Corporate Social Responsibility as a vehicle for ensuring the survival of construction SMEs. The mediating role of job satisfaction and innovation.

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Abstract **-** The purpose of this article is to analyse the effect of Corporate Social Responsibility (CSR) on performance through the mediating role of job satisfaction and innovation in a sample of 503 Spanish SMEs construction. Developing a Partial Least Squares Structural Equation Modeling (PLS-SEM) to test our hypotheses, the results provide evidence that performance is influenced by CSR, job satisfaction, and innovation. These effects are not only direct and positive but, indirect effects which allow the positive effects of CSR to be enhanced are also obtained.

This research by empirically examining the relationship between CSR, job satisfaction, innovation and performance provides an essential contribution to the literature by filling a gap related to the direct effect of CSR on performance, and the indirect effect by the mediation of job satisfaction and innovation. The findings show significant implications for policy makers and managers. The findings can help managers to invest in CSR, which, by improving the well-being of their employees and the innovative capacity of their company, will lead to better performance and the capacity to adapt to the current changing environment. In addition, our results provide evidence that SMEs with fewer resources should be able to count on public support to carry out CSR practices.

Index Terms - Corporate Social Responsibility (CSR), Performance, Job Satisfaction, Innovation, Construction, SMEs, Partial Least Squares Structural Equation Modelling (PLS-SEM).

Managerial Relevance Statement - In the current difficult economic climate, the model developed in this research allows managers of construction companies to become aware of the

multiple benefits of CSR practices for their company. This research will contribute to changing the misconception held by a large number of managers today, who still see CSR as a cost rather than a source of profit for their company. The results obtained in this paper demonstrate that an increase in CSR investment in companies will not only contribute to improving the environment in which companies cohabit, but will also bring them interesting advantages. A socially responsible corporate attitude will have a direct impact on financial performance by increasing the reputation and trust of stakeholders. In addition, there will also be an increase in employee wellbeing, which will help attract and retain the best talent and give the company a greater capacity for innovative actions to gain competitive advantage over its competitors.

1. Introduction

The construction sector is considered one of the driving forces of the Spanish economy. At a relative level, this industry currently accounts for approximately 7% of the national total in terms of both employment and productivity [1]. These rates are similar to those of China, the United States and the European Union [2]. Recently, construction has been significantly affected by COVID-19, yet it is critical to the post-COVID economic recovery [3]. To this end, it is important to highlight the drag effect that this sector has on other sectors of the economy [4]. Thus, while the Spanish productive fabric is not capable of making a structural change so that other productive sectors with greater technological dynamism and growth potential replace construction, the desired return to economic growth and the generation of employment depends on helping the construction sector to emerge from the difficult moment in which it finds itself, as occurred in the previous economic crisis [5].

Corporate Social Responsibility (CSR) is an area of increasing importance in the construction sector. CSR is defined as a firm's commitment to improving the well-being of

the community through business practices and discretionary and corporate resource contributions [6], [7]. The construction industry has often been criticised for having little respect for the environment, for being confrontational with its clients and for being inconsiderate and indifferent towards society [8]. In general, the activities carried out in this area have adverse impacts on the environment as they often include dust and gas emissions, noise pollution, waste generation, water misuse, land misuse and pollution [9], [10]. For this reason, it is considered necessary to apply of the International Organization for Standardization 14001 environmental management system [11], as it allows the organisation to engage responsibly through a definitive and practical form of continual improvement [12], [13]. Nevertheless, many construction companies have not shown a commensurate concern for environmental issues [9], [11], [14] and CSR is therefore seen as a means of assessing their progress towards sustainability [15], [16].

One key aspect in the construction industry is the study of business performance. Performance is seen as a concept of an organisation's success, and as an indication of how effectively the organisation is performing in achieving its goals successfully [17], [18]. In this context, it is widely accepted that the construction industry is dynamic in nature, due to increasing uncertainties in technology, budgets and development processes [19]. Thus, the highly competitive environment of the construction industry has made performance improvement an increasingly relevant objective [20], to determine the overall success of companies [21]. However, the innovative processes of construction companies have not been sufficient to promote productivity, quality and ultimate value for money from an efficiency perspective [22], [23]. For this reason, we consider that promoting CSR is necessary for the business activities of these companies, since it will lead to greater technological flexibility [24] and it will change the social system of the organization [25], which will improve their competitive advantages [26] due to an increase in the efficiency and effectiveness in the

business activity [27], in earnings [28] and in customers and employees satisfaction, contributing to improve society [29].

Companies that proactively engage in CSR activities and consider the interests of all stakeholders can gain support and trust from stakeholders such as employees [30]. Bauman and Skitka [31] indicate that job satisfaction can be influenced by a company's actions, including those that relate to CSR.

Job satisfaction is "a pleasurable or positive emotional state resulting from the appraisal of one's job and job experience" [32]. The level of employee job satisfaction varies according to certain aspects and the nature of the job. Shabnam and Sarker [33] affirm that CSR should immediately enhance job satisfaction because demonstrated social responsiveness directly satisfies the employee's social requirements of the firm.

Although recent research results have demonstrated the impact of CSR on business performance [34], few studies have investigated this impact in SMEs [35], and even fewer in the construction sector [36]. Consequently, the main objective of this research is to examine whether CSR is conducive to the performance of construction SMEs, through enhancing employee satisfaction and improving innovative capacity. To this end, we analysed the effect on this relationship of the implementation of strategies aimed at improving job satisfaction and promoting innovative processes. The following research questions arise: Does CSR influence performance in SMEs? Is this influence mediated by job satisfaction and innovation? To answer these questions, we developed a Structural Equations Modeling based on Partial Least Squares (PLS-SEM) in order to test our hypotheses in a sample of 503 Spanish construction companies. Our research has a double purpose: confirmatory and predictive. We have analysed the specific size of firm, sector and country for several reasons: (1) SMEs play a significant role in the economy [37]; (2) the approach to CSR is very

different in SMEs than large companies [38]; (3) although SMEs are of little importance individually, collectively their impacts can be huge [39]. (4) the development of the construction sector is essential to achieve the economic recovery and employment generation destroyed by COVID-19; (5) the choice of a particular country has been motivated because the results of previous research in CSR show that cultural and legal differences among countries can lead to very different results [40]; (6) the Information and Communication Technology (ICT) adoption rate of a country is related to its specific culture [41]. Hence, our sample covers a gap in the current literature, as recommended by Beltramino [42].

This research provides an essential contribution to the literature by considering the CSR as a key business performance tool in SMEs in the construction sector, through the analysis of the relationship between CSR adoption and performance, and by incorporating the mediating effects of job satisfaction and innovation. The inclusion of these two mediating effects seek to the inconclusive results concerning the effects of CSR on firm performance in the literature [43]. In addition, the findings can help SMEs managers to invest in CSR, which will lead to better performance and the ability to adapt to the current changing environment, by improving the well-being of their employees and the innovative capacity of their company. This is the most important practical implication of this research, covering the need to provide empirical work to create better CSR and innovation strategies [44], [45].

After this introductory section, Section 2 gives the hypotheses development; Section 3 exhibits the methodological aspects, while Section 4 shows the results. Finally, Section 5 discuss these results and presents the main conclusions.

2. Literature review and hypotheses development

In recent decades, many researchers have tried to determine the influence of CSR on performance [43], [46]. Recent empirical evidence shows that the main objective of companies is to make a profit [47]. Nevertheless, a large number of these organisations do not

consider the option of implementing CSR in their activities because the costs of implementation are too high [48]. However, adopting strategies that promote CSR will increase the company's good reputation, which in turn makes it a more attractive company in the labour market, and therefore attracts more applicants [47]. Furthermore, the company's commitment to CSR leads to benefits for stakeholders: increased profits, generation of new jobs, social investment, extended agreements with suppliers... all of which are closely linked to the construction of the social fabric [49]. This is due to the social role of business, for as their size and influence grows, so do the social responsibilities they have to fulfil [50]. Thus, companies are not simply profit-making organisations, but must respond to the needs of their stakeholders and strive for social support as corporate citizens [51]. Consequently, corporate social engagement will enable higher levels of business performance [52]–[55]. However, although previous studies have analysed the performance of construction companies, to date the impact of CSR has not been examined. For this reason, we propose the following research hypothesis:

H_1: Corporate social relationship has a positive effect on performance.

Likewise, CSR stimuli affect firms [56] by modifying their strategy and business model [37] with the aim of achieving more responsible products, services and processes that satisfy the stakeholders' requirements [57]. In SMEs there is a virtuous circle between CSR and innovation, as the higher the CSR, the more innovative the SME will be [58]. This gives firms significant competitive advantages [26], [59], with greater opportunities for greater earnings [28]. Thus, CSR offers companies an excellent opportunity to improve their efficiency, effectiveness and innovative capacity [27].

Otherwise, recent developments in the field of innovation have affirmed that organisations that engage in innovative activities have higher business performance [60]–[63]. This is

because companies that develop more innovative products and services gain advantages over their competitors [64], because innovative products and services face less competition when being introduced in the market, enabling the company to increase profits and differentiate itself from the competition [65]–[67].

CSR requires the company to make innovative efforts to improve processes, products and services, as well as to use inputs more efficiently [68]. In addition, innovation offers concrete benefits to SMEs by enabling them to effectively develop, communicate, adopt and explore innovation orientation [69], [70]. Firms with innovative capacity will therefore be more likely to promote their performance in the future [71], [72]. In consequence, the adoption of a CSR-oriented strategy will lead to an increase in performance by increasing the innovative capacity of the company [73]. Because when implementing CSR practices, companies are obliged to innovate, as their traditional way of doing things does not work and they must be supported by innovation to be able to implement these practices [74]. Hence, part of the impact of CSR on performance is given by innovation acting as a mediator between CSR and performance.

Given the above, we establish the following research hypothesis:

H_2: Innovation partially mediates the relationship between CSR and performance.

This H_2 hypothesis is sub-divided into the following three hypotheses:

H_{2a}: CSR has a positive effect on innovation.

H_{2b}: Innovation has a positive effect on performance.

H_{2c}: CSR indirectly affects performance through innovation.

The human capital of a firm is recognized as one of the most important resources of a business [75]. Social responsibility to employees involves different activities like

communication and information flow, adequate training, looking after the health and well-being of employees, balance of working and family life and concern for the safety of the workplace [76]. Recently, some studies have investigated the influence of CSR on employees by investigating at organizational commitment, engagement and identification with the organization. Nevertheless, most companies do not how CSR has to be used to engage their employees [77].

Responsible activities of the firm favour employees' positive attitude and behaviour, including job satisfaction [78], [79] suggest that employees are more satisfied with their work in companies that perform social activities, while employees who work in companies that do not invest in CSR are not satisfied with many aspects of their work [80].

Employees' satisfaction is one of the most important factors for success in an organization. A satisfied workforce is imperative since organizational performance depends largely on employee satisfaction. Employees who have a high level of job satisfaction feel that their job give them positive aspects [81]. These employees will show extraordinary performance, and the company will be successful [82]. There is no doubt that employee satisfaction can improve business outcomes, enhance productivity and strengthen commitment [83]. Employee satisfaction has an important function in improving firm profitability and enhancing the operational performance of organizations. Undoubtedly, employee satisfaction is basic to achieve the organizational growth and sustainability [84].

Research findings suggest that employee behaviour impacts on companies' outcomes [85] and greater job satisfaction may lead to higher employee commitment to business values and goals [86], [87]. However, the relationship between job satisfaction and organisational performance is complex. The studies conducted by Latif et al. [83], Harter et al. [88] and Mafini and Pooe [89] provide evidence of a strong and significant relationship between job

satisfaction and organization performance. Nevertheless, Daily and Near [90] and Mohr and Puck [91] found no statistically significant correlation between these two variables.

In addition, job satisfaction is expected to affect employee performance. The relationship between job satisfaction and employee performance has been studied extensively in management [92], [93]. Therefore, it can be argued that socially responsible firms will improve job satisfaction among their employees, which consequently will enhance performance.

Based on the above, we formulate the following research hypothesis:

H_3: Employee satisfaction partially mediates the relationship between CSR and performance.

This H_3 hypothesis is sub-divided into the following three hypotheses:

H_{3a}: CSR is positively associated with employee satisfaction.

H_{3b}: Employee satisfaction is positively associated with performance.

H_{3c}: CSR indirectly affects performance through employee satisfaction.

Organizational innovation resides in its employees' motivation and capabilities [94]. Human capital is implicated in the innovation process, because their implication is needed for the development and implementation of innovation [95].

Human capital is seen as an input in the innovation process and therefore augments the capacity to innovate and increases the use of new technologies [96]. As a result, higher levels of human capital lead to the generation of new technologies or to a more efficient adoption of a given technology [97].

Therefore, a satisfied employee is more likely to be innovative and creative and produce breakthrough which make possible for an organization to expand and revolutionize positively with passing time [98].

Human capital is an independent factor of production which increases performance for a given level of technology [99], [100]. However, these innovations can even come from teams motivated by human resources initiatives intending to drive change and produce a competitive advantage for the organization (e.g.,[95], [101]). This increase is given because innovation is related to the growth of competitive advantage and performance [102], [103].

We believe that innovation can be conceptualized as a human capital related result, where some human capital practices, like job satisfaction [104], apply their influence on organization performance through innovation.

Finally, the relationship between CSR and innovation could be mediated by some variables such as human capital [37]. The innovation on SMEs is increased by the attitude and qualification of employees [105]. As Cinnirella and Streb [97] affirm, innovation needs satisfied human capital. The relationship between CSR and innovation has been analysed and the results show a positive relationship [27], [106]. But CSR practices can help companies to preserve their employees more satisfied, which is necessary to improve the company innovation [107]. From these arguments, the following hypothesis is proposed:

Based on the information provided above, we state the following hypotheses:

H_4: The effect of job satisfaction on performance is partially mediated by innovation.

H_5: CSR indirectly affects innovation through job satisfaction.

The H_4 hypothesis is sub-divided in the following two hypotheses:

H_{4a}: Job satisfaction is positively associated with innovation.

*H_{4b}: Job satisfaction indirectly affects performance through innovation.*

On the basis of all the above, it seems reasonable to believe that by increasing CSR, job satisfaction increases the capacity of companies to carry out innovative activities, which has an impact on their performance. Therefore, a sequential mediation of the relationship between CSR and performance by job satisfaction and innovation can be expected. Hence, we propose the following hypothesis:

H_6: Employee satisfaction and innovation sequentially mediates the relationship between CSR and performance.

To test our hypotheses, we designed a model that on the one hand proposes that CSR has a direct impact on construction companies' performance, and on the other hand, aims to determine the mediating effect of innovation and job satisfaction on this relationship. Figure 1 presents our research model.

Figure 1. Model specifications: (a) total effect model; (b) mediated model.
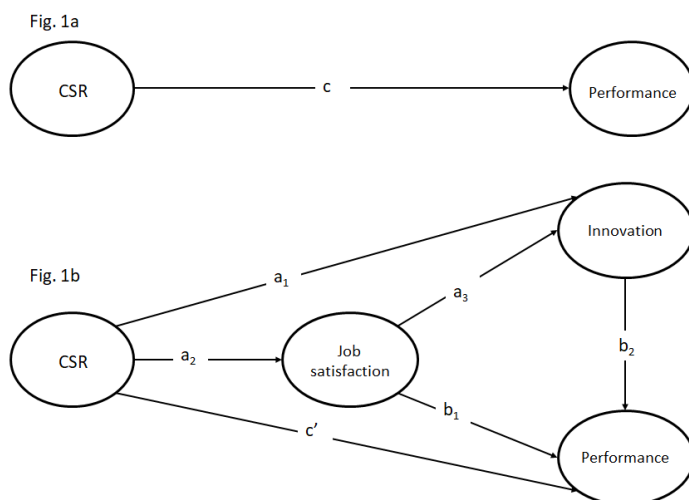
3. Methodology.

3.1. Population, Sample and Data Collection Techniques

The construction industry has great economic relevance in Spain. In 2018 there were 411,074 construction SMEs according to the National Statistical Institute (INE). Of these, SABI database contains financial information on 351,032, of which 503 microenterprises and SMEs were randomly selected once segmented by size.

With a confidence level of 95% and taking into account the sample obtained, the maximum error in the estimation of the population was 4.53%. The survey was conducted anonymously with the aim of reducing social acceptance bias [108]. The t-test and the chi-squared test for all the variables verified that there were no extreme values in the sample and confirmed that if we compare the first answers with the last ones, the nonresponse bias was not an issue. In reference to a possible concern arising from collecting all the data from the same source, the results of the variance inflation factors (VIF) were verified. As will be seen below, all the results are below 3.3. (the maximum value is 1.273), and therefore, common method bias is not an issue in this study [109], [110]. Moreover, The Harman's single factor test [111] has been applied. The findings reveal that four factors (KMO: 0.895; Bartlett sphericity test Sig. 0.000) explain 62.09% of the total variance of the model, and performance (the main factor) explains 30.25%, which corroborates that the presence of common method variance bias [112] there is not an issue in this model. However, it would still be recommendable for further research to use a variety of sources to gather the information.

Using the G*Power 3.1.9.2 program [113] we have calculated the statistical power of our sample assuming a standard error of 0.05 and an effect size of 0.15 [114]. The result obtained is 1, which confirms that in this model significant relationships can be identified and that the sample size is sufficient for the magnitude of the effects found.

To conduct a quantitative study, the data was collected through a survey directed towards Spanish SMEs. Firms that did not want to take part were replaced by others of similar size. The fieldwork was carried out in the first four months of 2018 through telephone surveys with firm managers, since they are the most important decision-makers [115]. A pre-test was used to check the ease of understanding of the questionnaire. Table I shows the distribution of the final sample, which comprises 503 Spanish Construction SMEs.

Table I. Sample composition

Total companies		Micro companies		Small companies		Medium companies	
Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total
503	100	218	43.3%	254	50.5%	31	6.2%

Source: Authors.

3.2. Measurements

First, on the assumption that there is no unified way to measure CSR [116], we measured CSR using a latent variable consisting of 7 items which was adopted from the literature [117]–[123]. Second, for job satisfaction, a latent variable with 6 indicator was used. This construct measures aspects related to personnel management in the company. For this purpose, we took into account the literature [82], [124]–[126]. Third, innovation was measured using a scale in which products and processes of innovation are distinguished [127]. Finally, in line with Ali et al. [128], performance was measured through the balanced scorecard (BSC) approach established by Kaplan and Norton [129]. Table II summarizes the definition and composition of the variables associated with each construct.

Table II. Measurement variables.

CSR	
Regarding the CSR in your company, assess your level of conformity,0(absolutely disagree) to 5 (absolutely agree), with the following statements	
CSR.1	Is widely known by management and applied in company management

CSR.2	Means achieving social value as well as economic value
CSR.3	The company carries out its activities consuming less energy and other resources
CSR.4	Effective recycling measures exist
CSR.5	The image and reputation of the company has improved in the last three years
CSR.6	Transparency when dealing with clients and suppliers has improved in recent years
CSR.7	Priority is given to working with local suppliers and raw materials

Job Satisfaction

Indicate how much you agree with the state of your firm regarding its employees, from 1 (absolutely disagree) to 5 (absolutely agree)

JBS.1	You consider that your level of satisfaction/motivation has improved in the last few years
JBS.2	There is work flexibility (flexible working hours)
JBS.3	Pay equity has been ensured
JBS.4	Career development has been facilitated
JBS.5	Opportunities to participate in decision making have been provided
JBS.6	The requirements set for each position have been rigorously applied in the recruitments

Innovation

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 (maximun importance)

INNV.1	Modifications or enhancements in existing products/services
INNV.2	The launching of new products/services in the market
INNV.3	Modifications or enhancements in production processes
INNV.4	Acquisition of new property or equipment
INVV.5	New changes or improvements in organization and/or management
INVV.6	*New changes or improvements in purchasing and/or procurement*
INVV.7	New changes or improvements in commercial and/or sales

Performance

In comparison with your competitors, show your level of conformity with the following performance indicators of your company, from 1 (absolutely disagree) to 5 (absolutely agree)

PERF.1	Your company offers higher quality products
PERF.2	You company has more efficient internal processes
PERF.3	Your company has more satisfied customers
PERF.4	Your company adapts earlier to changes in the market
PERF.5	Your company is growing more
PERF.6	Your company is more profitable
PERF.7	Your company has more satisfied/motivated employees
PERF.8	Your company has a lower absenteeism

The indicators in italics were not included in latent variables due to convergent and discriminant criteria of consistent PLS path modeling.
All the measures were Likert-type scales, from 0 to 5.
Source: Authors.

4. Results

4.1. Statistical procedure

Our model contains four composite mode A [130], [131] due to the presence of high correlations between indicators in each construct [132]. For this main reason, it was tested using partial least squares (PLS), a variance-based structural equation modelling (SEM) [133]. Moreover, PLS-SEM technique is also suitable in this study because it does not require specific distribution in the indicators [130], it evades severe troubles such as inadmissible or improper solutions and indeterminate factors [134], PLS-SEM is also pretty robust when regressors are not included [135], and PLS-SEM is an appropiate technique to use in a theory development such as this research [136], and where the model includes mediating variables [137], [138].

The model was estimated from a causal-predictive perspective [139] by using SmartPLS 3.3.3. [140]. To check the hypotheses, a bootstrap method based on 10,000 sub-samples was applied. We assess our PLS model in several phases: measurement model, structural model, mediation analysis and predictive performance.

4.2. Measurement model evaluation

The contructs in the model were measured in terms of reliability and validity. The factor loadings, Cronbach's Alpha, composite reliability [130], the Dijstra-Henseler rho ratio [141] and the average variance extracted (AVE) are reported in Table III. All the results exceed their shortcut values. Regarding the relevance and significance of the measures, most of the items' loads on their respective constructs were more than 0.7, the shortcut value (Hair et al., 2016). Although, there were some ítems with a loading that varied between 0.696 and 0.609, these loading were accepted [143]. Therefore, convergent validity and reliability are demonstrated. In addition, to determine the overall predictive relevance of the model, a

confirmatory composite analysis test was performed using a blindfoldling procedure (omission distance of 9). This was the first step in confirming the quality of the model, as the values of Q^2 values are above 0 [144], thus confirming the predictive relevance of the model.

In the second stage, discriminant validity was measured through cross-loadings (not reported), the Fornell-Larcker criterion, and the HTMT criterion in variance-based SEM [145]. The results are shown in Table IV. According to the Fornell-Larcker criterion, the correlations between each pair of constructs did not exceed the square root of the AVE of each construct. Similarly, the level of the Heterotrait-monotrait (HTMT) between each two constructs varies from 0.282 to 0.593. These levels are lower than the maximum recommended of 0.85 [146]. The results show the existence of discriminant validity.

Furthermore, this research measured quality by checking that the standardized root mean square residual (SRMR) does not exceed the value of 0.08 [147], [148]. These findings prove a good fit in model specifications.

Table III. Measurement model results.

	Mean	SD	Loading	t***	Q^2	α	ρA	ρC	AVE
CSR						0.85	0.87	0.88	0.52
CSR.1	3.78	0.95	0.69	18.34					
CSR.2	3.71	0.92	0.72	22.18					
CSR.3	3.69	0.98	0.67	17.92					
CSR.4	3.88	1.02	0.69	18.93					
CSR.5	3.94	0.85	0.81	46.78					
CSR.6	3.94	0.87	0.84	50.58					
CSR.7	4.13	0.91	0.61	14.23					
Job Satisfaction						0.30	0.80	0.81	0.86	0.50
JBS.1	3.71	0.88	0.67	22.56	0.17				
JBS.2	3.46	1.18	0.63	17.01	0.21				
JBS.3	3.58	1.10	0.71	20.68	0.31				
JBS.4	3.20	1.24	0.69	20.34	0.32				
JBS.5	3.51	1.02	0.77	31.89	0.38				
JBS.6	3.32	1.09	0.76	26.80	0.40				
Innovation						0.05	0.89	0.90	0.91	0.64
INNV.1	2.82	2.07	0.81	40.10	0.07				
INNV.2	2.16	2.15	0.70	19.58	0.01				

INNV.3	2.53	2.15	0.84	47.78	0.08				
INNV.4	2.84	2.08	0.82	39.44	0.06				
INVV.5	2.45	2.17	0.80	34.19	0.06				
INVV.6	2.22	2.19	0.82	38.77	0.04				
Performance						0.19	0.90	0.91	0.92	0.60
PERF.1	4.05	0.81	0.70	20.85	0.14				
PERF.2	3.85	0.84	0.80	37.21	0.21				
PERF.3	4.07	0.77	0.81	32.80	0.22				
PERF.4	3.95	0.79	0.81	32.82	0.23				
PERF.5	3.77	0.87	0.71	22.29	0.11				
PERF.6	3.72	0.88	0.75	26.55	0.12				
PERF.7	3.90	0.86	0.85	53.32	0.29				
PERF.8	4.00	0.89	0.75	24.17	0.22				

Significance and standard deviations (SD) performed by 10,000 repetitions Bootstrapping procedure. Q_B^2: cross-validated redundancies index performed by a 9-step distance-blindfolding 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.
Source: Authors.

Table IV. Discriminant validity.

		I	II	III	IV
I	CSR	**0.72**	*0.51*	*0.29*	*0.53*
II	Job Satisfaction	0.45	**0.71**	*0.33*	*0.53*
III	Innovation	0.28	0.29	**0.80**	*0.32*
IV	Performance	0.48	0.47	0.29	**0.77**

HTMT ratio over the diagonal (italics). Fornell–Larcker riterion: square root of AVE in diagonal (bold) and construct correlations below the diagonal.
Source: Authors.

4.3. Structural model evaluation and hypotheses testing

The results in Table V shows that Variance Inflation Factors (VIFs) constructs ranged from 1.00 to 1.27, suggesting that in this research there is no problem with the collinearity [149].

Once the measurement model has been accepted and collinearity problem has been rejected, we next measure the R^2 values of endogenous constructs, the algebraic sign, magnitude, significance and the f^2 values of the standardized regression coefficients (Hair et al., 2017). For this purporse, a bootstrapping (10,000 resamples) process was run in order to obtain t-values and percentile confidence intervals [151].

In concordance with previous studies [43], [46], [79], all the proposed hypotheses have been supported. A positive and significant relationship between CSR and performance was demonstrated as the coefficient linked to this path is $\beta=0.319^{***}$, verifying H_1. The path coefficient from CSR to innovation was also positive ($\beta=0.186^{***}$) and significant, supporting H_{2a}. Regarding the relationship between innovation and performance, the effect was again direct and positive ($\beta=0.115^{***}$), verifying H_{2b}. A strong positive effect of CSR on job satisfaction was found ($\beta=0.448^{***}$), verifying H_{3a}. Finally, the results for H_{3b} and H_{4a} indicated a positive and significant influence of job satisfaction on performance and on innovation ($\beta=0.300^{***}$ and $\beta=0.208^{**}$ respectively), thus verifying also these last two hypotheses.

The results regarding the R^2 of the endogenous variables are 0.200 for job satisfaction, 0.091 for innovation and 0.331 for performance. Taking as a reference the criterion of being at least close to 0.1 [152], these results indicate the model has a good explanatory power, especially in the case of performance [153].

Table V. Structural model and hypotheses testing.

	Path	T-value	f^2	95CI		H	Supported
Direct effects					VIF		
CSR -> Performance	0.319	5.605***	0.124	[0.217-0.436]	1.27	H_1	Yes
CSR -> Innovation	0.186	3.921***	0.048	[0.140-0.321]	1.22	H_{2a}	Yes
Innovación -> Performance	0.115	2.822**	0.026	[0.060-0.216]	1.10	H_{2b}	Yes
CSR -> Job Satisfaction	0.448	12.136***	0.251	[0.389-0.511]	1.00	H_{3a}	Yes
Job Satisfaction -> Performance	0.300	7.429***	0.107	[0.235-0.367]	1.30	H_{3b}	Yes
Job Satisfaction -> Innovation	0.208	4.221**	0.042	[0.128-0.290]	1.25	H_{4a}	Yes
Indirect effects					VAF		
Individual indirect effects							
CSR -> Innovation -> Performance	0.021	2.264*		[0.012-0.056]	4.32%	H_{2c}	Yes
CSR -> Job Satisfaction -> Performance	0.134	6.401***		[0.103-0.171]	27.57%	H_{3c}	Yes
Job Satisfaction -> Innovation -> Performance	0.024	2.290*		[0.009-0.043]	7.82%	H_{4b}	Yes
CSR -> Job Satisfaction -> Innovation	0.093	3.873***		[0.056-0.136]	33.10%	H_5	Yes
CSR -> Job Satisfaction -> Innovation -> Performance	0.011	2.234*		[0.004-0.019]	2.26%	H_6	Yes
Global indirect effects							
CSR -> Performance	0.166	7.538***		[0.133-0.206]	34.16%		

CSR -> Innovation	0.093	3.873***	[0.056-0.136]	33.10%
Job Satisfaction -> Performance	0.024	2.290*	[0.009-0.043]	7.82%
Total effect				
CSR -> Performance	0.485	9.99***	[0.217-0.348]	
CSR -> Innovation	0.280	7.08***	[0.206-0.361]	
Job Satisfaction -> Performance	0.324	8.138***	[0.259-0.390]	

R^2 adjusted [99% CI in brackets]: Job Satisfaction: 0.200 [0.152; 0.261]; Innovation: 0.091 [0.054; 0.146]; Performance: 0.331 [0.245; 0.430]. Blindfolding Q^2 index as shown in Table 3; Standardized path values reported. SD: Standard Deviation; f^2: size effect index; 95CI: 95% Bias Corrected Confidence Interval; VIF: Inner model Variance Inflation Factors; VAF: Variance Accounted Formula x 100 represents the proportion mediated. Significance, standard deviations, 95% bias-corrected CIs were performed by 10,000 repetitions Bootstrapping procedure; *: $p < 0.05$; **: $p < 0.01$; ***: $p < 0.001$. Only total effects that differ from direct effects are shown.
Source: Authors.

According to Cohen [114], effect sizes (f^2) evaluate the contribution of each exogenous construct to the R^2 values of an endogenous latent variable. Values of 0.02, 0.15, and 0.35 indicate a weak, medium, or large effect, respectively. All links except one (job satisfaction), reach f^2 values above the minimum level of 0.02 [153]. In particular, the results show that CSR has an important effect on job satisfaction. Overall, these results show that the proposed model has adequate structural properties and acceptable explanatory power.

4.4. Multiple Mediation Analysis

Once the direct effects between the different variables have been analyzed and taking into account that the main objective of this research is to analyze the effect of CSR on performance, additional tests were developed to prove if job satisfaction and innovation mediate this relationship, which constitutes a case of multiple mediation. In this stage, the indirect effects have been contrasted with the mediators job satisfaction and innovation. Similarly, the total effect (c) and the direct effect (H_1=c') have been examined. As established by Chin [154], a bootstrapping technique with 10,000 samples has been used to determine the indirect effects. This generates 95% bias-corrected CIs for each individual indirect effect and sequential mediation. Moreover, this research also examined the variance accounted for (VAF) [155], which determines the size of the indirect effect in relation to the total effect. The results are shown in addition to Table V above, in Figure 2.

Figure 2. Multiple mediation analysis.
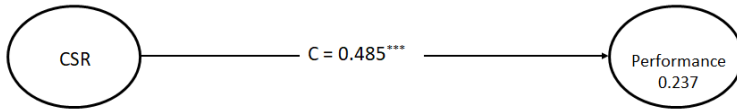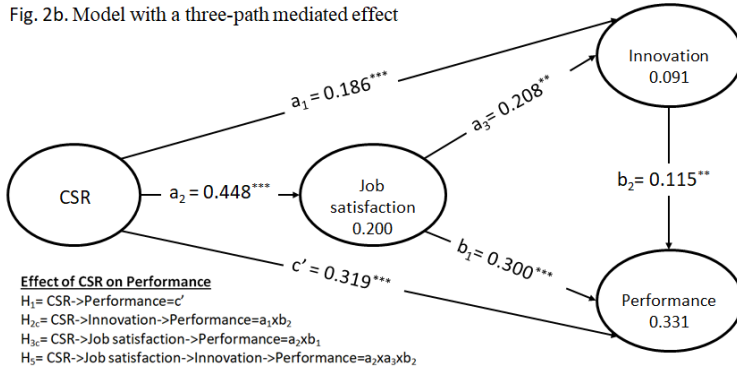
Fig. 2a. Model with total effect

Fig. 2b. Model with a three-path mediated effect

Effect of CSR on Performance
H_1= CSR->Performance=c'
H_{2c}= CSR->Innovation->Performance=$a_1 x b_2$
H_{3c}= CSR->Job satisfaction->Performance=$a_2 x b_1$
H_5= CSR->Job satisfaction->Innovation->Performance=$a_2 x a_3 x b_2$

p<0.01;*p<0.001.
Source: Authors.

The results show how the indirect effects of CSR on performance through innovation and job satisfaction are both positive and significant (β=0.021* and β=0.134*** respectively, plus a sequential indirect effect β=0.011*). Regarding the VAF, the indirect effect of CSR on performance is about 31.16% of the total effect, with 4.32% through innovation, 27.57% through job satisfaction, and an additional 2.26% sequentially. Since both direct and indirect effects are significant, and the proportions mediated are not prominent, a partial mediation is suggested in all cases, supporting H_{2c}, H_{3c} and H_6. Furthermore, the indirect effect of job satisfaction on performance is positive and significant (β=0.024*). The proportion mediated by innovation is 7.82% (VAF) of the total effect of job satisfaction on performance, supporting H_{4b}. Finally, job satisfaction partially mediates between CSR and innovation (β=0.093***), with 33.10% (VAF) of the total effect of CSR on innovation, supporting H_5.

In conclusion, the findings suggest that the relationship between CSR and performance is mediated by job satisfaction and innovation. The more deeply companies involve themselves in CSR, the better their performance becomes. In addition, the effect of CSR on performance increases when the mediating variables are considered.

4.5. Evaluation of the predictive performance

According to Shmueli [156], the predictive performance of a model is the capability to produce correct predictions of further observations. In this vein, predictive validity (out-of-sample prediction) shows that a given set of measures of a particular variable can predict a given outcome variable [157]. This has been assessed through a cross-validation with holdout samples [158] by applying the PLS predict algorithm with SmartPLS [159].

First a k-fold cross-validation was executed, setting k= 7 subgroups, with the aim of meeting the minimum size of N=30 for the holdout sample [160], with ten repetitions of the procedure. Next, a PLS predict analysis was run in the model [161].

The results in Table VI show that in both construct and indicator levels all the Q^2 values are above 0. Therefore, the model offers a satisfactory predictive performance [162]. Moreover, a similar conclusion was obtained at the indicator levels when the results in terms of RMSE or MAE of the PLS-SEM were compared with those of the linear regression model (LM). In most cases, and especially in the constructs referring to Performance, PLS-SEM findings have a lower prognostication error and greater Q^2. This would mean a theoretically established path model improves (or at least does not worsen) the predictive performance of the available indicator data [162].

In summary, this model has power to predict values for further observations of Job Satisfaction, Innovation and Performance variables using data that are not included in those used to test the research model [163]. As a result, an additional support for the model tested in this research has been offered by the predictive validity [162].

Table VI. PLS predict assessment.

CONSTRUCT PREDICTION SUMMARY			
	Q^2		
JOB SATISFACTION	0.192		
INNOVATION	0.072		
PERFORMANCE	0.225		
INDICATOR PREDICTION SUMMARY			
PLS		LM	PLS-LM

Indicator	RMSE	MAE	Q²	Indicator	RMSE	MAE	Q²	Indicator	RMSE	MAE	Q²
JBS.1	0.814	0.653	0.145	JBS.1	0.815	0.646	0.143	JBS.1	-0.001	0.007	0.002
JBS.2	1.139	0.921	0.084	JBS.2	1.145	0.921	0.075	JBS.2	-0.006	0.000	0.009
JBS.3	1.051	0.833	0.092	JBS.3	1.053	0.835	0.088	JBS.3	-0.002	-0.002	0.004
JBS.4	1.216	1.007	0.037	JBS.4	1.216	1.009	0.037	JBS.4	0.000	-0.002	0.000
JBS.5	0.964	0.768	0.117	JBS.5	0.969	0.767	0.108	JBS.5	-0.005	0.001	0.009
JBS.6	1.055	0.848	0.063	JBS.6	1.06	0.855	0.054	JBS.6	-0.005	-0.007	0.009
INNV.1	2.006	1.799	0.063	INNV.1	2.006	1.778	0.063	INNV.1	0.000	0.021	0.000
INNV.2	2.143	2.054	0.008	INNV.2	2.139	2.035	0.011	INNV.2	0.004	0.019	-0.003
INNV.3	2.085	1.949	0.062	INNV.3	2.086	1.919	0.062	INNV.3	-0.001	0.030	0.000
INNV.4	2.036	1.824	0.046	INNV.4	2.01	1.786	0.07	INNV.4	0.026	0.038	-0.024
INVV.5	2.110	1.979	0.060	INVV.5	2.121	1.968	0.05	INVV.5	-0.011	0.011	0.010
INVV.6	2.162	2.054	0.028	INVV.6	2.166	2.049	0.025	INVV.6	-0.004	0.005	0.003
PERF.1	0.774	0.585	0.085	PERF.1	0.778	0.590	0.076	PERF.1	-0.004	-0.005	0.009
PERF.2	0.790	0.612	0.127	PERF.2	0.797	0.619	0.111	PERF.2	-0.007	-0.007	0.016
PERF.3	0.701	0.531	0.166	PERF.3	0.708	0.536	0.148	PERF.3	-0.007	-0.005	0.018
PERF.4	0.726	0.542	0.153	PERF.4	0.733	0.548	0.137	PERF.4	-0.007	-0.006	0.016
PERF.5	0.838	0.675	0.066	PERF.5	0.841	0.681	0.060	PERF.5	-0.003	-0.006	0.006
PERF.6	0.845	0.667	0.083	PERF.6	0.85	0.676	0.071	PERF.6	-0.005	-0.009	0.012
PERF.7	0.768	0.583	0.199	PERF.7	0.775	0.585	0.184	PERF.7	-0.007	-0.002	0.015
PERF.8	0.812	0.608	0.173	PERF.8	0.82	0.612	0.157	PERF.8	-0.008	-0.004	0.016

PLS: Partial least squares path model; LM: Linear regression model; RMSE: Root mean squared error; MAE: Mean absolute error. Q^2: PLS-predict index performed with 10 k-fold and 10 repetitions.
Source: Authors.

5. Discussion and conclusion

This research has addressed the question of whether CSR contributes to improve SMEs performance in the construction sector, and whether this relationship is mediated by job satisfaction and innovation. It uses a sample of 503 Spanish construction companies.

In line with previous studies [43], [46], the findings demonstrate that performance is influenced by CSR, job satisfaction, and innovation. These effects are not only direct and positive but significant indirect effects are also achieved, which increase the positive effects of CSR. The results show that the performance of SMEs benefits from CSR, because CSR enables business growth by generating benefits for stakeholders and enhancing the company's reputation [49]. As a result, this social commitment made by the company will increase the competitive advantages for companies, so improving their market position [164].

The results also indicate that CSR practices are relevant for job satisfaction. This is in line with Story and Castanheira [79] and Tamm et al. [80], who find that if a company has a

powerful CSR strategy, the employees will feel more satisfied at work, and at the same time, employee satisfaction has a significant function in improving corporate performance [83], [89]. Our results also indicate that job satisfaction mediates in the relationship between CSR and performance. As a result, companies that invest in CSR practices have employees who are more satisfied and who in turn perform better. These results are consistent with Story and Castanheira [79].

The results for Hypothesis 3 indicate that when only job satisfaction and business performance are considered, the relationship is positive and significant. There is also a significant relationship between job satisfaction and innovation. This was expected because when the employees are satisfied they contribute to the development of innovative process. This finding is consistent with previous research [98], [165] and it confirms the positive and significant relationship between job satisfaction and innovation. Moreover, our results indicate that innovation mediates the relationship between job satisfaction and business performance. To achieve better business performance, managers have to improve innovation process by managing job satisfaction. This result is consistent with Alrubaiee et al. [166]–[168], who found that job satisfaction has an influence on business performance through innovation.

Furthermore, our results also indicate that job satisfaction mediates the relationship between CSR and innovation. This implies that CSR leads to better innovation in Spanish SMEs through job satisfaction. This results are consistent with Santos-Jaén et al. [37].

In addition, it is interesting to highlight the indirect effect of CSR on performance through innovation. Our results are in line with those observed in previous studies, which claim that CSR changes the corporate business model [169] by increasing the innovative capacity of organizations [58]. In this vein, the results of this study underline the findings of much of the previous work in this field, which affirms that the adoption of new technologies is the nexus

between CSR and performance [170]. This is because when an SME implements CSR in its business process, it requires a higher degree of innovation to be able to do so [26]. Innovation will also give the organisation advantages over its competitors, as the new innovative product will have greater differentiation, leading to lower barriers to market entry [65], [66]. Innovation will therefore provide certain competitive advantages that will enhance business performance [59], [61].

Finally, this research builds an in-depth analysis of the influence of CSR on companies' performance by investigating the mediating effects of both job satisfaction and innovation simultaneously and sequentially. The results reveal that both job satisfaction and innovation play important mediating roles in the understanding of the relationship between CSR and companies' performance. In conclusion, the higher the CSR, the greater the performance of companies. But not only due to the effects of CSR on the company, but also because of the increased capacity of the company to carry out innovative activities, which is partly achieved by a better and greater predisposition of its human capital.

With these findings we contribute to filling a gap related to the direct effect of CSR on performance, and the indirect effect through the mediation of job satisfaction and innovation in a specific sector, in this case construction Spanish SMEs. Moreover, our model has demonstrated a predictive power to support the research model proposed [157].

This research makes important contributions to the theory and research on CSR, innovation, human resources management and performance in SMEs by integrating into the literature the roles that job satisfaction and innovation play as enhancers in the relationship between CSR and performance in constructions SMEs. In particular, this study has implications for the ongoing debate regarding the antecedents of performance in an SME setting.

This study highlights several important implications. From a practical point of view, it will help many SME managers to reconsider their thoughts about CSR, from considering it as a cost to considering it as a source of competitive advantage in the medium term [171]. This paradigm shift is an opportunity for SMEs to begin a process of strategic change by orienting their human resources management and innovative activity more and more towards CSR, which will undoubtedly increase their capacity to adapt to the environment they cohabit [172]. This is essential for their survival at a time like the current one, when the pandemic generated by COVID-19 threatens to close down a large number of companies. This new, more responsible, approach will also enable them to increase their performance. Therefore, this study suggests to SME managers that investing part of their resources in CSR is not only beneficial to society but also to the companies themselves.

Furthermore, in line with Fernández-Gámez et al. (2019) the results provide governments with evidence that responsible practices are capable of generating value for firms and ensuring their survival. For this reason, especially SMEs with fewer resources should be able to count on public support to carry out CSR actions [174] in the form of incentives or subsidies to establish CSR projects [175]. This will help the construction sector to be one of the economic engines that will enable a return to economic growth and employment creation.

The present study should be evaluated in the light of its limitations, which could reveal further lines of research. Firstly, the sample only includes construction Spanish SMEs. Hence, the results could not be generalized to other sectors and other regions [176]. It would be attractive to extend the research in other geographical areas or/and sectors, so the results obtained could be compared [27]. Secondly, the study has been carried out applying transversal data. In this sense, a longitudinal study would be interesting in order to analyze the time effects in the proposed model [177]. Thirdly, it could also be interesting to use quantitative data, instead of a unique source, the judgment of SME managers [178].

Despite the above limitations, this research brings new insights into the connection between CSR and performance, accepting that this relationship can be mediated by job satisfaction and innovation.

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