 2012). In addition, this positive effect is also due to the fact that CSR helps to settle conflicts between stakeholders and therefore optimize shareholder wealth (Jo and Harjoto 2011).

Previous research has shown how business innovation facilitates the implementation of CSR practices (Santos-Jaén et al. 2022; León-Gómez et al. 2022), which leads to companies being able to improve competitive advantages in the marketplace and thus achieve higher returns (Prior et al. 2008). However, this effect has not yet been sufficiently studied in SMEs, where performance enhancement is a crucial factor in encouraging SMEs to put CSR activities into practice, and innovation is considered as important and even imperative (Arnold 2017; Zhu et al. 2019). With an increased focus on innovation, SMEs tend to be better able to achieve performance through their CSR practices (Gallego-Álvarez et al. 2011; Zhu et al. 2019).

Considering previous arguments, the following hypothesis has been formulated:

H2: *CSR partially mediates the relationship between CSR and performance.*

The H2 hypothesis is sub-divided into the following three hypotheses:

H2a: *Innovation positively impacts how CSR practices are implemented.*

H2b: *CSR practices enhance performance.*

H2c: *Innovation indirectly affects performance through CSR.*

In Figure 1, the theoretical framework is represented in order to summarize the proposed relationships.

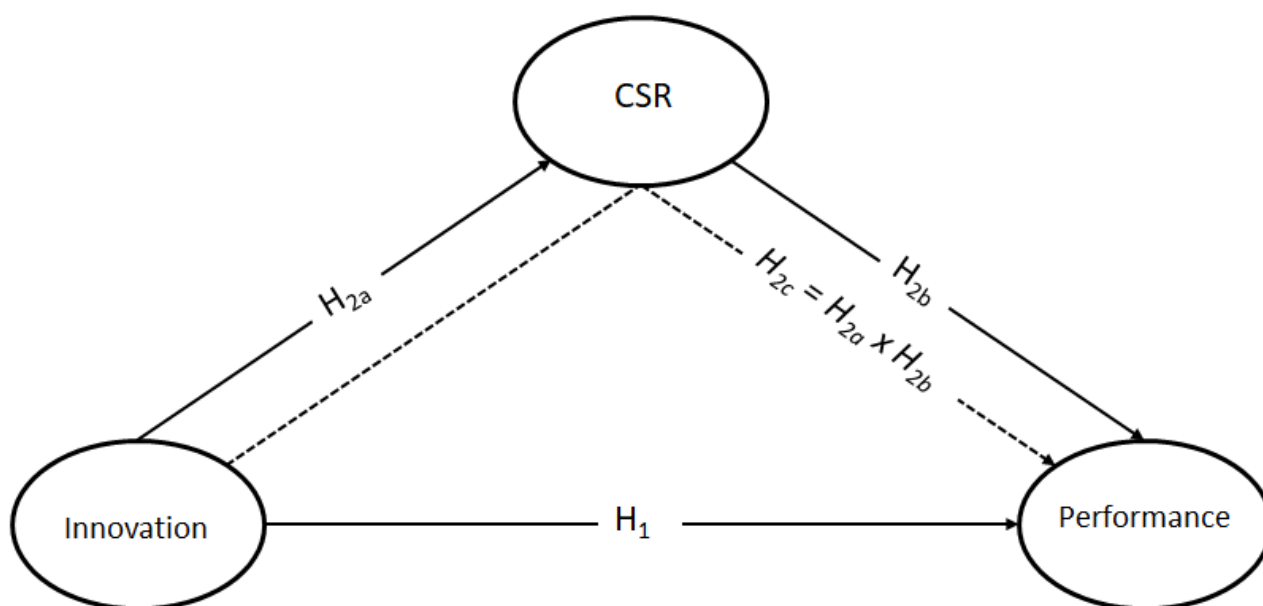


Figure 1. Theoretical framework.

3. Methodology

3.1. Sample

The purpose of this study is to investigate the influence of innovation on a company's performance and how Corporate Social Responsibility (CSR) acts as a mediator in this relationship. To this end, data were collected from Spanish industrial SMEs. Following the principles of simple random sampling, the population was stratified in order to create the sample. On the basis of industrial sub-sectors (textiles, chemicals, furniture, etc.) and size, the stratification criteria were developed (in this research, a micro-company is a firm with 6 to 9 employees, a small company is a firm with 10 to 49 employees, and a medium-sized company is a firm with 50 to 249 employees). Companies in a similar industry and size to those that declined to participate were able to take their place.

To acquire the necessary data, a questionnaire was carried out by telephone with the people in charge of the companies, mainly their managers. To minimize social desirability bias, the data was always guaranteed to be private and anonymous (Kariv et al. 2009; Bstieler et al. 2015). Before applying the questionnaire, a pilot study helped researchers create a final version of the questionnaire by reducing the number of items and changing the phrasing of some questions. The questionnaire was sent to 10 trusted managers. These managers analyzed the questionnaire, and through their comments, some questions that were difficult to understand were modified, and others were removed for being too similar to each other. This improved the understanding of the questionnaire. Managers received the final version in the spring of 2021. For this, the services of a specialized company were used, which was in charge of contacting the managers and conducting the questionnaire with them by phone. A total of 39.5% of respondents answered the survey. The total number of questionnaires in the final sample was 769. The sample used is summarized in Table 1.

With the aim of providing evidence about the non-response bias, a chi-squared (χ^2) test was carried out to compare those who answered promptly (within the first two weeks) to those who responded afterward. The results were not significant, indicating that non-response bias is not an issue in this research (Yunis et al. 2018). Finally, since all the data were obtained from a single source, the possible existence of common method variance bias was analyzed through the variance inflation factors (VIF). All the results were smaller than the maximum value (3.3), and therefore, common method bias is not a problem in this research (Kock 2015).

Table 1. Sample.

Industrial Subsector	Total		Micro Companies		Small Companies		Medium Companies	
	N	%	N	%	N	%	N	%
Food and beverage	166	21.59%	60	25.10%	72	17.96%	34	26.36%
Textiles	45	5.85%	14	5.86%	27	6.73%	4	3.10%
Wood and cork	45	5.85%	11	4.60%	28	6.98%	6	4.65%
Paper, publishing, and printing	62	8.06%	24	10.04%	29	7.23%	9	6.98%
Chemicals	19	2.47%	2	0.84%	11	2.74%	6	4.65%
Manufacture of rubber and plastic products	49	6.37%	10	4.18%	26	6.48%	13	10.08%
Other non-metallic minerals	60	7.80%	16	6.69%	38	9.48%	6	4.65%
Basic and fabricated metals	142	18.47%	45	18.83%	80	19.95%	17	13.18%
Machinery and equipment	101	13.13%	34	14.23%	57	14.21%	10	7.75%
Electrical equipment, electronic, and optical	14	1.82%	3	1.26%	7	1.75%	4	3.10%
Manufacture of motor vehicles	28	3.64%	7	2.93%	6	1.50%	15	11.63%
Furniture	38	4.94%	13	5.44%	20	4.99%	5	3.88%
TOTAL	769	100%	239	100%	401	100%	129	100%

Taking into account the final distribution obtained, and with a 95% level of confidence, the population estimation had a maximum error of 3.53%. To determine the reliability of the tests made and the sample size necessary to carry out this research, the statistical power of the sample has been calculated through a post hoc analysis. For this purpose, the G*Power 3.1.9.2 software (Mayr et al. 2007) has been used. Given the number of predictors and a standard error of 0.05, and an effect size of 0.15 (Cohen 1988), the result obtained (0.99) exceeds the recommended value of 0.8 (Kaufmann and Gaeckler 2015).

3.2. Variables Measurement

The three reflective constructs have been assessed using a Likert scale with five response options, with 1 indicating “strongly disagree” and 5 indicating “strongly agree” for Corporate Social Responsibility (CSR) and innovation, and 1 indicating “unimportant” and 5 indicating “very important” for firm performance.

In regard to the measure of the innovation variable, there exist different patterns of innovation among businesses (Audretsch et al. 2014). We have used the scale designed by (Madrid-Guijarro et al. 2009), in which by using 7 indicators, the implementation of innovative activities by companies in the last two years is analyzed. Moreover, in this scale products and processes of innovation are recognized.

Regarding the CSR variable, there is not only one way to measure it (Galbreath and Shum 2012). In this study, we have used a scale of 6 indicators adapted from the previous research (Adinata 2019; Agyemang and Ansong 2017; Caro and Salazar 2019; Esparza-Aguilar and Fong 2019; Ikram et al. 2019; Devie et al. 2018) and validated in previous studies (Santos-Jaén et al. 2021). This scale takes into account a variety of CSR-related initiatives, including environmental conservation, transparency, and helping the community.

Finally, performance has been measured using both financial and non-financial measures (Yunis et al. 2018). For this purpose, based on the balanced scorecard (BSC) approach (Kaplan and Norton 2005), a construct with 8 indicators has been established. The respondents were asked to rate the performance of their businesses in comparison to that of their rivals (McDougall et al. 1994) in aspects such as profitability, growth, customer satisfaction, or quality of products and services offered. Appendix A shows the questions used in

the survey that give rise to the items that make up the three latent variables used in the research.

4. Results

4.1. Data Analysis

The model depicted in Figure 1 was examined with PLS-SEM, a variance-based structural equation modelling technique (Henseler 2018), using Smart-PLS software 3.3 (Ringle et al. 2015). There are several reasons for choosing this technique: The goal of the study is to predict the dependent variable (Guerrero-Villegas et al. 2018). PLS-SEM allows us to observe different causal relationships (Astrachan et al. 2014) and PLS-SEM is particularly useful for incorporating mediators in the internal model (Sarstedt et al. 2020). Last, PLS-SEM is widely regarded as the “most fully developed and general system” for variance-based SEM (Roldán and Sánchez-Franco 2012).

To confirm the validity and reliability of the suggested measurement scales, the examination and understanding of the model were executed in two phases: the examination of the measurement and structural models (Henseler and Schubert 2020). To test the hypotheses, a bootstrap method based on 10,000 sub-samples was used.

4.2. Measurement Model

As the proposed model is made up of three reflective constructs, the measurement model was first analyzed by examining the convergent and discriminant validity of the three first-order latent constructs (Innovation, CSR, and Performance). For this purpose, using the assessment criteria provided by Hair et al. (2017), the factor loadings, Cronbach’s alpha, composite reliability, and average variance extracted (AVE) have been assessed. The results of the measurement model are shown in Table 2.

Table 2. Measurement model results.

	Mean	Loading	t-Student ***	α	ρ_A	ρ_C	AVE
Innovation				0.904	0.908	0.924	0.636
INNOV_1	3.163	0.766	34.239				
INNOV_2	2.778	0.716	29.487				
INNOV_3	3.157	0.829	53.795				
INNOV_4	3.108	0.786	39.096				
INNOV_5	2.880	0.814	46.774				
INNOV_6	2.785	0.834	55.482				
INNOV_7	2.685	0.831	52.311				
CSR				0.847	0.861	0.886	0.565
CSR_1	3.732	0.715	25.331				
CSR_2	3.689	0.736	28.055				
CSR_3	3.697	0.701	26.167				
CSR_4	3.965	0.713	25.448				
CSR_5	3.944	0.804	48.995				
CSR_6	3.947	0.834	54.876				
Performance				0.891	0.893	0.913	0.569
PERF_1	4.077	0.709	29.182				
PERF_2	3.899	0.751	33.596				
PERF_3	4.039	0.808	43.905				
PERF_4	3.971	0.780	37.696				
PERF_5	3.793	0.768	37.782				
PERF_6	3.702	0.768	37.528				
PERF_7	3.860	0.771	39.786				
PERF_8	3.956	0.673	24.973				

Significance performed by 10,000 repetitions bootstrapping procedure. α : Chronbach’s alpha; ρ_A : Dijkstra–Henseler’s composite reliability; ρ_C : Jöreskog’s composite reliability; AVE: average variance extracted; ***: All loadings are significant at a 0.001 level.

Individual item reliability is adequate when an item has a factor loading greater than 0.7 for its construct (Barclay et al. 1995). The results show us that all items except for one were above 0.7. The loading for item PERF_8 was 0.673, which is not a problem as it is very close to the minimum value (Schuberth 2020), and in such a way that all three constructs' convergent validity was confirmed. Likewise, Cronbach's alpha, the composite reliability (ρ_c), and Dijkstra–Henseler's (ρ_A) also exceeded the suggested threshold of 0.70 (Manley et al. 2020), meaning that all the reflective constructs and dimensions in the study are accurate. In addition, the convergent validity for all the reflective constructs and dimensions was validated since all results were greater than 0.5 (Fornell and Larcker 1981).

Subsequently, the discriminant validity was assessed. As Table 3 shows, the correlations between each pair of constructs did not surpass the square root of the AVE of each construct (Fornell and Larcker 1981). Likewise, the Heterotrait–monotrait (HTMT) degree between each of the two constructs oscillates between 0.315 and 0.595. These mentioned values must be lower than 0.85 (Henseler et al. 2016). Hence, the findings confirm the existence of discriminant validity.

Table 3. Discriminant validity.

Constructs	INNOVATION	CSR	PERFORMANCE
INNOVATION	0.752	0.352	0.315
CSR	0.317	0.797	0.595
PERFORMANCE	0.524	0.285	0.755

HTMT ratio over the diagonal (italics). Fornell–Lacker criterion: square root of AVE in diagonal (bold) and construct correlations below the diagonal.

To conclude this stage of the study, this research assessed quality by checking that the standardized root-mean-square residual (SRMR) did not overcome the value of 0.08 (Hu and Bentler 1998; Henseler et al. 2014). These results indicate a good fit for the model specifications.

4.3. Structural Model Assessment: Analysis of Direct Effects

The variance inflation factor (VIF) has been used to analyze possible collinearity issues. The results in Table 4 show that the maximum value obtained is 1.112. In no case is the maximum value of three exceeded (Hair et al. 2020).

Table 4. Effect on endogenous variables.

Effect on Endogenous Variables	Direct Effect	T-Value	95% Confidence Interval (bias-Corrected)	f ²	Explained Variance (%)	VIF	H	Supported
CSR R ² = 0.101 Q ² = 0.387 Innovation	0.317	8.880 ***	[0.261–0.378]	0.112	10.01	1.000	H2a	YES
Performance R ² = 0.290 Q ² = 0.506 Innovation	0.132	3.837 ***	[0.077–0.189]	0.022	3.76	1.112	H1	YES
CSR	0.482	15.550 ***	[0.432–0.535]	0.294	25.25	1.112	H2b	YES

Q²: cross-validated redundancies index performed by a 9-step distance-blindfolding procedure; f²: size effect index; 95CI: standardized path values reported 95% bias-corrected confidence interval; VIF: Inner model Variance Inflation Factors Significance, 95% bias-corrected CIs were performed via 10,000 repetitions bootstrapping procedure; ***: $p < 0.001$. Source: authors.

The path coefficients, which have been assessed through the non-parametric bootstrapping technique of 10,000 samples (Hair et al. 2019), show that innovation had significant

positive effects on both CSR and performance ($\beta = 0.317^{***}$ and $\beta = 0.132^{***}$, respectively). Hence, hypotheses H2a and H1 were supported. For CSR, it was found to have a significant positive effect on performance ($\beta = 0.482^{***}$). Moreover, we assess the R^2 values of endogenous constructs and the f^2 values of the standardized regression coefficients (Hair et al. 2017). The R^2 results have proved that a tolerable part of the variance in innovation and nearly all of CSR can be explained by the proposed model ($R^2 = 0.132$ and 0.317 for performance and CSR, respectively). According to (Chin 2010), these results demonstrated that the nomological validity of the model is satisfactory.

Results for the effect sizes (f^2) used to assess each external construct’s contribution to the R^2 values of the endogenous variables (Chin 2010) are 0.112 and 0.022 for the effect of innovation on CSR and performance, demonstrating a considerable effect of innovation on these variables. For the effect of CSR on performance, the result (0.294) shows an important explanatory power (Cohen 1988). The results also confirm the predictive relevance of the model through a confirmatory composite analysis test following a blindfolding procedure (omission distance of 9). The purpose of this test is to determine the overall predictive relevance of the model as the first step in the quality assessment. This purpose is fulfilled since all the Q^2 (shown in Table 4) were above 0 (Tenenhaus et al. 2005).

4.4. The Mediation Analysis

The mediation of innovation on CSR and performance relationship is illustrated in Figure 2. The mediation effect suggests that a mediator is linked to an independent variable and subsequently impacts a dependent variable (Zhu et al. 2019). To check this, following previous research, the indirect effect is specified and tested with the mediator (CSR); see Table 5, as indicated by (Chin 2010).

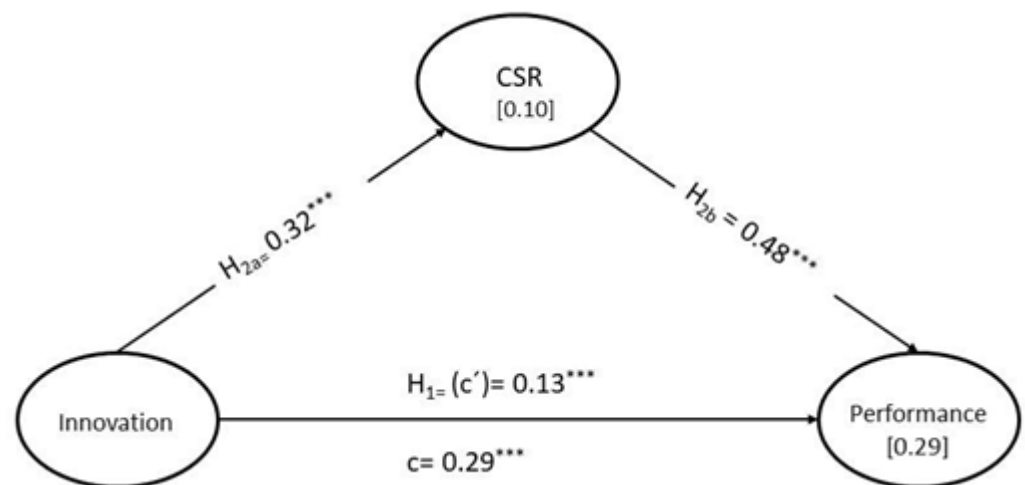


Figure 2. CSR mediation analysis: innovation and performance. ***: $p < 0.001$.

Table 5. Mediating effect test.

Effect of Innovation on Performance	Coefficient (Point Estimate)	t Value	95% Confidence Interval		H	Supported
			Lower	Upper		
Total effect	0.285	8.094 ***	0.198	0.379		
Direct effect	0.132	3.837 ***	0.077	0.189	H1	Yes
Indirect effect via CSR	0.153	2.718 ***	0.121	0.190	H2c	Yes
VAF	0.537					
IDR	1.159					

95% bias-corrected CIs were performed via 10,000 repetitions bootstrapping procedure; VAF: Variance Accounted For (proportion mediated); IDR: Indirect on Direct Ratio. ***: $p < 0.001$.

These results reveal that CSR acts as a mediator between innovation and performance ($\beta = 0.153^{***}$). Moreover, the Variance Accounted For (VAF) (Hair et al. 2014) shows that the size of the indirect effect in relation to the total effect is 0.537. As this value is less than 0.8 and the direct effect is significant, and with equal sign, we can state that the CSR mediation is partial and complementary (Claver-Cortés et al. 2020). Hence, H2c is supported.

In conclusion, the more innovation activities are undertaken, the higher the performance of SMEs. In addition, greater innovation activities will generate a greater commitment to corporate social responsibility, which in turn will generate, once again, greater business performance in SMEs due to its mediating effect on that relationship.

4.5. Evaluation of the Predictive Validity Using Holdout Samples

Finally, the model's predictive power has been assessed using the out-of-sample prediction technique (Shmueli et al. 2019) through the PLS predict algorithm in the SmartPLS software version 3.3 (Ringle et al. 2015). The results in Table 6 show that the Q^2 is above 0 and greater than the Linear Model (LM) in both constructs and indicators. Moreover, the root-mean-squared errors (RMSE) and the mean absolute errors (MAE) of the PLS-SEM are smaller than the LM model. Therefore, the predictive power of the model is demonstrated (Shmueli et al. 2019).

Table 6. Predictive power assessment.

Construct	PLS			LM			PLS-LM		
	RMSE	MAE	Q^2_p	RMSE	MAE	Q^2_p	RMSE	MAE	Q^2_p
CSR			0.096						
Min.	0.971	0.761	0.090	0.972	0.765	0.084	−0.001	−0.004	0.018
Max.	0.814	0.620	0.025	0.819	0.631	0.019	−0.009	−0.011	0.001
Performance			0.077						
Min.	0.740	0.575	0.018	0.741	0.578	0.006	−0.007	−0.013	0.004
Max.	0.891	0.686	0.068	0.897	0.686	0.061	−0.001	0.000	0.015

Min.: minimum estimate at indicators level. Max.: maximum estimate at indicators level. PLS: partial least squares path model; LM: linear regression model; RMSE: root-mean-squared error; MAE: Mean absolute error. Q^2_p : PLS-predict index performed with 10 k-fold and 10 repetitions.

5. Discussion

Innovation has often been considered a driver of competitive advantage (Dibrell et al. 2008; Madrid-Guijarro et al. 2009). A company's innovative capability can result in gaining a larger market share, boosting efficiency in production, raising productivity growth, and boosting revenues (Shefer and Frenkel 2005; Auken et al. 2008). Recognizing the significant role of innovation can empower companies to provide a broader selection of unique products, which in turn can enhance financial performance (Zahra et al. 2000; Madrid-Guijarro et al. 2009). However, innovation's influence on SMEs' business performance of SMEs has not been profoundly investigated. Therefore, this research provides new evidence, highlighting the importance of implementing strategies that foster innovation in SMEs as it improves the performance of SMEs. Similarly, the mediating role of CSR in this relationship also needed further evidence. For these purposes, empirical research using a sample of 769 Spanish SMEs has been conducted using a PLS-SEM approach.

In line with previous studies (Kitapci et al. 2012; McDermott and Prajogo 2012; Palacios-Manzano et al. 2021), our results confirm that the implementation of innovation-enhancing strategies in SMEs has a positive impact on organizational performance. As a result, innovation leads to improved quality, increased product diversification, and a positive effect on turnover and employment (Guinet and Pilat 1999), which permits the expansion of market shares and improves operational efficiency and influence (Guerrero-Villegas et al. 2018). Thus, companies with innovative products gain more benefits from lower competition (González-Fernández and González-Velasco 2018).

Secondly, this study also analyzed the impact of innovation on CSR. Our results are in line with previous studies (Ivana 2020; Sanzo et al. 2012) in considering innovativeness as a vehicle for implementing CSR practices in organizations. However, this relationship has recently been challenged by studies showing an inverse relationship (Ratajczak and Szutowski 2016; Palacios-Manzano et al. 2021). In this framework, there is a general lack of research that analyzes the meaning of this relationship. Thus, our results are relevant to the literature by demonstrating how innovation allows firms to incorporate technology and more flexible processes into their activity (MacGregor and Fontrodona 2008), which gives them a greater capacity to implement CSR practices as there will be less resistance to change in their organizations (Guerrero-Villegas et al. 2018).

Thirdly, our study also shows a direct positive impact of CSR on company performance (Mahmood et al. 2021; Torugsa et al. 2012). It is widely accepted that the effectiveness of CSR practice results in greater trust, fosters consumer CSR awareness and employee engagement, and provides a better perception of corporate reputation (Slack et al. 2015), which has a positive impact on performance (Ikram et al. 2019).

6. Conclusions

This study further analyzes the mediating effect of CSR on the relationship between innovation and company performance. The results suggest that CSR plays an important mediating role in understanding this relationship. To conclude, the greater the innovation, the greater the organization's performance, both in terms of innovative effects and the company's capacity to carry out CSR-related activities.

With these findings, we contribute to provide further evidence about the direct and positive effect of innovation on performance and fill a gap linked to the indirect effect of the mediation of CSR in the case of Spanish SMEs. In addition, our model has shown predictive power to support the proposed research model (Straub and Gefen 2004). This study provides important theoretical contributions and extends the debate on the relationship between innovative strategies in companies—specifically in SMEs—and variation in performance. The results will help to clarify the relationship between innovation and financial performance in SMEs in the industrial sector. It is the first study that incorporates the mediating effect of CSR strategies in these companies. Furthermore, the study promotes the inclusion of other factors, such as, for example, the different components of CSR policies, for a more in-depth analysis of the relationships between the variables studied here. From this work, researchers will be able to consider the weight of the different components of CSR theory in the context of SMEs' innovative strategies.

Our empirical results bring new evidence to theory and research on innovation, CSR, and performance by integrating into the literature the roles played by CSR as enablers of the connection between innovation and performance in SMEs. Particularly, this research has significance for the continuing discussion on the factors that have preceded performance in a SME context, so it provides notable contributions from a practical perspective. First, innovation represents a necessary investment by managers and owners of SMEs aiming to acquire and maintain an edge over competitors in the market and enhance their capacity to create wealth (Demirbas et al. 2011). In a global environment characterized by internationalization, the survival and growth of SMEs depend on their innovative capacity (Dauvergne 2005; Laforet 2008; Coad and Rao 2007). In addition, innovation allows companies to incorporate technology and more flexible processes into their business (MacGregor and Fontrodona 2008), which gives them a greater capacity to implement CSR practices (Guerrero-Villegas et al. 2018). In the medium term, this will aid many SME managers in changing their viewpoint on innovation from one of expense to one of the sources of competitive advantage.

This paradigm shift should help to encourage company managers to establish innovation-related strategies that add value and allow them to generate competitive advantages in the market. Thus, the empirical results of this study provide an opportunity to increase the adaptability of SMEs to the environment in which they operate, as they propose a strategic

change in the business activity of this type of companies by orienting their innovative activity towards CSR. This new approach will make SMEs enhance their performance. Consequently, this research has implications for SME managers, as it shows that investing part of the financial resources in innovation will benefit both society and the companies themselves.

On the other hand, our results also have implications for governments. The lack of government R&D and technology policies, the high cost of innovation, and the lack of an adequate source of finance will lead to a lower propensity of SME owners and managers seeking innovation (Demirbas et al. 2011; Madrid-Guijarro et al. 2009). In this context, our results suggest that government policies, initiatives, and governmental support to establish innovation projects in organizations will help SMEs to be the engines of economic growth and job creation.

This research has several limitations, which could suggest new directions for research. To begin with, these results include only SMEs from Spain. Consequently, they cannot be generalized to other regions (García-Piqueres and García-Ramos 2020). It would be interesting for future research to address these questions in other geographical areas (Martinez-Conesa et al. 2017). Furthermore, the use of cross-sectional data further restricts our investigation. As a result, it would be wise to conduct longitudinal research to examine how time affects the developed model (Zheng et al. 2019). The objective will be to compare the results now obtained with the quantitative results of the activities of the same companies. That is, the number of innovations introduced and their effect, as well as the overall performance or efficiency of the activities. Likewise, it might also be interesting to measure these constructs using quantitative data rather than the opinion of SME managers. Finally, future research should consider the opinions of other stakeholders, such as consumers, financial entities, or providers. The opinions of other stakeholders could help managers to make stronger decisions. Moreover, future works could include the reputation variable in SMEs and its relationship with the variables studied in this paper. This work also offers the opportunity of making a similar analysis separating different sub-sectors inside the SMEs conglomerate in case some significant differences existed in the results of those sub-sectors.

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Appendix A. Questions Used in the Survey

CSR (Lee et al. 2012; Esparza-Aguilar and Fong 2019; Ikram et al. 2019; Adinata 2019; Devie et al. 2018; Caro and Salazar 2019; Agyemang and Ansong 2017)

Please evaluate from 1 (absolutely disagree) to 5 (absolutely agree) the following questions

csr1	Is widely known by management and applied in company management
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csr2	Means achieving social value as well as economic value
csr3	The company carries out its activities consuming less energy and other resources
csr4	Effective recycling measures exist
csr5	Priority to working with local suppliers and raw materials is given
csr6	Transparency when dealing with clients and suppliers has improved in recent years
Innovation (Martínez-Ros and Labeaga 2009; Madrid-Guijarro et al. 2009)	
Indicate if your company has made the following innovations in the last two years and, if so, indicate the degree of importance of each from 1 (minimum importance) to 5 (greatest importance)	
inn1	Changes or improvements in existing products/services
inn2	The launching of new products/services in the market
inn3	Changes or improvements in production processes
inn4	Acquisition of new property or equipment
inn5	New changes or improvements in organization and/or management
inn6	New changes or improvements in purchasing and/or procurement
inn7	New changes or improvements in commercial and/or sales
Performance (Ruiz-Palomo et al. 2019; Úbeda-García et al. 2021; Martínez-Conesa et al. 2017)	
In comparison with your competitors, please indicate your level of agreement with the following performance indicators of your company, from 1 (absolutely disagree) to 5 (absolutely agree)	
per1	Your company offers higher quality products
per2	Your company has more efficient internal processes
per3	Your company has more satisfied customers
per4	Your company adapts earlier to changes in the market
per5	Your company is growing more
per6	Your company is more profitable
per7	Your company has more satisfied/motivated employees
per8	Your company has a lower absenteeism

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