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The Impact of Customer Relationship Management Systems on Business Performance of Portuguese SMEs

Domingos Martinho [1,2,*], João Farinha [1,2] and Vasco Ribeiro [1,2]

[1] ISLA Santarém—Instituto Politécnico, Rua Dr. Teixeira Guedes, 31, 2000-029 Santarém, Portugal; joao.farinha@islasantarem.pt (J.F.); vasco.ribeiro@islasantarem.pt (V.R.)
[2] NECE-UBI, Estr. do Sineiro 56, 6200-209 Covilhã, Portugal
* Correspondence: domingos.martinho@islasantarem.pt

Abstract: A company's competitive advantage largely depends on the longevity and quality of its customer relationships, making it essential to understand which tools best support these interactions. In particular, identifying the factors that shape the impact of Customer Relationship Management (CRM) systems on business performance is crucial. This study examines the influence of CRM on the business performance of Portuguese companies by employing a conceptual model structured around five dimensions: customer-centric management (CCM), CRM organization (CRMO), operational CRM (OCRM), customer service quality (CSQ), and technological turbulence (TT). Data were gathered via a questionnaire completed by employees of Portuguese firms using CRM systems, yielding a total of 228 valid responses. Of the nine hypotheses tested, eight were confirmed. The results indicate that CRM organization (CRMO) exerts the strongest positive influence on business performance (0.457), followed by customer service quality (CSQ), operational CRM (OCRM), and customer-centric management (CCM). The study also confirms that technological turbulence (TT) moderates the relationship between the CRM dimensions and business performance. These findings suggest that the proposed model is well-suited to the context of Portuguese SMEs and provide valuable insights for managers aiming to enhance competitiveness through the strategic use of CRM systems. Additionally, the results offer a relevant contribution to the academic literature on CRM and business performance.

Keywords: customer relationship management; CRM performance; small and medium enterprises; digital transformation; technological turbulence; PLS-SEM

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1. Introduction

Customer Relationship Management (CRM) is a strategic approach that integrates technologies, processes, and people to manage and optimize interactions with current and potential customers [1]. The main goal is to enhance customer satisfaction, loyalty, and lifetime value by delivering personalized and consistent experiences across all touchpoints [2]. Effective implementation of CRM systems enables small- and medium-sized enterprises (SMEs) to derive meaningful insights into customer behavior and preferences. This data-driven approach enhances organizational responsiveness and strengthens competitiveness in rapidly changing market environments [3].

The drastic changes in the competitive world in which companies operate have led to significant investments in CRM as one of the most successful strategies to improve organizational performance [4,5]. Organizations can benefit from digital technology to boost customer relationship performance because customer relationship performance is affected by the associated personalization [6].

Companies have been investing in value creation strategies that focus on managing the relationship with their customers and integrating business networks and organizational processes [7,8] implementing CRM systems in order to properly manage the relationship with customers, integrating it into the company's functions [9–11].

CRM technologies have increasingly been recognized as a strategic priority for organizations aiming to enhance competitiveness [2], constituting a fundamental element for the quality of customer service that constitutes one of the key points for many companies aiming to improve the experience offered to their customers [12–14]. The aim is to improve customer satisfaction, loyalty and profitability [15,16] and, consequently, performance, innovation capacity and business success in a changing world, in the face of emerging challenges posed by growing digital complexity [17].

The current approach to CRM systems as a business management tool seeks to establish channels and methods to manage customer-centric information [18] to improve organizational performance [19], discussing the presence of several moderators as conditioning factors for the greater or lesser impact of these systems on business performance [12,14,20–25].

In Portugal, where micro, small and medium enterprises (SME) [26] represent about 99.9% of the total companies [27], studies on CRM adoption and its effects on business performance in Portuguese SMEs remain limited [23], particularly when addressing dynamic external moderators such as technological turbulence. The aim of this study is to identify and test the factors that influence the impact of CRM technology on the business performance of Portuguese SMEs. This research adds to existing knowledge by proposing a model in which TT does not directly influence business performance, instead acting as a moderating factor, contradicting earlier suppositions [24].

The article is structured as follows: first, we review previous works on the use of CRM technologies and their impact on business performance and present the conceptual framework and hypotheses. Next, in the research methodology, we describe the sample that served as the basis for the study, and how the data were collected and analyzed (including the validation of the questionnaire) and the SPSS v.30. and SmartPLS 4.0 software were used for the analysis. In the next, we present the data analyses and results of the study and discuss them considering previous academic research. Finally, we conclude the article by presenting the managerial, theoretical and practical implications, limitations, and future research directions.

2. Literature Review, Conceptual Model, and Hypothesis

2.1. Business Performance

Traditionally, business performance has been predominantly assessed through financial metrics, with profit maximization as the primary objective [28], key indicators such as revenue, net income, and return on investment are commonly used to evaluate financial outcomes. However, this financial-centric approach presents significant limitations, as it focuses mainly on short-term results and overlooks critical non-financial factors, including flexibility, competitiveness, and operational efficiency [20,29]. Performance measurement is a way to determine the ability to compete and the evolution of improvement, so a narrow perspective can lead to an incomplete assessment of a company's growth potential [29].

Furthermore, customer satisfaction holds significant importance, as contented customers are more inclined to come back and act as brand ambassadors through favorable recommendations [30]. Research findings suggest that digital transformation, innovation capabilities, and technological advancements can boost customer satisfaction and have a substantial positive impact on business performance [25,31]. This is made possible by CRM systems that facilitate real-time personalization and proactive service, ultimately resulting in stronger connections with customers and a lower rate of customer loss [2].

Organizations that invest in digital transformation and utilize CRM systems generally experience increased innovation across their products, processes, marketing strategies, and services offerings [3].

2.2. Impact of CRM on Business Performance

Several authors have focused their research on the impact of CRM on business performance, seeking to identify the factors that most contribute to this impact [12–14,20,23–25,32–37].

AlQershi et al. [32] and Elshaer et al. [12] highlighted that innovative CRM strategies allow for greater strategic exchange of information and generate a positive impact on the quality of relationships. Wang [25] connected innovation in the use of technologies, such as Artificial Intelligence (AI), with continuous improvement in interaction and improvement in the quality of customer service, an aspect corroborated by Sharif and Sidi Lemine [13], who highlighted the impact of service quality on the emotional connection with the brand and on the proactive behavior of customers.

Elshaer et al. [12] and Sharif and Sidi Lemine [13] pointed out that CRM strategies and quality in customer service strengthen relationships and loyalty, promoting longer-lasting bonds.

Aligning technology, business, and human resources in CRM strengthens the ability to create lasting relationships with customers [33]. Soltani et al. [37] showed that the implementation of CRM technology (databases, analytics, software) and organizational alignment (structures, people, and processes) are essential factors in CRM complexity.

The impact on business performance is evidenced by Guerola-Navarro et al. [20] and Ullah et al. [24], who showed that customer-centric management, CRM culture, and the use of technologies are essential to improve business performance by increasing customer satisfaction, but that technological turbulence can weaken this relationship [24].

Chatterjee et al. [33] and Ullah et al. [24] identified that using CRM in a turbulent environment reinforces the companies' operational sustainability. These authors also found that technological turbulence significantly moderates the relationship between operational sustainability and company performance.

Wang [25] and AlQershi et al. [32] highlighted that CRM directly contributes to business performance by improving organizational capabilities, such as customer service and strategic information management.

Soltani et al. [37] indicated that the use of information technology, customer orientation, organizational capacity, and customer knowledge management are positively related to CRM success. Ultimately, the success of CRM contributes to the improvement of the organization's performance.

Silva [23] found a positive relationship between CRM adoption and organizational performance, especially across the organizational dimensions of CRM and operational CRM, both of which have robust effects. In addition, the moderating role of technological turbulence in the link between CRM adoption and organizational performance was confirmed.

Despite the various approaches, the different studies have dimensions of the CRM systems in common: relationship marketing (or customer-centric management), technology (or operational management), and analytics (also organizational or strategic management), which they integrate as part of the process needed to improve the business performance, with the aim of improving the customer service quality (satisfying the customer), increasing revenue, and reducing costs.

2.3. Conceptual Model and Hypotheses

To carry out the study, was designed a conceptual model based on Zeynep and Toker [38], Ullah et al. [24] and Silva [23], with influences from other studies [12,14,20,25,39]. The model included the dimensions of business performance, technological turbulence, and the key elements identified for effective CRM adoption: customer-centric management, the organizational and operationalization of the system, and customer service quality. The research tests/evaluate the following hypotheses.

Previous research, including Chatterjee et al. [33], indicated a direct effect of TT, whereas other studies, as cited in Wang [25], underscored its indirect impact. Our model is consistent with the latter viewpoint, seeing TT as a contextual facilitator that enhances CRM aspects, rather than a direct performance driver (Figure 1).

H1. *Customer-centric management has a positive effect on business performance.*

CRM is a customer-centric approach that aligns organizational strategies with customer needs and expectations. This strengthens long-term relationships [1], ensures that organizational decisions and actions prioritize customer satisfaction, making it a key aspect of CRM adoption models [25,40,41]. Strategies such as segmentation, personalization, and differentiation reinforce this approach [24,25].

H2. *CRM organization positively affects business performance.*

Effective CRM implementation requires organizational alignment and system integration. Businesses must embed CRM in existing frameworks to ensure coordination across marketing, sales, and customer support is essential for integrated customer experiences [42] highlighted that CRM operationalization involves structuring workflows, training employees, and using data analytics to enhance customer interactions and drive growth [22,40,41]. Success relies on commitment and culture, which strengthen the link between change management and customer management [24,25,38].

H3. *Operational CRM positively affects business performance.*

Operational CRM focuses on IT-driven processes that impact day-to-day operations and is considered a key enabler of CRM practices [34]. These processes include customer order handling, pre- and post-sale support, claims management, and marketing campaigns, all powered by CRM technology. By automating and optimizing these functions, operational CRM helps businesses deliver more efficient and personalized services to customers [24,38,39]. Additionally, it supports better resource allocation, improves response times, and enhances overall customer experience, enabling companies to build stronger relationships and increase customer satisfaction. The integration of such technologies also plays a crucial role in aligning different departments to work toward common customer-focused goals [34,39].

H4. *Customer service quality positively affects business performance.*

Customer service quality can be measured on the basis of several dimensions, such as responsiveness, assurance, empathy, and reliability. All these dimensions are interconnected and influence each other in determining the overall quality of service [12–14]. Furthermore, service quality is often assessed through customer perceptions and expectations because these play a significant role in shaping satisfaction and loyalty [43,44]. Research has re-

vealed that effective communication, timely problem resolution, and personalized attention are crucial to enhancing customer service quality [44,45].

H5. *Technological turbulence positively affects business performance.*

Technological turbulence discusses the consequences of the rapid pace of technological change on the market in which companies operate [46], the uncontrollable force on organizations, and the impact on their performance [47,48]. This turmoil exists with all its practical implications in today's competitive environments, where new services and products are being developed and many technological advancements are involved [33].

H5a. *Technological turbulence mediates the relationship between customer-centric management and business performance.*

H5b. *Technological turbulence mediates the relationship between CRM organization and business performance.*

H5c. *Technological turbulence mediates the relationship between operational CRM and business performance.*

H5d. *Technological turbulence mediates the relationship between customer service quality and business performance.*

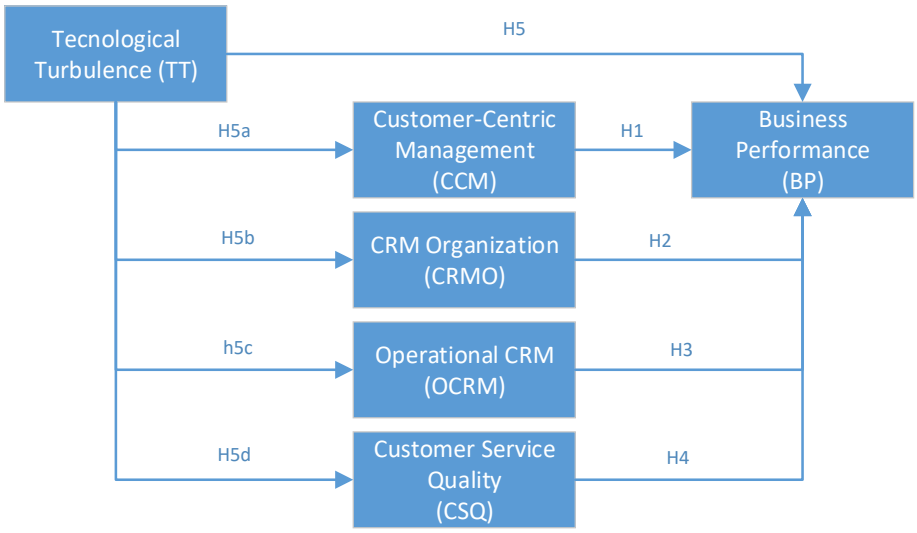

Figure 1. Research conceptual model.

3. Research Methodology

Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed due to its suitability for predictive models and for studies with small to medium sample sizes, and its capacity to handle complex models with both mediating and moderating relationships [5,7].

Data analysis was conducted using SmartPLS 4.0. A bootstrapping procedure with 5000 resamples was applied to assess the significance of path coefficients. To evaluate the measurement model, standard criteria were applied: indicator reliability (loadings > 0.7), composite reliability (>0.7), and convergent validity via Average Variance Extracted (AVE > 0.5) [6].

The Heterotrait–Monotrait (HTMT) ratio was employed to evaluate discriminant validity [49]. Values for all HTMT tests remained below 0.85, a conservative threshold,

thereby guaranteeing construct distinctiveness. The discriminant validity of the model was also assessed using the Fornell–Larcker criterion, which necessitates that the square root of the Average Variance Extracted (AVE) for each construct surpasses the correlations with every other construct in the model. The findings demonstrated that each construct correlated more strongly with its own measures than with those of the other constructs, thereby validating discriminant validity.

3.1. Data Collection

The participants (n = 228) were Portuguese SME [26] employees who operate CRM systems, and the data were collected from December 2024 to March 2025.

A list of 2800 SMEs in Portugal's central region was compiled by using publicly accessible databases from regional business organizations and the national SME database. Voluntary participation was minimized by potential self-selection bias through follow-up reminders and maintaining anonymity.

The survey in Appendix A was developed using TypeForm, and the link to it was shared via email. We asked that only company members who utilize the CRM system be allowed to participate in the questionnaire after sending out the link.

The demographic statistics, which were evaluated using IBM SPSS Statistics v30, are provided in Table 1.

Table 1. Demographic data (n = 228).

Variable	Sub Variable	Frequency	Percentage (%)
Gender	Men	108	47.4
	Women	120	52.6
Employees age	up to 29	31	13.6
	30 to 39	63	27.6
	40 to 49	77	33.8
	50 to 59	44	19.3
	60 or over	13	5.7
Academic qualifications	higher education	181	79.4
	secondary education	47	20.6
Position	top management	66	28.9
	middle management	117	51.3
	operational	45	19.7
Number of employees	over 250	44	19.3
	50 to 249	88	38.6
	10 to 49	81	35.5
	up to nine	15	6.6

Source: own calculations in SPSS.

3.2. Research Instrument

Based on previous studies measuring the impact of CRM technology solutions on business performance [12,20,23,24,38,39], a questionnaire was developed using a five-point Likert scale and the internal consistency of the instrument was evaluated by calculating Cronbach's alpha coefficient, which has the following indication: <0.5 "Unacceptable"; 0.5–0.6 "Weak"; 0.6–0.7 "Questionable"; 0.7–0.8 "Acceptable"; 0.8–0.9 "Good" and >0.9 "Excellent" [50,51]. The value obtained (0.942) indicates the excellent internal consistency of the instrument.

Common method bias was tested using Harman's single-factor test, and results showed that no single factor accounted for the majority of the variance, suggesting limited bias [52].

4. Data Analysis and Results

4.1. Assessment of the Measurement Model

To estimate the measurement model, the partial least squares (PLS) modeling technique was used. Analyzing the loadings for each of the factors (constructs) shows that all the variable weights are greater than 0.7, which ensures the reliability and validity of the constructs [53–55].

The goodness-of-fit (GoF) test through the nonparametric bootstrapping procedure (with 5000 subsamples) [56,57] was used as a general measure to assess the model's goodness-of-fit for PLS-SEM [58,59]. The reference parameters for each of the path coefficients were as follows:

- Collinearity (Variance inflation factor- VIF). In a well-fitting model, VIF $\leq$ 5 [57,59].
- Internal consistency (CA). If the Cronbach's alpha is greater than 0.8, the construct demonstrates an adequate level of reliability [60,61].
- Composite reliability (rho_a, and rho_c). Values between 0.70 and 0.90 are considered satisfactory. Values greater than 0.95 are problematic [53,55].
- Average variance extracted (AVE). An AVE > 0.50 indicates that the model converges with a satisfactory result [54,62–65].
- Explanatory power. (Pearson' coefficient: R-square). Values of 0.67, 0.33, and 0.19 in the PLS trajectory models are considered substantial, moderate, and weak, respectively [54,62].
- Predictive validity ($Q^2_{predict}$). If $Q^2 > 0$, the model offers good predictive performance) [57].
- Predictive validity (RMSE-LM). The RMSE must have a prediction error that is less than LM (RMSE-LM < 0) [66].

The values obtained in the GoF tests (Table 2) show that the model exhibits good general adjustment conditions (loadings > 0.7; VFI < 5.0; CA > 0.8; rh_c > 0.8 and <0.923; AVE > 0.5; R-square between 0.126 and 0. 556; $Q^2_{predict}$ > 0.00; RMSE-LM < 0.0).

Table 2. Adjustment quality of the SEM model.

Constructs	Items	Loadings	VIF	CA	rho_a	rho_c	AVE	R-Square	Q^2_{predic}	RMSE-LM
TT	TT1	0.839	1.900	0.893	0.896	0.906	0.760			
	TT2	0.929	3.187							
	TT3	0.786	1.661							
	TT4	0.923	2.368							
CCM	CCM1	0.747	1.687	0.803	0.806	0.864	0.559	0.126	0.040	−0.011
	CCM2	0.733	1.733						0.101	−0.013
	CCM3	0.798	1.828						0.064	−0.001
	CCM4	0.713	1.988						0.029	−0.013
	CCM5	0.744	2.002						0.059	−0.001
CRMO	CRMO1	0.811	2.337	0.885	0.891	0.907	0.688	0.115	0.102	−0.016
	CRMO2	0.813	2.631						0.066	−0.002
	CRMO3	0.912	3.246						0.084	−0.014
	CRMO4	0.873	3.285						0.076	−0.006
	CRMO5	0.727	1.623						0.039	−0.015
OCRM	OCRM1	0.770	1.911	0.913	0.908	0.916	0.746	0.235	0.116	−0.019
	OCRM2	0.798	2.091						0.211	−0.008
	OCRM3	0.862	2.630						0.113	−0.008
	OCRM4	0.938	3.657						0.201	−0.004
	OCRM5	0.936	3.913						0.192	−0.001

Table 2. *Cont.*

Constructs	Items	Loadings	VIF	CA	rho_a	rho_c	AVE	R-Square	Q^2_{predic}	RMSE-LM
CSQ	CSQ1	0.784	1.956	0.912	0.894	0.895	0.742	0.247	0.129	−0.010
	CSQ2	0.788	2.001						0.229	−0.005
	CSQ3	0.857	2.627						0.119	−0.001
	CSQ4	0.933	1.029						0.200	−0.006
	CSQ5	0.933	1.423						0.194	0.000
BP	BP1	0.814	1.498	0.825	0.826	0.896	0.742	0.565	0.038	−0.002
	BP2	0.908	2.756						0.131	−0.004
	BP3	0.862	2.476						0.087	−0.004

Source: own calculations in SmartPLS 4.0.

The values obtained for the HTMT ratio (<0.85) show that there is discriminant validity between the constructs (Table 3).

Table 3. HTMT ratio.

Casual Relations	HTMT
Customer-centric management (CCM) -> Business performance (BP)	0.611
CRM organization (CRMO) -> Business performance (BP)	0.783
CRM organization (CRMO) -> Customer-centric management (CCM)	0.640
Customer service quality (CSQ) -> Business performance (BP)	0.738
Customer service quality (CSQ) -> Customer-centric management (CCM)	0.705
Customer service quality (CSQ) -> CRM organization (CRMO)	0.613
Operational CRM (OCRM) -> Business performance (BP)	0.733
Operational CRM (OCRM) -> Customer-centric management (CCM)	0.686
Operational CRM (OCRM) -> CRM organization (CRMO)	0.610
Operational CRM (OCRM) -> Customer service quality (CSQ)	0.710
Technological turbulence (TT) -> Business performance (BP)	0.404
Technological turbulence (TT) -> Customer-centric management (CCM)	0.412
Technological turbulence (TT) -> CRM organization (CRMO)	0.375
Technological turbulence (TT) -> Customer service quality (CSQ)	0.545
Technological turbulence (TT) -> Operational CRM (OCRM)	0.530

Source: own calculations in SmartPLS 4.0.

According to the Fornell–Larcker criteria, the discriminating validity (DV) had the highest value on the main diagonal, indicating that the square roots of the AVEs were greater than the correlations of the constructs [53,63,65] (Table 4).

Table 4. Discriminating validity (Fornell–Larcker criteria).

Constructs	CCM	CRMO	CSQ	OCRM	OP	TT
CCM						
CRMO	0.840					
CSQ	0.705	0.713				
OCRM	0.686	0.610	0.986			
OP	0.611	0.683	0.738	0.733		
TT	0.412	0.375	0.545	0.530	0.404	

Source: own calculations in SmartPLS 4.0.

The effect size or Cohen Indicator (f-square) values of 0.02, 0.15, and 0.35, respectively, represent weak, moderate, and strong effects. A magnitude of 0.02 indicates no measurable effect [63,67].

The effect of customer-centric management (CCM) on business performance (BP) is considered negligible (0.01). The registered values indicate that the effect of CRM organization (CRMO) on business performance (BP) is moderate > 0.15. The effect of technological turbulence (TT) on customer-centric management (CCM), CRM organization

(CRMO), customer service quality (CSQ), and operational CRM (OCRM) is moderate > 0.15. All remaining effects were low (between 0.02 and 0.15) or inexistent (Table 5).

Table 5. F-square (Choen indicator).

Causal Relations	f-Square
Customer-centric management (CCM) -> Business performance (BP)	0.001
CRM organization (CRMO) -> Business performance (BP)	0.302
Customer service quality (CSQ) -> Business performance (BP)	0.002
Operational CRM (OCRM) -> Business performance (BP)	0.001
Technological turbulence (TT) -> Business performance (BP)	0.000
Technological turbulence (TT) -> Customer-centric management (CCM)	0.144
Technological turbulence (TT) -> CRM organization (CRMO)	0.130
Technological turbulence (TT) -> Customer service quality (CSQ)	0.329
Technological turbulence (TT) -> Operational CRM (OCRM)	0.308

Source: own calculations in SmartPLS 4.0.

4.2. Results of Structural Model

The partial least squares structural equation modeling (PLS-SEM) algorithm was applied with SmartPLS 4 software [68] to test the hypotheses. Fit indices SMSR = 0.087 (<0.10) indicate that the model has a good fit [69]. The results of the model test are as follows (Figure 2):

- Technological turbulence (TT) has no measurable effect on business performance (BP) (−0.006) and a strong effect on customer-centric management (CCM) (0.355), customer service quality (CSQ) (0.497), and operational CRM (OCRM) (0.485) and a moderate effect on CRM organization (CRMO) (0.339).
- CRM organization (CRMO) has a strong effect on business performance (BP) (0.429).
- Customer service quality (CSQ) has a moderate effect on business performance (BP) (0.243).
- Operational CRM (OCRM) has a moderate effect on business performance (BP) (0.143).
- Customer-centric management (CCM) has a weak effect on business performance (BP) (0.021).

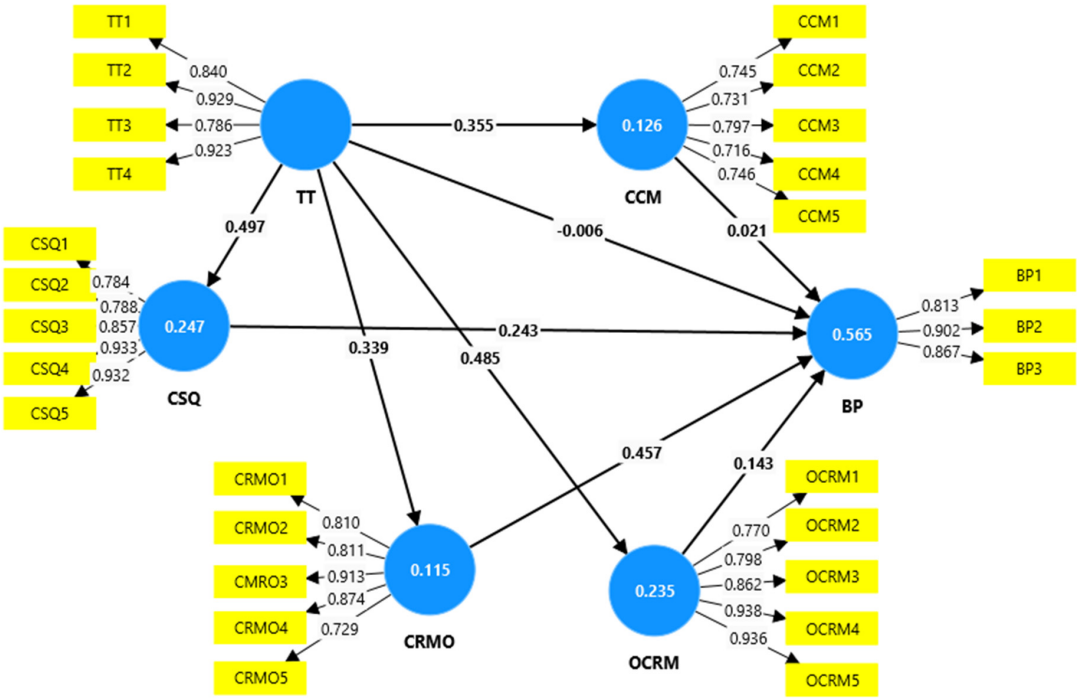

Figure 2. Partial least squares structural model (inner path coefficients and outer weights).

4.3. The Indirect Effects

Technological turbulence (TT) has a significant indirect effect on customer service quality (CSQ) and CRM organization (CRMO), which in turn influences business performance (BP) (0.121 and 0.155, respectively) (Table 6).

Table 6. Specific indirect effects.

Causal Relations	Specific Indirect Effects
Technological turbulence (TT) -> Operational CRM (OCRM) -> Business performance (BP)	0.069
Technological turbulence (TT) -> Customer service quality (CSQ) -> Business performance (BP)	0.121
Technological turbulence (TT) -> CRM organization (CRMO) -> Business performance (BP)	0.155
Technological turbulence (TT) -> Customer-centric management (CCM) -> Business performance (BP)	0.007

Source: own calculations in SmartPLS 4.0.

4.4. Results of the Hypotheses

The results show that only one of the correlations initially predicted turned out to be non-existent (H5): technological turbulence (TT) has no effect on business performance (BP). All the other hypotheses were confirmed.

CRM organization (CRMO) has a strong influence on business performance (BP) (0.457). Customer-centric management (CCM), operational CRM (OCRM), and customer service quality (CSQ) have a moderate influence on business performance (BP). Technological turbulence (TT) moderately influences the factors of customer-centric management (CCM) and CRM organization (CRMO) and strongly influences operational CRM (OCRM) and customer service quality (CSQ). The factor that influences the business performance (BP) dimension most is CRM organization (CRMO) (Table 7).

Table 7. Results of the hypotheses.

Hypothesis	Path Coefficients	Results	Effect
H1. Customer-centric management (CCM) positively affects business performance (BP)	0.021	Confirmed	moderate
H2: CRM organization (CRMO) positively affects business performance (BP)	0.457	Confirmed	strong
H3: Operational CRM (OCRM) positively affects business performance (BP)	0.143	Confirmed	moderate
H4: Customer service quality (CSQ) positively affects customer-centric management (CCM)	0.243	Confirmed	moderate
H5: Technological turbulence (TT) positively affects business performance (BP)	−0.006	Not confirmed	non-existent
H5a: Technological turbulence (TT) mediate relationship customer-centric management (CCM) and business performance (BP)	0.355	Confirmed	moderate
H5b: Technological turbulence (TT) mediate relationship CRM organization (CRMO) and BP	0.339	Confirmed	moderate
H5c: Technological turbulence (TT) mediate relationship operational CRM (OCRM) and business performance (BP)	0.485	Confirmed	strong
H5d: Technological turbulence (TT) mediate relationship customer-centric management (CSQ) and business performance (BP)	0.497	Confirmed	Strong

Source: own calculations in SmartPLS 4.0.

5. Discussion

The results confirm that adoption of CRM systems has a positive impact on business performance. Among the hypotheses tested, technological turbulence (TT) showed no significant effect on business performance (BP), as indicated by the negative structural coefficient (−0.006).

CRM organization (CRMO) demonstrated a strong and significant influence on business performance (0.457), reinforcing the importance of internal alignment and structural support. This finding aligns with previous studies by Guerola-Navarro et al. [20], Khlif [34], Pozza et al. [35], Silva [23], Ullah et al. [24], and Wang [25], all of whom emphasized the role of CRM organizational structure. In contrast, this approach differs from Ullah et al. [21], who posited that TT serves as a moderating factor. Research suggests that the significant impact of CRMO is associated with companies prioritizing leadership involvement, organizational unity, and interdepartmental teamwork, which in turn increases their chances of achieving tangible performance enhancements.

Customer-centric management (CCM), operational CRM (OCRM), and customer service quality (CSQ) demonstrated moderate yet significant effects on business performance. The findings confirm that several CRM elements make a significant contribution to performance results, in line with the assertions of Silva [23], Wang [25], and the research by Guerola-Navarro et al. [20]. The success of a CRM system is contingent upon the proper execution of its constituent parts.

Rapp et al. [36] further confirmed the positive though moderate, effect of CCM on performance, highlighting the importance of customer orientation in a strategic context. Similarly, Soltani et al. [37] underlined the significance of internal factors, such as organizational capabilities and customer orientation, while also identifying customer knowledge management and IT usage as key contributors to CRM success.

The moderate influence of customer service quality (CSQ) is consistent with Elshaer et al. [12], who identified service quality as a critical factor for business success. This conclusion is supported by Sharif and Sidi Lemine [13] and Subagja et al. [14], who found that high-quality customer service directly contributes to enhanced performance.

Despite initial expectations, technological turbulence (TT) showed no direct effect on business performance. This finding contrasts with previous research by Chatterjee et al. [33], Silva [23] and Ullah et al. [24], who proposed technological turbulence (TT) as a moderator in the CRM–performance relationship. Chatterjee et al. [33] suggested that technological turbulence (TT) could have a detrimental impact on operational sustainability, ultimately affecting the outcomes.

This study found that technological turbulence (TT) has a moderate influence on variables like customer-centric management (CCM) and CRM organization (CRMO) and a more pronounced effect on operational CRM (OCRM) and customer service quality (CSQ). The results of this study are consistent with previous research, specifically that of Guerola-Navarro et al. [20], Pozza et al. [35], and Wang [25], which highlighted the connection between technological advancements and CRM capabilities.

These findings lead to the assumption that relational capabilities and other organizational factors can mitigate or act as intermediaries, thus allowing companies to maintain performance despite technological uncertainty [32].

Although hypothesis H5 proposed a direct positive relationship between technological turbulence (TT) and business performance (BP), the statistical analysis did not find such an effect (−0.006). This suggests that technological turbulence (TT) does not directly enhance performance but rather affects it indirectly through the CRM components or under certain contextual circumstances. Research suggests that technological turbulence (TT) plays a significant role in enhancing CRM effectiveness, but it is not the primary cause of SME

performance, contradicting the opinions expressed by Ullah et al. [24] and Chatterjee et al. [33].

The unsupported H5 is consistent with the evolving perspective that TT does not exert a uniform impact across all performance dimensions. Its role as an enabler may depend on mediating factors such as digital maturity or environmental context.

5.1. Managerial Implications

The findings of this research offer significant outcomes that can be utilized by company managers in their respective organizations. Managers can strategically use the impact of customer-centric management to implement customer management models, thereby increasing customer satisfaction and loyalty. Improving CRM (operational and organizational) is crucial in enhancing business performance, justifying investment in streamlining workflow, employee development and leveraging data analysis to foster better customer engagement and boost company expansion.

A well-rounded strategy that focuses on investing in innovative CRM technologies, particularly those leveraging AI, and effectively integrating them into employees' workflows can enhance a company's standing with its customers, boost brand reputation, foster customer loyalty, and ultimately drive business success. Research by Khneyzer et al. [42] found that the use of AI-driven CRM systems has a substantial impact on streamlining customer interactions and aids in aligning business functions strategically within the digital transformation process.

Given that the conceptual model's application was suitable for the Portuguese business environment, the adoption of CRM technology is anticipated to yield positive results, prompting other organizations to integrate CRM into their strategic development plans.

Companies benefit from implementing CRM systems as they enhance decision-making and streamline processes, ultimately contributing to the development of more sustainable practices. The use of CRM systems allows managers to implement strategies that optimize production, reduce excess and waste, and consequently enhance operational efficiency, leading to improved organizational performance and sustainability [70,71].

5.2. Theoretical Implications

This study expands the field of CRM by combining dynamic capability theory with existing CRM performance models, demonstrating how technology transfer affects various CRM aspects to achieve agility and long-term market superiority for small to medium-sized enterprises.

This research offers fresh empirical findings through the examination of a conceptual framework within the sector of Portuguese small to medium-sized enterprises, an area where research on CRM adoption is relatively limited. Our research integrates organizational, operational, customer-focused, and service quality factors with the influence of technological upheaval, providing a more comprehensive and contextually relevant analysis that has not been presented in this specific combination previously.

The theoretical implications to be considered when studying the contribution of CRM to business performance allow us to consolidate the main factors that can affect this performance, namely, customer-centered management, operational CRM, and CRM organization, as proposed by other studies [20,23–25,34,35].

The results obtained also show that it is pertinent to consider the importance of moderating the effect of technological turbulence on business performance [20,25,35]. Another important finding is the impact of customer service quality on business performance, which confirms the conclusions of other studies on CRM adoption [12–14].

Recent studies also reinforce the role of CRM in supporting sustainable competitive advantages, particularly through social CRM practices that foster adaptability in SMEs, and highlight the strategic relevance of CRM tools in driving digital transformation and organizational alignment [3].

The main success factors identified in the adoption of CRM by Portuguese companies demonstrate the validity of the model and provide a solid quantitative basis for future research in the context of a Portuguese SMEs.

5.3. Practical Implications

This research aims to offer businesses, regardless of whether they have a CRM system, a tool that enables them to access pertinent data for strategic decision-making within the context of their established policies by developing a conceptual framework and assessing the impact of the identified variables on business outcomes.

The outcome of the findings presented in this research, which in their context confirm many of the findings of previous research [12–14,20,23–25,32–37] provide companies with relevant data that allows them to guide their future strategies, providing a basis for decision-making that allows them to monetize investments in CRM technologies and systems and thus increase business performance.

In addition to the direct gains in company performance, CRM systems, by centralizing and automating customer contact, make it possible to develop more effective digital marketing campaigns, reducing the need for paper, printing, and physical travel, thus making a significant contribution to sustainability [72].

The managerial recommendations are summarized, by priority level, for each CRM dimension (Table 8).

Table 8. Managerial recommendation.

CRM Dimension	Managerial Recommendation	Priority Level
CRM Organization (CRMO)	Establish strong leadership commitment to CRM; align internal structures and processes around customer strategies.	Very High
Customer Service Quality (CSQ)	Train service teams in responsiveness, empathy, and issue resolution; implement feedback loops and service SLAs.	High
Operational CRM (OCRM)	Automate customer interactions (e.g., order tracking, support); integrate CRM with marketing and operations platforms.	High
Customer-Centric Management (CCM)	Develop customer value segmentation; personalize interactions; involve customers in product/service design.	Medium
Technological Turbulence (TT)	Monitor emerging technologies; invest selectively in scalable tools; promote a culture of tech adaptability.	Context-Dependent

6. Conclusions

The results of this study emphasize the importance of implementing CRM systems and their significant positive effect on business performance. The organizational structure of CRM has a strong and positive impact on business performance. Operational CRM and customer service quality exert a moderate influence on business performance, whereas customer-centric management has a great relevance to business success, which corroborates research that highlights its relevance to business success.

While some studies, such as the one by Chatterjee et al. [33], Silva [23] and Ullah et al. [24], have suggested that technological turbulence may moderate the relationship between CRM and performance, the current study found no evidence of this moderating effect. Although technological turbulence does not directly affect business performance, it moderately influences customer-centric management and the organizational structure of CRM and has a strong influence on operational CRM and the quality of customer service. This finding suggests that other moderating factors may mitigate the impact of technological turbulence on business performance. The presence of these moderating factors can reduce the negative effects of technological turbulence, allowing businesses to adapt and thrive in a rapidly changing environment.

These findings are consistent with recent contributions that associate social CRM practices with strategic adaptability in SMEs [2] and recognize CRM systems as key enablers of digital transformation and integration across business functions [3].

By identifying and understanding these moderating factors, businesses can develop strategies to leverage them and improve their overall performance.

Limitations and Future Directions of the Research

It is important to highlight that the population of this study is not known, that is, it is not possible to determine whether the sample is representative. With regard to the characterization of the sample, it is important to note that it is balanced between genders; however, it is important to note that most respondents are between 30 and 49 years old, have higher education qualifications, and occupy middle management positions. The size of the company where most respondents work is included in the group of small and medium-sized enterprises. This information is based on the number of employees, which is the indicator recommended in the context of the European Union [26].

Given the sample's concentration in central Portugal, regional dynamics may limit the generalizability of the findings. Differences between urban and rural SME environments—especially in digital maturity—should be considered, and broader geographical replication is encouraged for future studies. Future research could adopt longitudinal or mixed-method approaches to examine CRM system evolution and long-term performance impact.

It may also be interesting to investigate companies with different levels of experience and/or those who are at different stages of using the system, thus verifying the need for future studies that investigate these aspects. Different activities across different departments and positions offer different perspectives that can change the outcomes.

Finally, a possibility of continuing the research work would be to apply the model proposed in this research to several companies of different sizes (small, medium and large) which use CRM systems to evaluate whether the improvements in business performance are identical, or different, according to the characteristics of the company.

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Appendix A

Research questionnaire

Dimension	Construct		Reference(s)
Customer Centric management (CCM)	CCM1	My organization can respond optimally to customer groups with different values.	[23,24,38]
	CCM2	My organization can respond quickly to the needs of customers through its in-built knowledge.	[23,38]
	CCM3	Decision-making in my organization regarding customer relationships is fast and accurate.	[23,38]
	CCM4	My organization has a formal system for determining the value of our customers.	[23,24,38]
	CCM5	My organization regularly evaluates the lifetime value of each customer.	[23,24]
CRM Organization (CRMO)	CRMO1	My sales and marketing expertise and resources will power the success of CRM.	[23,24]
	CRMO2	Our organizational structure is aligned with the CRM and is designed around our customers.	[23,24,38]
	CRMO3	CRM is a high-priority area for the company's management.	[23,24,38]
	CRMO4	The company's management perceives CRM as part of its business vision.	[23,24,38]
	CRMO5	Senior management frequently contacts executives regarding CRM-related issues.	[23,24]
Operational CRM (OCRM)	OCRM1	Customers can expect accurate and reliable order processing.	[23,24,38]
	OCRM2	Customers can expect fast support (technical, production and operations).	[23,38]
	OCRM3	The technical, production and operation personnel treat customers with great care.	[23,24,38]
	OCRM4	Customer interaction at every stage of the process ensures the best possible service.	[23,38]
	OCRM5	Customers can expect exactly when and how orders will be delivered.	[24]
Customer Service Quality (CSQ)	CSQ1	All complaints were handled professionally.	[12,24]
	CSQ2	The order confirmation is automatically sent to the customer.	[39]
	CSQ3	Customer service will respond within 48 h.	[12]
	CSQ4	Customers are informed of any issues related to their orders.	[12]
	CSQ5	Customer service is professional in responding to all queries.	[12]

Dimension		Construct	Reference(s)
Technological Turbulence (TT)	TT1	Technology is changing rapidly.	[23,24]
	TT2	Technological change offers many opportunities.	[23,24]
	TT3	New product ideas have been made possible because of technological advancements.	[23,24]
	TT4	It is very difficult to predict where the technology will be in the next 2 to 3 years.	[23,24]
Business Performance (BP)	BP1	CRM performance contributes positively to company performance.	[23,24]
	BP2	Our company's overall performance has improved with the adoption of CRM.	[23,24]
	BP3	Our company's performance is better than that of the competition.	[20,23,24]

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