

Article

Exploring Information and Communication Technologies as Driving Forces in Hotel SMEs Performance: Influence of Corporate Social Responsibility

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Abstract: This paper aims to analyze whether Corporate Social Responsibility (CSR) can be considered as a mediator variable on the relationship among Information and Communication Technologies (ICT) adoption and SMEs performance in the hotel industry due to the lack of general consensus on the direction of this relationship. Furthermore, future expectations about the economic cycle might be a determining factor in business decision-making. Therefore, we also analyze whether these expectations influence hotel managers to adopt CSR strategies and, indeed, influences on the hotel's performance. To this end, partial least squares structural equation modeling (PLS-SEM) is applied to a sample of 117 Spanish hotel SMEs. These results have practical implications in considering ICT adoption as a source of competitive advantage that will facilitate the implementation of CSR practices in hotels, thus improving firm performance.

Keywords: corporate social responsibility; future expectations; ICT adoption; hotel performance; partial least square structural equation modelling (PLS-SEM)

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1. Introduction

The hospitality industry remains one of the most dynamic sectors closely linked to the development of new technologies [1,2]. Rapid development of information and communication technology (ICT) has brought about a radical change in the conditions of the hotel market, as it provides these companies with new tools for management and for adding value to their customers' experience [3]. The literature on the influence of ICT on firm performance is extensive and shows a significant positive influence [4–6], especially in SMEs [7,8]. However, in the hotel sector, this relationship is not so evident [9]. Some researchers argue that ICT adoption is a factor of competitive advantage [10], enabling increased hotel performance [11]. On the other hand, other authors consider that ICT adoption is not directly aimed at improving hotel performance, but that these innovative systems are aimed at improving customer service and increasing the number of services offered, which will increase production costs and consequently decrease firm performance [12].

ICT adoption is also seen as an essential tool for the development of socially responsible business practices [13], as it provides new tools that allow organizations to implement socially responsible projects that improve their relationship with the environment

and their stakeholders [14]. Therefore, this type of technology has become very important in the hotel industry, as this industry has been continuously criticized for its lack of environmental consideration in the development of its activities [15].

In this context, several systematic gaps remain in the literature about the relationship between ICT adoption and SMEs performance in the hospitality industry, as the results obtained in past research are controversial and there is no general agreement on the direction of this relationship [9]. Consequently, this paper considers this research gap and analyzes the indirect effect of ICT adoption on hotel SMEs performance through Corporate Social Responsibility (CSR) in order to find out whether CSR can be considered as a transcendental tool that defines the meaning of this relationship.

On the other hand, future expectations about the economic cycle is a determining factor in business decision-making, as it allows managers to predict what the future situation of their organisation will be [16]. Consequently, it is important for companies to incorporate these future projections into their business models [17]. However, despite its importance, the effects of future expectations of the macroeconomic business environment have hardly been studied in the literature, and even less so in the hotel sector. Therefore, the next purpose of this study is to analyze whether or not the consideration of future expectations of the macroeconomic business environment influences hotel managers to adopt CSR strategies.

Therefore, the next research questions are posed: Does ICT adoption influence hotel SMEs performance? Is this relationship mediated by CSR? Do future expectations influence the adoption of CSR-related strategies? Does CSR influence hotel SMEs performance? To address these research questions, under a double confirmatory and predictive perspective, a Partial Least Squares Structural equation modeling (PLS-SEM) was applied to a sample of 117 hotel SME companies in Spain.

The introductory section is followed by Section 2, which theoretically develops the hypotheses. Section 3 presents methodological aspects and Section 4 presents results. Finally, Section 5 discusses these results and presents the main conclusions.

2. Literature Review

In order to survive in the current competitive era of globalization, SMEs have relied on ICT adoption to compete with large companies [18,19]. As the main driver of development and innovation in the modern world, ICTs have emerged as a key factor of development and innovation. The literature on the influence of ICTs on performance is extensive and shows a significant positive influence [4–6], especially in SMEs [7,8]. However, in the hotel sector, this relationship is not so evident. Some researchers argue that ICT adoption is a competitive advantage factor [10], as it enhances the consumer experience [20], which can increase hotel performance [11]. However, other authors do not identify ICT adoption as a critical success factor in achieving exceptional firm performance [21]. This is because they consider that ICT adoption may not increase hotel performance [9,22], as the adoption of ICT is not directly aimed at improving productivity, but these innovative systems are intended to improve customer service and increase the number of services offered [12]. In addition, investments in technologies stimulates the company to improve product quality, which will increase production costs and consequently decrease firm performance [12]. With these considerations, we develop our first research hypothesis as follows:

Hypothesis 1 (H1). *ICT adoption improves SMEs performance in the hospitality industry.*

ICT adoption is also seen as an essential tool for the development of socially responsible practices in business [13], as it provides new tools that enable organisations to implement socially responsible projects that improve their relationship with the environment and their stakeholders [14]. It should be emphasized that the hotel industry is continually criticized for its lack of environmental consideration in the development of its

activities [15]. Thus, the implementation of practices that promote CSR in hotels is a constant concern in the current empirical literature [23]. Thus, hotel establishments as a whole are incorporating environmental and social standards as essential instruments of business strategy [24]. In this context, ICT adoption are of great importance, as they facilitate the implementation of CSR-related strategies and enable these initiatives to be carried out effectively [13,25].

Using ICT, hotel SMEs can access the necessary resources to implement and disseminate their CSR practices. Thus, through the Internet, they will be able to know the demands of their stakeholders much better and communicate to society the CSR actions they carry out, thus improving their reputation. Also, considering that energy consumption generates significant environmental challenges [26], through the use of ICTs, hotel SMEs will be able to calculate their carbon footprint and implement actions to reduce it. Moreover, hotel SMEs can monitor and control energy services such as lighting, heating, ventilation, or air conditioning through Building Management Systems. This technology guarantees their operation at efficiency and savings levels. Therefore, by applying this technology, hotel SMEs can improve their environmental contribution by reducing their impact on the environment.

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

Hypothesis 2 (H2). *ICT adoption has a positive effect on the implementation of CSR practices by SMEs in the hotel industry.*

The environmental problems caused by the hotel sector have led researchers in recent years to show great interest in analysing the influence of CSR on the performance of hotels [27–29]. The implementation of CSR practices has been shown to improve firm performance [30,31] because CSR will promote the good reputation of the company [32], making it more attractive in the labour market, which will attract more investors [33], increase its profitability [34], reduce operating cost [35] and market values [36]. Against this background, one of the most important debates in the hotel industry is the analysis of this relationship [30]. The fundamental question addressed by researchers in this field is whether or not the performance of companies in this sector that are actively engaged in CSR initiatives outperforms other hotel companies that do not show the same degree of implementation [37]. We therefore put forward the following research hypothesis:

Hypothesis 3 (H3). *The implementation of CSR practices has a positive impact on SMEs performance in the hospitality industry.*

More and more companies are incorporating ICT for sustainable development into their business practices [38]. This is because ICT adoption can facilitate the implementation of CSR practices and their dissemination by promoting the three key dimensions of sustainability (people, environment and benefits) in hotel companies [13]. All this, in turn, will generate certain sustainable competitive advantages, which will make it more attractive in the market, because it will promote good reputation [32], and attract more investors [33], which will lead to an increase in yields [34]. Therefore, part of the impact of ICT adoption on firm performance would be transmitted through CSR [29]. However, this mediating effect has not yet been examined in the hotel sector. Consequently, we formulate the following research hypothesis:

Hypothesis 4 (H4). *The implementation of CSR practices mediates on the relationship among ICT adoption and SMEs performance in the hospitality industry.*

Future expectations about the economic cycle might influence the organisational decision-making, as it allows managers to predict what the future situation of their company

will be [16]. It is important for companies to incorporate future projections into their business models [17], as trends in production, consumption, investment, etc. generate uncertainty in their business process [39]. On the other hand, to properly assess the viability of an enterprise, stakeholders require information on every significant aspect of their operations, in addition to data on the company's financial situation, determine if other material aspects of the undertaking's business have been considered, especially with regard to the strategies put in place to deal with the economic, social and environmental dimensions of the business [40]. In this context, future expectations about the sector of activity in which the company operates are considered to be of great relevance [41]. However, despite their importance, the effects of Future expectations about the macroeconomic business environment have barely been studied in the literature, especially in the hotel sector.

Based on previous research, we can relate the expected adjustment in the economy to the performance of hotel SMEs. In periods of economic uncertainty, the tourism sector, including hotel companies, is one of the first to suffer negative consequences. As a result, many customers decide to postpone or cancel their travel plans [42,43]. Thus, the economic crisis that began in 2007 severely impacted international tourism, causing a significant decline in international tourism [42]. In line with this, Song et al. [44] have demonstrated that economic conditions are the most important factor in determining the demand for hotel rooms in Hong Kong. In recent years, Ozdemir et al. [45] have shown how COVID-19 has had a large negative impact on US hotel revenues.

Therefore, it is hypothesized:

Hypothesis 5 (H5). *Future expectations about the macroeconomic business environment influence the implementation of CSR practices by SMEs.*

Figure 1 reflects the research model developed to test our hypotheses. The model aims to determine the mediating effect of the implementation of CSR practices on the influence of ICT adoption on hotel SMEs performance and whether CSR is influenced by future economic expectations.

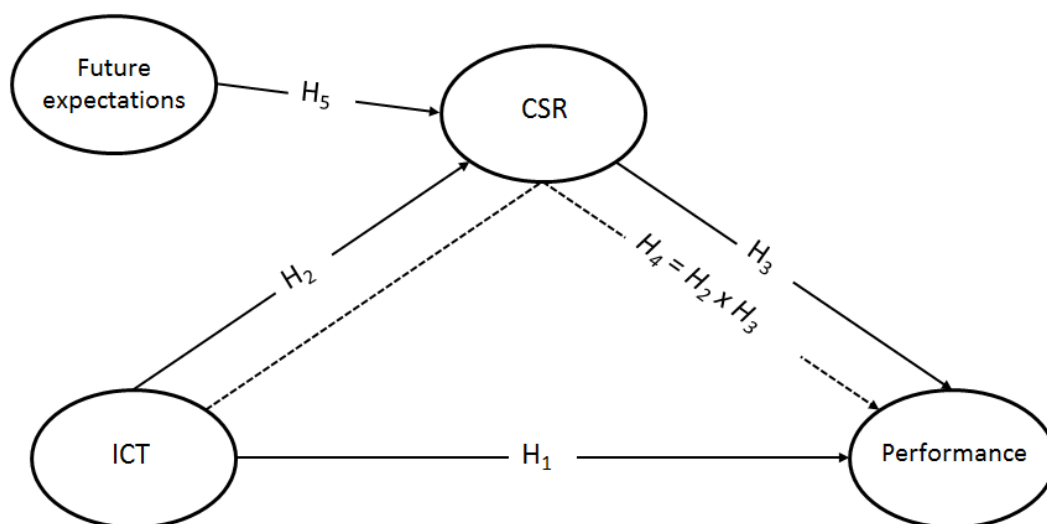


Figure 1. Conceptual model and hypotheses.

3. Methodology

3.1. Sample

This paper focuses on the Spanish hospitality industry. The population of this study is formed by a group of SMEs Spanish Hotel firms from all over Spain selected randomly from the SABI database. The fieldwork was carried out during the first quarter of 2018. A total of 150 companies SMEs were requested to take part in the investigation. The final sample was made up of 117. So, the response rate was 78 per cent. The following strata were established based on the size: micro companies are those with less than ten employees, small companies are between ten and forty-nine employees, and medium-sized companies are those with fifty and two hundred and forty-nine employees. Table 1 shows the composition of the selected companies, and the survey’s technical data are presented in Table 2.

Table 1. Sample distribution.

Total of Companies		Micro Sized Companies		Small Sized Companies		Medium Sized Companies	
Number	Percent of Total	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
117	100.00%	30	25.64%	72	61.4%	15	12.82%

Table 2. Fieldwork technical sheet.

Study Universe	4306 hotel companies in Spain
Geographical area	Spain
Method of collected data	Structured questionnaire by telephone to managers
Sample unit	Managers
Sample	117 companies
Level of participation	78%
Measurement error	9.27
Confidence level	95%, $z = 1.96$; $p = q=0.5$
Sampling procedure	Simple random sampling
Type of population	Finite sample

According to Nitzl et al. [46], using the software G*Power 3.1.9.5 for a model like this, with four constructs and four relationships between them, if the average effect size is assumed to obtain a power of 0.80, an effect size of 0.15 and an alpha level of 0.05, the minimum sample required is 76 cases [47]. Therefore, our sample exceeds the threshold number of observations needed to estimate the proposed model with confidence, and then we can identify significant relationships.

Empirical research was conducted through a questionnaire that was given directly to general managers of the hotels. This research decided to choose general hotel managers for the survey because they are the people who have a global view of how organizations are changing in response to the introduction of ICT and, more importantly, CSR. Normally, they are responsible for hotel strategic development, including business strategy and ICT and CSR alignment [48].

To minimize the social acceptance bias, in conducting the survey, the anonymous nature of the responses has been ensured [49]. Similarly, to exclude the existence of no response bias, the sample was divided into two groups: a first group with 83.2% of the first responses and the remaining responses in the second one. The ANOVA test for all the variables found no significant differences between the two groups. Finally, a pre-test was carried out in 20 hotels in order to ensure that the questionnaire was easily understandable.

As a result of the data having been collected from a single source and that this could be a potential source for common method bias [50,51], the results on variance inflation

factors (VIF), which will be shown later, were analyzed. These results are smaller than 3 (the highest value obtained in this model is 1.04). Based on this result, it can be affirmed that there is no problem arising from the common method bias [52,53].

3.2. Variables

Since none of the defined constructs is directly observable, measurement scales consisting of a number of indicators were developed. Table 3 presents the indicators chosen for each construct.

Table 3. Constructs and dimensions used in the research.

Construct	Indicator	Description
ICT adoption	ICT 1	Own website
	ICT 2	E-commerce platform
	ICT 3	Active presence in social networks
	<i>ICT 4</i>	<i>CRM programs for customer management</i>
	ICT 5	ERP applications for integrated production management
CSR	CSR 1	CSR policy dissemination
	CSR 2	Social and economic aims
	<i>CSR 3</i>	<i>Activities to reduce energy consumption</i>
	CSR 4	Effective recycling measures
	<i>CSR 5</i>	<i>Image and reputation of the company</i>
	CSR 6	Transparency
	CSR 7	Work with local suppliers and raw materials
Future expectations	FUT	Confidence and expectations in the economic environment
Performance	PERF 1	Product quality
	PERF 2	Internal processes
	<i>PERF 1</i>	<i>Customer satisfaction</i>
	PERF 4	Adaptability
	PERF 5	Growth
	PERF 6	Profitability

The indicators in italics were not included in latent variables due to convergent and/or discriminant criteria of PLS path modeling. All the measures were Likert-type scales.

3.2.1. ICT Adoption

In order to measure how ICT are adopted in the hospitality industry, a latent variable with five indicators adapted from previous research was created [54–56]. These indicators were measured on a scale ranging from 1 (minimum importance) to 5 (greatest importance).

3.2.2. CSR

In line with Gallardo-Vázquez et al. [57], CSR was assessed by a latent variable with seven indicators formulated from the most current and important theories relating to CSR's social, economic, and environmental activities [58–60]. The indicators of the CSR dimension were measured on a scale ranging from 1 (absolutely disagree) to 5 (absolutely agree).

3.2.3. Future Expectations

This time, hotel managers were directly asked to rate their confidence and expectations about the immediate future on a scale ranging from 0 (very bad) to 10 (very good).

3.2.4. Performance

Hotels performance was evaluated with a scale created from previous research [61–63]. We have considered the financial dimension (three items) and the non-financial dimension (five items), in which the company’s position with respect to its competitors is contrasted, which allows us to measure business success better than with accounting information [62]. A scale that ranges between 1 (absolutely disagree) and 5 (absolutely agree) was used to measure the items of the two established dimensions.

3.3. Statistical Procedure

This study adopted a confirmatory and explanatory approach [64]. For this purpose, using SmartPLS 3.3.2 software (SmartPLS GmbH, Boenningstedt, Germany) [65], the statistical technique of partial least squares (PLS), a variance-based structural equation modelling (SEM) [66], was used to validate the hypotheses developed in our model.

PLS-SEM was chosen for the following reasons: First, this model contains first-order composite type A, and a definitional relationship between the latent variables and their items is assumed in this model [64]. For this reason, PLS-SEM is considered the most appropriate static method to be applied when the latent variables are composites [67]. Second, this technique is the most appropriate to apply in a theory approach, such as that in the present research. The reason is based on the possibility of estimating multiple relationships between the variables [68], especially if they involve mediation. Moreover, it accounts for measurement errors in the constructs [69]. Third, PLS-SEM is also recommended in situations where a large sample size is not available [70]. As recommended by Henseler et al. [71], a bootstrapping technique with 10,000 subsamples was used to verify the hypotheses.

4. Results

We have assessed our PLS model in three stages: (1) Overall model, (2) measurement model and (3) structural model, in line with [72].

4.1. Overall Model: Test of Goodness-of-Fit (GoF)

Following Henseler et al. [73], since our research has a confirmatory purpose, we began the analysis of the estimated model using PLS-SEM to test various measures of overall goodness of fit (Gof). Table 4 shows the results of these tests.

In the first place, the standardized root mean square residual (SRMR) index shows a value of 0.08, which is at the limit proposed by Hu and Bentler [72,73]. In addition, we performed several model fit tests (SRMR, d_{ULS} , d_G) using bootstrap-based inference statistics. Table 4 shows how under the bootstrap-based 99% (HI99) percentile, the discrepancy between the empirical and the model-implied correlation matrix is not significant [74]. Therefore, in view of the findings, it is possible to state that the model’s general goodness of fit is successful [75].

Table 4. Test of model fit.

	Estimated Model		Saturated Model	
	Value	HI99	Value	HI99
SRMR	0.080	0.108	0.080	0.106
d_{ULS}	1.091	1.593	1.078	1.532
d_G	0.398	0.469	0.397	0.466

Standardized root mean square residual (SRMR). Unweighted least squares discrepancy (d_{ULS}). Geodesic discrepancy (d_G).

4.2. Measurement Model Assessment

In order to assess the measurement model of all reflective first-order constructs, the reliability and convergent validity of the constructs were verified. For this purpose, we estimated the factor loadings, Cronbach’s Alpha, composite reliability, the Dijkstra-Henseler rho ratio, and the average variance extracted (AVE) [68,76,77]. The results are shown in Table 5. For this purpose, we have followed the recommendations established by Valls Martínez et al. [78]. Following the popular rule of thumb [79], the individual reliability of the items was assessed through the standardized factor loadings. All factor loadings except two were found to be above the recommended factor loading of 0.707 [80]. Regarding the two values below the recommended factor, their values are higher than 0.63. Therefore, the reliability of the single items is considered to be adequate [81].

The constructs reliability was evaluated by calculating Cronbach’s alpha coefficients and composite reliability through Dijkstra–Henseler’s and Jöreskog’s indices. As described in Table 5, Cronbach’s alpha and CR values ranged between 0.741 and 0.895. Hence, all the values satisfied the minimum criterion value established on 0.70 [52]. Thus, the scale can be considered reliable. In addition, in order to test the convergent validity of the scales, the average variance extracted (AVE) was examined. The results show that the AVE coefficient for the constructs is greater than 0.5, supporting the convergent validity of the reflective scales [82].

Table 5. Descriptive statistics, reliability and validity of measures.

	Mean	SD	Loading	T ***	Q _B ²	α	ρ _A	ρ _C	AVE
ICT adoption						0.741	0.774	0.830	0.552
ICT 1	4.197	1.397	0.716	4.451					
ICT 2	2.368	2.381	0.679	3.158					
ICT 3	3.376	2.050	0.837	4.916					
ICT 5	2.137	2.418	0.730	3.550					
CSR					0.044	0.807	0.831	0.866	0.567
CSR 1	3.667	0.978	0.773	11.413	0.046				
CSR 2	3.709	0.925	0.736	10.694	0.057				
CSR 4	3.855	0.857	0.637	4.911	0.032				
CSR 6	3.949	0.846	0.871	26.222	0.062				
CSR 7	4.179	0.791	0.727	8.572	0.022				
Future expectations									
FUT 1	6.375	1.582							
Performance					0.137	0.860	0.863	0.895	0.588
P23 1	3.897	0.851	0.800	9.685	0.168				
P23 2	3.744	0.786	0.755	10.586	0.148				
P23 3	4.009	0.734	0.757	9.529	0.132				
P23 4	4.017	0.762	0.782	16.155	0.165				
P23 5	3.906	0.837	0.775	10.257	0.105				
P23 6	3.786	0.875	0.729	9.710	0.106				

Significance and standard deviations (SD) performed by 10,000 repetition Bootstrapping procedure. Q_B²: cross-validated redundancies index performed by a nine-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 the 0.001 level.

Moreover, the predictive relevance of endogenous constructs was evaluated through the Q² statistical test (a cross-validated redundancy index), using the blindfolding technique [83]. Table 5 shows that all values are greater than zero, which confirms the strong explanatory qualities of the model proposed [84].

With the aim of ensuring discriminant validity, according to the Fornell-Larcker criterion [79], the correlations between each pair of constructs were checked to ensure they did not exceed the square root of the AVE of each construct. Similarly, the level of the heterotrait-monotrait (HTMT) between each two constructs was tested. The results in Table 6 show how the values vary between 0.040 and 0.573. Hence, the values do not exceed the maximum allowable value of 0.85 [85]. Therefore, the results offer evidence of discriminant validity.

Table 6. Discriminant validity.

	I	II	III	IV	Sq AVE
I: ICT adoption	1.000	<i>0.256</i>	<i>−0.037</i>	<i>0.196</i>	0.743
II: CSR	0.197	1.000	<i>0.219</i>	<i>0.537</i>	0.753
III: Future expectations	0.040	0.244	1.000	<i>0.179</i>	1.000
IV: Performance	0.122	0.573	0.169	1.000	0.767

Sq AVE: square root of AVE, HTMT ratio over the diagonal (italics) and construct correlations below the diagonal.

Deeming that the measurement of future economic expectations is limited by the heterogeneity and subjectivity of each hotel manager's assessment, this could generate an unobserved heterogeneity problem in our model. To rule out the existence of such a problem, we have run the FIMIX procedure in PLS [86]. For this purpose, 5000 iterations and 10 replicates have been set up. Considering an effect size of 0.15, a statistical power of 80% and the sampling length, three segments have been set up. After running FIMIX-PLS with SmartPLS, the results cannot determine the appropriate number of segments. Based on this, we can conclude the non-existence of an unobserved heterogeneity problem [87].

4.3. Structural Model Assessment

We started the structural model assessment by ensuring that multicollinearity is not an issue in this model. With this aim, the variance inflation factor (VIF) was analyzed. Table 7 shows that VIF ranged from 1.001 to 1.038. These results do not exceed the cutoff established in 3.0 [82]. Consequently, it can be affirmed that multicollinearity is not a problem in this model, and this enables us to proceed further.

To evaluate the structural paths by estimating the significance and the size of path coefficients (β), a bootstrap (10,000 resamples) that produces standard errors and t-statistics to assess the statistical significance of the path coefficients was developed [82].

The results are shown in Table 7 and Figure 2. Our results suggest that the direct impact of ICT adoption on performance is not significant ($\beta = 0.034$). Hence, H_1 is rejected. Additionally, an indirect effect through CSR is found in this relationship ($\beta = 0.097^*$). Next, the variance that accounted for (VAF) [82] was evaluated. VAF determines the size of the indirect effect in relation to the total effect. In this sense, the indirect effect of ICT adoption on performance is about 74%. Therefore, the results suggest that CSR fully mediate this relationship, and H_4 is supported. Furthermore, the impact of ICT adoption on CSR is positive and significant ($\beta = 0.200^*$), verifying H_2 . In relation to the effect of future expectations on CSR, the path value ($\beta = 0.227^{**}$) shows a positive and significant influence. Hence, H_5 is supported. Finally, with regard to the effect of CSR on performance, the results give a positive and significant effect ($\beta = 0.487^{***}$), supporting H_3 .

Regarding the effect of future expectations on performance through CSR, our results show an indirect positive and significant effect ($\beta = 0.110^*$).

Table 7. Structural model assessment.

Structural Paths	Path	t	f ²	95CI	VIF	H	Supported
Direct effects							
ICT adoption → Performance	0.034	0.279	0.001	[−0.183; 0.218]	1.038	H ₁	No
ICT adoption → CSR	0.200	2.266 *	0.044	[0.089; 0.344]	1.001	H ₂	Yes
CSR → Performance	0.487	6.022 ***	0.303	[0.360; 0.626]	1.038	H ₃	Yes
Future expectations → CSR	0.227	2.498 **	0.056	[0.074; 0.374]	1.001	H ₅	Yes
Indirect effects							
ICT adoption → CSR → Performance	0.097	2.057*		[0.040; 0.184]	74.046	H ₄	Yes
Future expect. → CSR → Performance	0.110	2.187*		[0.035; 0.200]			

R² adjusted [99% CI in brackets]: performance: 0.245 [0.160; 0.411]; CSR: 0.088 [0.044; 0.207]. Blind-folding Q² index as shown in Table 5; standardized path values reported; f²: 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, t-Student, and 95% bias-corrected CIs were performed by 10,000 repetition bootstrapping procedure; *: p < 0.05; **: p < 0.01; ***: p < 0.001.

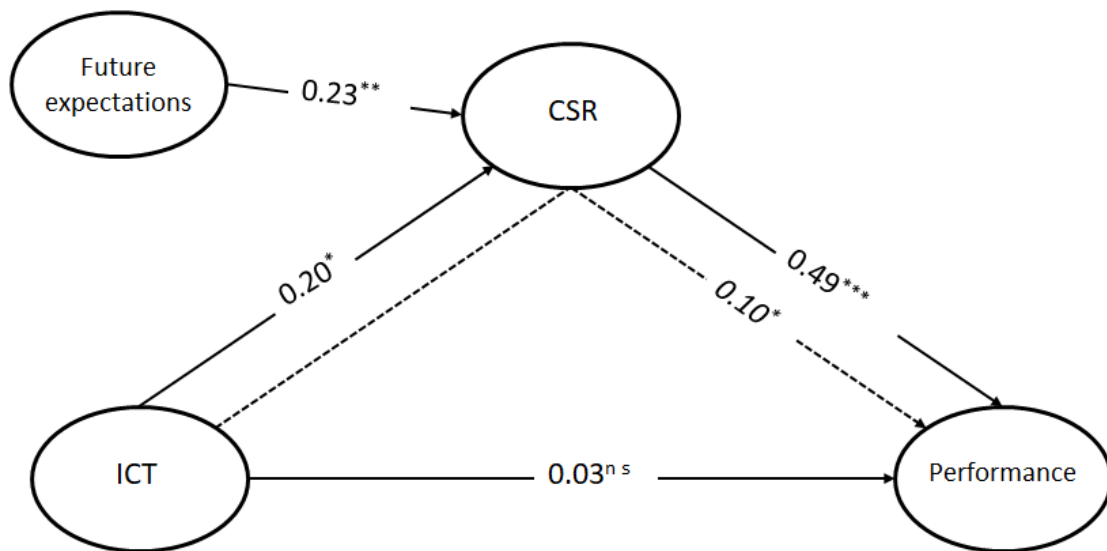


Figure 2. Results. Standardized Paths reported (R²-adjusted in brackets). ***: p < 0.001; **: p < 0.01; *: p < 0.05; ns: Not significant. Source: authors.

The hypotheses testing continues with the analysis of two metrics: the coefficient of determination (R²) and the effect size (f²). The R² indicates how much variance in the dependent variables is explained by the independent variables [88]. The results by R² of the endogenous variables indicate that the model has an explanatory power, especially in the case of performance [89]. For its part, the f² shows the capacity of exogenous variables in predicting R² in endogenous variables. Following Cohen [47], we have the effect sizes (f²) to evaluate the contribution of each exogenous construct to the R² values of an endogenous latent variable. The findings showed that CSR causes a significant impact on performance. Taken as a whole, the findings demonstrate that the model established in this research has the appropriate structural properties and adequate explanatory power.

5. Discussion and Conclusions

Over the last few years there has been a strong interest in performance analysis in hotels. Numerous studies have attempted to analyze the impact of ICT adoption and CSR on these hotel companies. However, the mediating role of CSR in the relationship between

ICT adoption and performance has been insufficiently examined in the hotel sector so far. Moreover, the recent economic recession caused by COVID-19 has highlighted the importance of considering future expectations in business development. Therefore, this study adds further evidence to these studies, highlighting the importance of CSR practices in hotels, as their effect on ICT adoption will affect SMEs performance. Similarly, this study represents a relevant contribution to the previous studies of [16,17] by incorporating future expectations about the business cycle into the environmental decision-making of hotels.

First, in line with some of the literature [9,22], our results show that there is no significant influence of ICT adoption on SMEs performance because the installation of ICT is not directly aimed at improving productivity, since these innovative systems are intended to improve customer service and increase the number of services offered [12]. In addition, investments in technologies stimulate the company to improve product quality, which will increase production costs and consequently decrease SMEs performance [12]. However, a positive and significant influence on CSR has been found. This finding was certainly expected based on previous research [90,91]. ICT adoption facilitates the implementation of CSR practices and their diffusion more effectively. Hence, this increases the CSR practices of hotel SMEs. Then, through ICT adoption, this will enable hotel SMEs to meet the needs of their stakeholders and improve their brand image through their strategies for protecting and improving the environment. This will be possible using the best available practices and technological innovation to minimize the negative effects of their activities on the environment.

An additional significant attribute of the relationship assembled in this model is that CSR produces a deep impact on hospitality SMEs' performance. The findings are in line with those of previous research that argue that CSR increases the performance of hotel companies [92,93]. Furthermore, resource-based theory suggests the implementation of CSR practices will give them competitive advantages, which will improve their performance [61,94]. However, at present, the mediating effect of CSR on the relationship between ICT adoption and hotel performance has not been analyzed in sufficient details. Therefore, our empirical results provide new evidence in the hotel sector that although ICT adoption does not have a direct effect on SMEs performance, CSR acts as a full mediator in this relationship.

Finally, a noteworthy result concerns the effect of connecting future expectations and CSR. However, despite its importance, the effects of Future Expectations on the macroeconomic business environment have hardly been studied in the literature, and even less so in the hotel sector. Therefore, our results contribute to the literature by showing that poor future expectations lead to a strong contraction of CSR investments.

This research offers different theoretical contributions as well as some implications. From a theoretic perspective, this study has contributed to shed light on the lack of evidence for the effects of ICT adoption and CSR practices on the performance of hotel SMEs hotel companies. Furthermore, this research establishes, for SMEs in the hospitality industry, the indirect effect of ICT adoption on performance through the mediating relationship of CSR. Moreover, our findings provide some insights into how future expectations influence CSR.

This research has relevant implications for managers and policymakers who encourage hospitality companies not to reduce or even increase CSR practices, despite the present difficulties that the sector is facing due to the effects of COVID-19 in recent years, and more currently to other aspects that are damaging the economy of European countries such as the Russia-Ukraine conflict and the economic-financial crisis.

These results have practical implications for managers and owners of hotel SMEs by considering ICT adoption as a source of competitive advantage that will facilitate the implementation of CSR practices in hotels, which will improve SMEs performance. Furthermore, our results show that for CSR implementation in hotels to be efficient, it must be done considering the expectations of the macroeconomic environment. Consequently, this

research suggests to hotel managers the possibility of allocating part of their available resources to invest in ICT. This will benefit both their company and society. This paradigm shift should serve to encourage hotel managers to develop strategies related to ICT adoption that enable them to incorporate environmental and social standards as essential instruments of their business strategy. Thus, our results offer a new vision that can be seen as an opportunity for hotels to initiate a process of strategic change by considering future expectations and orienting their technological activities to increase its CSR activities. This strategic reorientation will undoubtedly enable hotel SMEs to improve their ability to adapt to the rapidly changing environment in which they operate. Furthermore, this new approach will allow hotel SMEs to increase their firm's performance.

Furthermore, the findings provide policymakers with evidence that CSR practices not only contribute to the improvement of society through sustainable development, but also that they are capable of generating value for the hospitality industry. Therefore, it is crucial that governments develop policies aimed at encouraging sustainable management by companies through the implementation of CSR practices, which in turn will contribute to increasing the performance of these companies and hence to the generation of employment and wealth for society. Thus, governments should offer incentives or subsidies and encourage an increase in the social commitment of companies in the sector through a series of legislative changes that encourage CSR practices [95]. This would provide a reduction in two of the major barriers to CSR: the lack of resources and public support [96], as well as alleviating the negative effects of the poor economic outlook. This research has a number of limitations which could reveal new lines of research. Firstly, the generalizability of these results includes a focus on a country, a company size (SMEs) and an industry (hospitality). Consequently, these results cannot be applied to other regions and sectors [97]. It would be of interest for future studies to address these questions in other geographical areas and in other sectors so that it would be possible to compare them with the results obtained [61]. Furthermore, this study is limited by the application of cross-sectional data. Therefore, it would be advisable to carry out a longitudinal study to analyze the effects of time on the developed model [98]. Concerning time, since the data were collected in 2018, this poses a limitation in our research. It could be very useful to repeat the research with post-pandemic data. In this way, it would be possible to check how the situation has changed as a consequence not only of the effects of the pandemic of COVID-19 but also of the effects of the Russia-Ukraine conflict and the economic-financial crisis [99]. Finally, it would also be worthwhile to use data from quantitative sources rather than a single source to assess the opinions of SME hotel managers [100,101].

In general, this study found that negative future expectations will lead to a strong contraction of CSR investment. The adoption of ICT has no direct impact on corporate performance in SMEs, but CSR plays a full intermediary role in this relationship. That is, CSR improves the performance of the hotel SMEs business, which not only supports the assumptions of previous studies but also points out a new direction for the next development of the hotel industry. This paper promotes the implementation and more effective dissemination of corporate social responsibility practices, encourages enterprises to attach importance to social responsibility, and thus increases social welfare.

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