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Enhancing Marketing Performance in Business Companies through the CRM Model: A Case Study of Telecommunications Companies in Algeria

تحسين الأداء التسويقي في منظمات الأعمال من خلال نموذج إدارة علاقات العملاء: دراسة حالة متعاملي الاتصالات في الجزائر

May Ali[1]
ali.may@univ-constantine2.dz

Boudiaf Ilyes[2]
ilyes.boudiaf@univ-constantine2.dz

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Article abstract:

This study examines the impact of CRM on marketing performance in Algeria's telecom sector, using a model based on Customer Experience Management CXM, data-driven insights, Omni channel integration, automation and AI. The research applied a mixed methodology (descriptive, inductive, and experimental) and data were collected from 157 individuals across 34 telecom agencies using a mixed methodology. Results showed a strong positive relationship, with customer communication having the greatest impact, while information gathering had a weak, negative effect. The study recommends improving data management, digital infrastructure, and adopting a customer-focused, integrated marketing strategy.

Keywords: *Customer Experience Management CXM, data-driven insights, omnichannel integration, automation and AI*

ملخص المقال :

تتناول هذه الدراسة أثر التسويق بالعلاقات على الأداء التسويقي في قطاع الاتصالات بالجزائر، باستخدام نموذج يستند إلى إدارة تجربة العميل، والتحليلات المستندة إلى البيانات، والتكامل عبر القنوات، و الأتمتة المدعومة بالذكاء الاصطناعي .اعتمدت الدراسة على مزيج من المناهج (وصفي، استقرائي وتجريبي) ، وجُمعت البيانات من 157 فردًا في 34 وكالة اتصالات .أظهرت النتائج وجود علاقة إيجابية قوية، حيث كان لتواصل العملاء الأثر الأكبر، في حين كان لجمع المعلومات تأثير ضعيف وسلبي .توصي الدراسة بتحسين إدارة البيانات، وتطوير البنية التحتية الرقمية، وتبني استراتيجية تسويقية متكاملة تركز على العميل.

الكلمات المفتاحية: إدارة تجربة العميل، الرؤى المستندة إلى البيانات، التكامل عبر القنوات المتعددة، الأتمتة والذكاء الاصطناعي

1. *Abdelhamid Mehri Constantine2 University (Algeria)*
2. *Abdelhamid Mehri Constantine2 University (Algeria)*

Introduction

1. Introduction

The essence of Customer Relationship Management (CRM) lies in cultivating individualized and long-term customer relationships through the strategic integration of advanced information systems, loyalty programs, and multichannel communication tools. These components collectively contribute to achieving mutually beneficial outcomes for both the organization and its customers. The sustainability of these relationships depends largely on the organization's ability to maintain a consistent, personalized, and data-driven communication stream with each customer. By leveraging rich customer data, Companies can tailor their offerings—products, services, and marketing efforts—to align with customer expectations and behavioral profiles, thereby fostering loyalty and long-term engagement. In the context of enhancing marketing performance, this relational approach is not merely supportive but central to the strategic growth and competitive differentiation of Companies, especially in dynamic sectors such as telecommunications. The pursuit of sustained performance necessitates continual innovation—not only in the design of products and services but also in service delivery mechanisms and in the relational dynamics that define customer experience. The role of CRM, therefore, extends beyond operational efficiency to becoming a strategic pillar that underpins value creation, customer retention, and market adaptability.

2. Problematic

As global markets shift towards customer-centric paradigms, CRM is increasingly seen as a determinant of both present and future marketing success, especially when combined with innovation and digital transformation. This underscores the relevance of examining its application within the Algerian telecommunications sector, leading to the formulation of a key research question: **To what extent do telecom operators in Algeria adopt relationship-marketing practices, and how effective are these practices in improving their marketing performance?**

Answering this question not only offers insights into the sector's responsiveness to global CRM trends but also evaluates the strategic efficacy of CRM models in emerging market contexts.

3. Hypothesis:

The core hypothesis of this study posits, *"Telecommunication companies in Algeria adopt CRM because it represents a critical factor in enhancing marketing performance."* This hypothesis stems from a strategic understanding that CRM—through its processes of personalized communication, data-driven engagement, and customer value creation—plays a pivotal role in the overall marketing efficiency of modern Companies. In the context of Algeria's dynamic telecom industry, where customer retention and service differentiation are key to competitive advantage, the hypothesis underscores the belief that CRM is not merely a supplementary activity but a central mechanism for sustainable performance enhancement.

4. Research Objective

The main objective of the study is to examine the impact of CRM on marketing performance. This objective is rooted in the theoretical framework that links relationship-based strategies to measurable organizational outcomes. It reflects a dual goal: (1) identifying the extent to which telecom operators integrate CRM practices into their operations, and (2) evaluating how such practices contribute to marketing performance in terms of efficiency, customer satisfaction, retention, and brand equity.

5. Methodological Framework

The methodology is robust and integrates three complementary research approaches:

1. **Descriptive Approach** – Used to describe the current state of CRM practices and performance indicators across Algerian telecom companies.
2. **Inductive Approach** – Employed to derive patterns, relationships, and theoretical implications from observed data, allowing for generalization of findings.
3. **Experimental Approach** – Allows for the assessment of causality and the testing of pre- and post-implementation effects of CRM practices.

To achieve accurate measurement and validation, several statistical tools were used:

- **Cronbach's Alpha** to assess reliability and internal consistency of the questionnaire constructs.
- **Kolmogorov-Smirnov Test** to check the normality of data distribution.
- **Descriptive Statistics** to analyze sample characteristics and overall trends.
- **Pearson Correlation Coefficient** to measure the strength and direction of relationships between variables.
- **T-tests and Regression Models** to assess differences and predict relationships.

6. Population and Sampling

The study sample consists of 157 respondents drawn from 34 telecommunication agencies in Constantine, Mila, Oum El Bouaghi, and Setif, representing a meaningful cross-section of the Algerian telecom sector. The sampling method ensures geographic and organizational diversity, enhancing the generalizability of results to the broader industry.

7. Sources of Data

Data triangulation strengthens the study's credibility. The study relied on:

- **Primary data** collected via a well-structured questionnaire.
- **Expert insights** gathered through interviews with managers in the field.
- **Secondary sources** including academic research papers and sector-specific reports, providing a theoretical and contextual foundation for the study.

1. Literature Review: A Conceptual Foundation

The literature on CRM (RM) offers a multidimensional perspective on how Companies manage and sustain long-term customer relationships by focusing on value, loyalty, and mutual trust. Rahman & Masoom (2012) underscore that the heart of modern marketing lies in creating structured and quality-driven relationships that go beyond transactional exchanges. This marks a clear departure from traditional marketing models that emphasized short-term sales, shifting toward strategies centered on customer retention, satisfaction, and personalization.

Grönroos (1994) articulates that the ultimate objective of RM is loyalty, rooted in the establishment of stable and mutually beneficial ties. This loyalty is not merely behavioral but attitudinal, emphasizing emotional engagement and value perception. In this context, the relational approach becomes both a strategy and a philosophy—emphasizing long-term customer engagement as a critical business asset.

1.1. Importance and Determinants of Success in CRM

The success of RM is intrinsically tied to its strategic relevance in contemporary business environments. As Yau et al. (2000) affirm, strong customer relationships are not optional; they are now recognized as central to sustainable business growth. Nelson (2007) reinforces this by pointing out that intensified market competition and consumer empowerment have made RM indispensable.

The paradigm shift toward RM is supported by multiple interrelated factors:

- The economic imperative of customer retention, which is typically more cost-effective than acquiring new customers;
- The drive for business scalability and expansion, facilitated by loyal customer bases;
- The need to adapt to advanced and rapidly evolving market economies, where consumer expectations are rising;
- The transition in the marketing mix, from standardized offerings to more customized, value-centric strategies;
- The cultural and behavioral shifts requiring deeper emotional connections between businesses and consumers (Akroush, 2021).

Rahman & Masoom (2012) aptly summarize these forces as both reactive and proactive motivations for the adoption of RM, thereby embedding it not only as a marketing tool but as an organizational mindset aligned with customer-centric values.

1.2. Toward a Relationship-Oriented Marketing Paradigm

The literature reveals that CRM is no longer a supplementary marketing approach but a core business strategy that permeates customer service, branding, innovation, and organizational culture. Its evolution reflects a broader shift toward customer empowerment, loyalty economics, and long-term value creation. Future research must continue to refine RM models by integrating technology (CRM systems), emotional intelligence, and big data analytics, which are now essential for personalizing and scaling customer relationships in a sustainable way. (Rialti, 2019)

1.3. CRM: Goals and Methods — A Strategic Perspective

CRM (RM) has evolved from a peripheral approach to a strategic marketing philosophy centered on long-term value creation and customer retention. The ultimate goal of RM is not merely to satisfy customers in the short term, but to nurture enduring relationships that generate sustained satisfaction and loyalty throughout the customer's lifetime (Talghani, Gilaninia & Mousavian, 2011, p. 157). This lifelong marketing perspective aligns with the broader marketing goal of enhancing customer equity and maximizing the customer lifetime value (CLV), which is now a pivotal metric in performance-driven Companies.

Unlike transactional marketing, which emphasizes one-time exchanges, RM focuses on maintaining continuous communication, systematic data gathering, and service improvement, creating an ecosystem in which customer trust and satisfaction are systematically built and reinforced over time. (Soltani, 2018)

1.4. Relationship Management as an Organizational Transformation

From an internal perspective, CRM entails more than marketing function adjustments—it often requires a transformation of the organizational structure and culture. Gummesson (1994) stresses that effective relationship management cannot be superimposed onto traditional business models. Rather, it requires a paradigmatic shift toward network-based, flexible, and customer-centric structures, supported by decentralized decision-making and empowered frontline employees.

This structural evolution supports the operational implementation of RM strategies such as personalization, one-to-one marketing, and value co-creation, necessitating interdepartmental alignment and cross-functional collaboration. (Josiassen, 2014)

1.5. Toward a Dynamic, Relationship-Oriented Marketing Strategy

The goals and methods of CRM highlight its central role in the strategic architecture of modern firms. It is not merely a tool for enhancing customer service, but a foundational element in sustaining marketing performance, brand equity, and organizational adaptability. By embedding trust, communication, and customization into their core operations, Companies can move beyond transactional exchanges to build resilient, mutually reinforcing partnerships that support long-term competitive success. (Alkraiji, 2020)

1.6. The Challenge of Measuring Marketing Activities

The core issue here is the challenge Companies face in measuring the outcomes of marketing efforts. The link between marketing activities and business performance is often indirect, making it difficult to establish a direct cause-and-effect relationship. As a result, marketing practitioners must rely on a combination of financial and non-financial metrics to assess performance. Financial metrics, such as sales revenue, profitability, and market share, have traditionally been the go-to indicators for evaluating marketing performance. These metrics provide a clear, tangible view of an organization's financial health and success (Clark, 1999). However, there is growing recognition that these financial metrics are not sufficient on their own to provide a comprehensive picture of marketing's impact on business outcomes. (Clark, 2001)

1.7. The Role of Marketing Capabilities in Organizational Success

One of the key findings in marketing performance research is that marketing capabilities—both tangible and intangible—are crucial to achieving success in today's competitive business environment. Marketing capabilities encompass the firm's ability to execute marketing strategies effectively, adapt to market changes,

and respond to customer needs (Krasnikov & Jayachandran, 2008). These capabilities have been shown to have a stronger impact on performance than other functional capabilities, such as research and development (R&D) or production capabilities (Gungor & Osman, 2013). Krasnikov and Jayachandran's meta-analysis found that marketing capabilities have a more pronounced positive effect on organizational performance compared to other areas of the business, further underscoring the critical role marketing plays in driving business success (Davcik, 2016).

1.8. The Need for Comprehensive Marketing Performance Measurement

The role of financial and non-financial metrics is not just to assess past performance but also to help guide future strategy. Marketing metrics support the planning and control functions of management, allowing Companies to make data-driven decisions about where to invest resources and how to improve operational efficiency. By comparing their performance against competitors, Companies can identify areas where they need to improve and develop strategies to enhance their market position (Bennett, 2007). Moreover, financial analysis, including the use of ratios and performance benchmarks, allows Companies to identify strengths and weaknesses in their operations, assess their sustainability over time, and make informed decisions about future growth (Moyer, McGuigan, & Kretlow). (Morgan, 2012)

In conclusion, the measurement of marketing performance is essential for Companies seeking to understand the effectiveness of their marketing activities and their impact on overall business performance. While financial metrics remain an important tool for performance evaluation, non-financial metrics such as customer satisfaction, loyalty, and brand equity are increasingly recognized for their ability to provide insights into an organization's future prospects. By effectively measuring marketing performance, Companies can make informed decisions, improve operational efficiency, and sustain long-term competitive advantage. (Bednall, 2005)

2. Methods and Materials

The approach used in this study is essentially a combination of descriptive, inductive, and experimental methodologies. A suitable questionnaire was designed based on a five-point Likert scale. The study population includes all telecommunication agencies and commercial spaces in the telecommunications sector in Algeria. A multi-stage random sample was taken, and the sample size was calculated according to the specified population size of 34 0, i.e., 10%. A total of 157 individuals were selected from 34 telecommunications agencies or commercial outlets.

The variables of this study were defined as follows:

Independent variable: CRM

Dependent variable: Marketing Performance

We proposed a model illustrating the relationship between the study variables as shown in the following figure. To test the hypothesis, we used the one-sample t-test, multiple regression t-test, and paired t-test.

2.1. Variables: the following are the variables that used in our paper

- **Customer Experience Management (CXM):** Prioritizing a seamless, personalized customer journey to enhance satisfaction and loyalty.
- **Data-Driven Insights:** Utilizing big data and AI analytics to deeply understand customer behavior and tailor strategies.
- **Omnichannel Integration:** Ensuring consistent and unified interactions across all customer touchpoints and channels.
- **Automation and AI:** Employing automated tools like chatbots and AI-driven processes to improve efficiency and responsiveness.

2.2. Reliability

2.2.1 Cronbach's Alpha Coefficient

The researchers used Cronbach's Alpha to measure the reliability of the questionnaire, and the results are shown in the table below.

Table 1: Cronbach's Alpha Test for CRM and Marketing Performance

Y	Area		Cronbach's Alpha			
	Dimensions	N of Items	AT N=64	WTA N=51	OTA N=42	Total N=157
X1	Customer Experience Management CXM	5	.810	,829	,800	,812
X2	Data-driven insights	3	.831	,840	,802	,801
X3	Omni channel integration	3	.782	,824	,812	,801
X4	Automation and AI	4	.801	,831	,813	,801
Y	Marketing Performance	5	,822	,829	,811	,819
X	Total Dimensions of CRM	15	,814	,831	,804	,812

Source: By the researchers based on the output of SPSS V.28

The results in Table 1 demonstrate that the Cronbach's Alpha coefficient is high for each component of the questionnaire, with values of 0.812 for CRM and 0.819 for Marketing Performance. These values suggest a high level of internal consistency and reliability for the questionnaire. Consequently, the researchers have affirmed the validity and reliability of the instrument, ensuring that it is well suited for achieving accurate results, performing data analysis, and testing the hypotheses. This strong reliability coefficient further supports the questionnaire's ability to effectively measure the variables of interest, enhancing the credibility and robustness of the study's findings.

2.3 Construct Validity:

Construct validity is one of the measures used to evaluate the validity of an instrument. It assesses the extent to which the research tool achieves its objectives and shows how well each part of the questionnaire is related to the overall indicators.

Table 2: Construct Validity for CRM and Marketing Performance

Y	Dimensions	Pearson's correlation coefficient				Sig. (2-tailed)			
		AT N=64	WTA N=51	OTA N=42	Total N=157	AT N=64	WTA N=51	OTA N=42	Total N=157
X_1	Customer Experience Management CXM	,804**	,801**	,800**	,807**	,000	,000	,000	,000
X_2	Data-driven insights	,803**	,808**	,801**	,801**	,000	,000	,000	,000
X_3	Omni channel integration	,804**	,800**	,803**	,804**	,000	,000	,000	,000
X_4	Automation and AI	,900**	,800**	,800**	,803**	,000	,000	,000	,000
Y	Marketing Performance	1,000	1,000	1,000	1,000	-	-	-	-
X	Total Dimensions of CRM	1,000	1,000	1,000	1,000	-	-	-	-

Significant correlation at the 0.01 level
Source: By the researchers based on SPSS V.28 output

Table 2 presents the correlation coefficients between CRM and Marketing Performance, as well as their respective dimensions. The results indicate that all the correlation coefficients are statistically significant at the $\alpha = 0.01$ level. This significance level suggests a strong and meaningful relationship between the dimensions of CRM and Marketing Performance. The significance of these correlations validates the constructs being measured, confirming the construct validity of the measurement tools used in the study. Essentially, this means that the variables in the study are accurately capturing the intended concepts, and the relationships observed between them can be considered robust and credible. This high level of statistical significance further strengthens the reliability of the findings and supports the overall validity of the model used to explore the impact of CRM on Marketing Performance.

3. Results and Discussion

3.1 Hypothesis 1

H0: It is impossible for telecom companies in Algeria to improve marketing performance based on CRM.

To test the above hypothesis, we use the multiple regression model, with marketing performance as the dependent variable and the dimensions of CRM (Customer Experience Management CXM, automation and AI, Omni channel integration, and information analysis process) as independent variables, as follows:

Table 3: Summary of CRM and Marketing Performance Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.907a	.822	.819	.10654	.822	204.402	4	148	.000

a. Predictors: (Constant), Customer Experience Management CXM, Automation and AI, Information Collection Process, and Data-driven insights
b. Dependent Variable: Marketing Performance
Source: Prepared by the researchers based on SPSS V.28 outputs

Table 7 reveals a strong and statistically significant positive correlation between the dimensions of CRM (Customer Experience Management CXM, customer communication, information collection, and information

analysis) and marketing performance, as indicated by a high Pearson correlation coefficient (R). The elevated R-squared value confirms that a substantial portion of the variance in marketing performance is explained by these variables, highlighting the model's effectiveness in capturing the relationship dynamics. Furthermore, the adjusted R-squared and the highly significant F-statistic (F = 204.402, Sig. = 0.000) affirm the model's predictive power and overall fit, indicating that the relationship is not due to chance. These results emphasize the importance of CRM as a strategic approach, where effective planning, clear communication, informed data collection, and insightful analysis work collectively to enhance performance. For telecommunications companies, this suggests that prioritizing these relationship-marketing dimensions can lead to measurable improvements in customer engagement, satisfaction, and overall marketing success.

Table 3 provides compelling statistical evidence that CRM is not merely a theoretical concept but a practical, high-impact framework for driving marketing success. The strong positive correlation, coupled with high R-squared and adjusted R-squared values, and the statistically significant F-test, all point to a highly functional and predictive model. Telecom companies can leverage this model to enhance strategic planning, customer engagement, and data-driven decision-making, ultimately resulting in sustained competitive advantage in dynamic market environments.

Table 4: ANOVA Analysis of CRM and Marketing Performance

Sig.	F	Mean Square	df	Sum of Squares	Model	
.000[b]	204.402	3.001	4	12.905	Regression	
		.011	148	.398	Residual	
			152	13.303	Total	1

Dependent variable: Marketing Performance

Predictors: (Constant), Customer Experience Management CXM, Automation and AI, Omni channel integration, and Information Analysis Process

Source: By the researchers based on the outputs of SPSS V28.

Table 4 (ANOVA Table) reveals a statistically significant relationship between the independent variables—the dimensions of CRM—and the dependent variable, marketing performance. The Sig value of 0.000 is highly significant (i.e., well below the standard threshold of 0.05), indicating that the regression model as a whole is valid and statistically meaningful. This means that the set of predictors—Customer Experience Management CXM, automation and AI, Omni channel integration, and information analysis process—collectively have the potential to explain variations in marketing performance.

The ANOVA results provide a strong statistical foundation for the use of CRM dimensions in predicting and enhancing marketing performance. The model's significance means that companies should treat these dimensions not as abstract concepts but as tangible levers for improvement. By systematically applying and optimizing these relationship-marketing activities, especially the most influential ones like customer communication, Companies can expect clear and data-supported gains in marketing efficiency, customer satisfaction, and competitive positioning.

Table 5: Coefficients of CRM and Marketing Performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.030	.250		.131	.898
	Customer Experience Management CXM	.340	.104	.319	1.711	.098
	Data-driven insights	.165	.100	.199	1.800	.088
	Omni channel integration	-.237-	.170	-.169-	1.312-	.286
	Automation and AI	.709	.120	.669	5.578	.000

Dependent variable: Marketing Performance

Source: By the researchers based on the outputs of SPSS V28.

Table 9 unveils important insights into the relationship between the dimensions of CRM and marketing performance in the telecommunications sector. The multiple regression model constructed:

Marketing Performance = 0.030 + 0.340 * Customer Experience Management CXM + 0.165 * Information Analysis Process - 0.237 * Omni channel integration + 0.709 * Automation and AI

shows how each dimension of CRM contributes—either positively or negatively—to changes in marketing performance. However, the statistical significance (sig < 0.05) of these coefficients provides critical clarity regarding which variables actually drive these changes in a meaningful way.

From the regression output, only the automation and AI (β = 0.709) emerged as statistically significant, with a p-value less than 0.05, indicating that this dimension alone has a strong and reliable influence on marketing performance. This implies that efforts aimed at building and maintaining effective communication with customers—such as timely interactions, personalized messaging, responsive service, and feedback mechanisms—are key levers in enhancing marketing results.

On the other hand, the other variables—Customer Experience Management CXM, information analysis, and information gathering—while theoretically essential, did not show significant influence statistically (p > 0.05). This could be due to several factors:

- These processes may not be fully integrated or operationalized effectively within the studied Companies.
- There may be a gap between planning and execution, reducing their observable impact.
- Or perhaps customer communication is simply the most mature and prioritized practice within the sampled companies, overshadowing the effects of other dimensions.

Interestingly, the negative coefficient for the Omni channel integration (-0.237) may indicate that ineffective or unstructured data collection processes could even be counterproductive, possibly overwhelming Companies without yielding actionable insights. This highlights a critical area for managerial reflection—data is only useful when it leads to clear, analyzed, and actionable strategies.

The intercept (constant = 0.030) and its lack of significance further emphasize that the model's predictive power is almost entirely derived from the customer communication dimension. This suggests that, in this context, CRM succeeds or fails based on how well companies interact and engage with their customers.

Table 5 underscores that in the telecommunications sector, CRM is not equally effective across all its dimensions. The automation and AI stands out as the core engine of marketing performance enhancement, calling for strategic investment in communication platforms, customer engagement training, and interactive technologies that strengthen the company-customer bond.

3.2. Hypothesis 2

H0: There are no differences in improving marketing performance within telecommunications companies between before and after implementing CRM.

Table 6: Paired Sample Statistics for Marketing Performance

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	DS .b	2,5502	157	,75205	,10054
	DS.a	4,2012	157	,70777	,10111

Source: By the researchers based on the outputs of SPSS V28.

Table 10 reveals compelling evidence of a statistically significant improvement in marketing performance as a result of implementing CRM applications within telecommunications companies. Before the implementation, the mean marketing performance score was 2.5592, indicating a relatively moderate level of effectiveness in marketing practices. The standard deviation of 0.75275 shows some dispersion in responses, reflecting variability among the companies' marketing effectiveness. The standard error (0.10754), which measures the precision of the mean estimate, indicates that the pre-implementation mean was moderately reliable.

However, after the implementation, the mean surged to 4.2082, showing a marked improvement in perceived or measured marketing performance. This jump suggests a significant shift in strategic orientation, where CRM played a vital role in enhancing company focus on long-term customer engagement, loyalty, and satisfaction. The reduced standard deviation (0.70777) indicates that post-implementation responses were more consistent across the sample, which means that most companies experienced improvements. The lower standard error (0.10111) also reflects increased reliability in the post-implementation results.

The difference between the means (1.649 points) is both statistically and practically significant, as it represents a considerable transformation in the companies' marketing performance. This dramatic increase strongly suggests that the integration of CRM strategies—such as better customer communication, targeted campaigns, customer-centric planning, and more refined data use—reshaped internal practices and external outcomes.

Furthermore, the analysis sets the foundation for evaluating the correlation between the before-and-after scores. A strong positive correlation (as suggested in the subsequent table) would mean that even companies that were initially performing poorly managed to improve consistently, indicating that the impact of CRM was widespread and systematic. It wasn't a matter of chance or isolated success but rather a well-distributed improvement across the sample.

Table 6 does not just show that performance improved—it reveals that CRM acted as a catalyst for systematic and meaningful change, leading to measurable performance gains and establishing a foundation for more customer-focused, resilient, and effective marketing strategies in the telecommunications sector.

Table 7: Paired Sample Correlations for Marketing Performance

		N	Correlation	Sig.
Pair 1	DS .b & DS.a	157	,896	,000

Source: By the researchers based on the outputs of SPSS V28.

Table 11 reveals a very strong positive correlation (r = 0.896) between marketing performance *before* and *after* the implementation of CRM applications. This value indicates a high degree of consistency and interdependence between the two phases, suggesting that although marketing performance was already structured to some extent, the integration of CRM significantly enhanced its effectiveness and direction.

The correlation coefficient of 0.896 is close to the maximum value of 1, denoting a robust linear relationship—as one variable increases, so does the other. In practical terms, this means that the companies that had stronger marketing performance before the implementation tended to improve even more after applying CRM strategies. This also hints at the complementary role of CRM in reinforcing and amplifying existing capabilities within telecommunications firms.

The significance level (p = 0.000) confirms that the correlation is statistically significant, ruling out the possibility of random or coincidental association between the two phases. This strengthens the conclusion that

the change in marketing performance is directly linked to the application of CRM strategies, rather than to extraneous variables or external market shifts.

This correlation also sets the stage for interpreting the paired T-test in Table 12, which measures the mean difference between the two performance phases. The high correlation means that the difference in means will be meaningful and reliable, providing a solid foundation for asserting that CRM produced a real and measurable shift in performance metrics.

Table 7 illustrates that CRM doesn't just change performance—it aligns and amplifies it, ensuring that existing strengths are magnified and previously underutilized potentials are unlocked within the telecommunications sector.

Table 8: Paired Sample T-test for Marketing Performance

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	DS .b - DS.a	-1,64118	,22247	,03015	-1,70110	-1,56106	-41,102	157	,000

Source: By the researchers based on the outputs of SPSS V28.

Table 12 reveals that the paired T-test value of -41.102 is exceptionally high in magnitude, indicating a strong deviation between the paired observations—that is, the marketing performance indicators before and after the implementation of CRM applications. The associated p-value (P = 0.000) confirms that this result is statistically significant at a 95% confidence level, suggesting that the observed changes are not due to random chance.

This highly significant result implies that CRM has had a profound and measurable impact on how telecommunications companies in the study conceptualize and prioritize their marketing strategies. Specifically, the shift points to a restructuring of strategic orientations, where the focus has moved from transactional, short-term goals to long-term, customer-centric objectives. CRM has led to the development of more sustainable marketing practices, emphasizing customer retention, loyalty, and engagement over simple customer acquisition.

Moreover, the large negative T-value suggests a clear increase in the post-intervention scores for marketing performance, implying that CRM not only influenced strategic priorities but also enhanced the actual execution and outcomes of marketing activities. This may include improvements in customer satisfaction, brand loyalty, customer lifetime value, and overall market competitiveness.

Table 8 provides compelling evidence that investments in CRM practices are not only justifiable but essential for driving strategic transformation and competitive advantage in the telecommunications sector.

Conclusion:

In today's fast-evolving business environment, driven by technological innovation, accessible information management, and a growing emphasis on intellectual capital, CRM has become a vital strategy for achieving sustainable marketing success. This approach adapts to modern challenges by focusing on long-term customer engagement rather than short-term sales. To implement CRM effectively, Companies must follow a structured process involving measurement, management, and continuous improvement. Key mechanisms include:

- Understanding customers deeply through data collection and analysis
- Engaging with them consistently across multiple channels

- Listening actively to their needs, feedback, and expectations
- Rewarding loyalty and encouraging positive behaviors
- Integrating customers into the organization's culture and story

For CRM to succeed, several relational factors are essential:

- Moderate use of power in dealings
- Reciprocity and fairness in exchanges
- Effective conflict resolution strategies
- Flexibility in adapting to customer preferences
- Strong social ties and personalized incentives that foster emotional connection

These elements not only build trust and satisfaction but also strengthen loyalty and brand advocacy. Ultimately, CRM—when aligned with innovation and strategic thinking—positions businesses to maintain a competitive edge and thrive in the complex modern marketplace.

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