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specialization: Management

**Enhancing E-Commerce Firm Performance through CRM
Capabilities and Responsive Market Orientation**

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Declaration

I, the undersigned, hereby solemnly declare that the thesis entitled *Enhancing ECommerce Firm Performance through CRM Capabilities and Responsive Market Orientation* is the result of my original work. This research was conducted under the expert supervision of Dr. Tamma Elhachemi.

In ensuring the academic rigor and integrity of this study, I have relied on credible and authoritative sources, including but not limited to Google Scholar, Elsevier, Emerald Publishing, Sage, Springer, the Algerian Scientific Journal Platform (ASJP), Scite.ai, and Consensus.app. Additionally, various artificial intelligence tools—namely OpenAI’s ChatGPT-4, Google AI Studio, Grok (developed by xAI), Grammarly AI, and Microsoft Copilot—were utilized strictly for writing assistance, proofreading, and enhancing the clarity and coherence of the thesis.

I have taken great care to acknowledge all referenced works accurately and to uphold the highest standards of academic integrity, adhering to recognized scholarly conventions. Any inadvertent errors or omissions are solely my responsibility.

I further certify that this thesis, in whole or in part, has not been submitted for the award of any degree, diploma, or other qualification at any other university or academic institution.

Signed:

Mahmoud Touahri

Dedication

I dedicate this work with deep gratitude and respect to all those who have supported me throughout this journey.

First and foremost, I would like to express my sincere thanks to my supervisor, Dr. Elhachemi Tamma, for his invaluable guidance, continuous support, and patience. His expertise and encouragement have been fundamental to the completion of this thesis.

I extend my heartfelt appreciation to my beloved mother, whose unconditional love, prayers, and sacrifices have been my greatest strength. To my father, thank you for your wisdom, support, and belief in me.

I am also deeply grateful to my entire family and friends for their encouragement, motivation, and constant presence in both good and challenging times.

Finally, I would like to thank all the staff members of my college and university for providing a supportive academic environment and for their contributions to my educational journey.

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To my family, I owe my deepest appreciation for their unconditional love, encouragement, and unwavering belief in me throughout this journey. Your presence has been a constant source of strength.

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Lastly, I wish to acknowledge everyone who has contributed, directly or indirectly, to the realization of this research. Your support has been invaluable, and I remain truly grateful.

Abstract

This study examines the influence of Customer Relationship Management (CRM) capabilities and Responsive Market Orientation (RMO) on the performance of e-commerce firms operating in El Oued, Algeria. Recognizing the growing importance of customer-centric strategies and market adaptability in the digital economy, the research adopts a quantitative approach. Data were gathered from 124 e-commerce businesses using a structured questionnaire, and the relationships among the study variables were analyzed employing Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that both CRM capabilities and RMO exert a positive and statistically significant impact on firm performance, with CRM capabilities showing a stronger effect. These results underscore the strategic value of integrating relational and market-oriented practices to achieve competitive advantage, particularly within the challenging and dynamic context of e-commerce in emerging markets. By offering empirical insights from a developing country perspective, this study contributes to the broader literature on strategic management and provides actionable recommendations for business practitioners seeking to enhance customer engagement, organizational agility, and long-term performance.

Keywords: customer relationship management (CRM), responsive market orientation (RMO), firm performance, e-commerce, Algeria.

ملخص الدراسة:

تتناول هذه الدراسة تأثير قدرات إدارة علاقات العملاء (CRM) والتوجه السوقي الاستجابي (RMO) على أداء شركات التجارة الإلكترونية العاملة في ولاية الوادي، الجزائر. وانطلاقاً من الأهمية المتزايدة لاستراتيجيات التركيز على العميل والتكيف مع السوق في ظل الاقتصاد الرقمي، اعتمد البحث منهجاً كمياً. تم جمع البيانات من 124 شركة تجارة إلكترونية باستخدام استبيان منظم، وتم تحليل العلاقات بين متغيرات الدراسة باستخدام نموذج المعادلات الهيكلية بالحد الأدنى للمربعات الجزئية. (PLS-SEM)

كشفت النتائج أن لكل من قدرات إدارة علاقات العملاء والتوجه السوقي الاستجابي تأثيراً إيجابياً ومعنوياً من الناحية الإحصائية على أداء الشركات، مع ملاحظة أن تأثير قدرات إدارة علاقات العملاء كان أقوى. وتبرز هذه النتائج القيمة الاستراتيجية لدمج الممارسات القائمة على العلاقات والموجهة نحو السوق بهدف تحقيق ميزة تنافسية، خاصة في ظل السياق الديناميكي والتحديات التي تواجه التجارة الإلكترونية في الأسواق الناشئة.

ومن خلال تقديم رؤى تجريبية من منظور بلد نامٍ، تُسهم هذه الدراسة في إثراء الأدبيات المتعلقة بالإدارة الاستراتيجية، كما تقدم توصيات عملية لأصحاب الشركات الراغبين في تعزيز تفاعل العملاء، وزيادة مرونة المؤسسات، وتحسين الأداء على المدى الطويل.

الكلمات المفتاحية: إدارة علاقات العملاء (CRM) ، التوجه السوقي الاستجابي (RMO) ، أداء الشركات، التجارة الإلكترونية، الجزائر.

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1.9.1 The Relationship Between Responsive Market Orientation (RMO) and Firm

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List of Abbreviation

Abbreviation	Full Term / Meaning
FPRF	Firm Performance
CRM	Costumer Relationship Management
MRO	Responsive Market Orientation

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CHAPTER ONE:

INTRODUCTION

1.1. Background of the study

Firm performance serves as a fundamental determinant of business success, encompassing financial outcomes, operational efficiency, and market competitiveness. In an increasingly dynamic and interconnected global economy, organizations must navigate a multitude of complex challenges to sustain growth and achieve their strategic objectives. Effective management practices, the optimization of resources, and the capacity to adapt to evolving market dynamics are critical enablers of superior performance, allowing firms to maintain a competitive advantage (Hitt et al., 2020). However, maintaining consistent performance has become progressively challenging, particularly in dynamic industries characterized by rapid technological advancements and shifting consumer behaviors. Sectors such as e-commerce, fintech, and digital services face

intense competition and operational complexities, underscoring the necessity for targeted strategies aimed at enhancing firm performance.

The proliferation of digital technologies has profoundly reshaped the e-commerce sector, which has emerged as a focal point for evaluating firm performance.

Globally, the e-commerce industry has experienced exponential growth, generating over \$7 trillion in sales in 2024, with projections indicating a rise to \$10.4 trillion by 2028 (Text Data, 2024). In the MENA region, the market is anticipated to expand from \$155.16 billion in 2025 to \$302.43 billion by 2030 (Mordor Intelligence, 2025). Algeria, a significant contributor to this regional growth, has witnessed an increase in internet penetration from 49% in 2019 to over 65% by 2024, supporting the development of a \$1.2 billion e-commerce market that is projected to reach \$2.5 billion by 2029 (Statista Research Department, 2024c; Digital Watch Observatory, 2022). Despite these promising trends, Algerian e-commerce enterprises continue to encounter substantial obstacles, including limited technological infrastructure, logistical inefficiencies, and low consumer trust. Notably, over 60% of startups fail within their first two years of operation (Diouani et al., 2023; BENMIR & Mesnadi, 2023). These challenges significantly constrain their ability to compete with global market leaders and capitalize on transformative trends such as mobile commerce, which has redefined consumer engagement in other markets (Text Data, 2024).

These persistent challenges underscore the imperative for rigorous research into the determinants of firm performance within Algeria's e-commerce sector. Effective management practices are essential for overcoming operational and structural impediments, thereby ensuring sustainability and competitive resilience in a rapidly evolving digital landscape. Gaining a comprehensive understanding of how firms can optimize their strategies to enhance performance is crucial for unlocking their growth potential and contributing to broader economic development (Erhan et al., 2023). This study aims to investigate these dynamics, providing valuable insights into how Algerian e-commerce firms can address prevailing challenges and leverage emerging opportunities to strengthen their market positioning.

1.2. Problem Statement

In today's highly competitive and dynamic global economy, firm performance represents a fundamental determinant of business success, encompassing financial outcomes, operational efficiency, and strategic growth (Hitt et al., 2020). Particularly in the e-commerce sector, firms must continuously innovate and adapt to technological advancements and evolving consumer behaviors to sustain competitiveness. The exponential growth of the global e-commerce market—projected to reach \$10.4 trillion by 2028 (Text Data, 2024)—demonstrates significant opportunities; yet, it also highlights the intensifying competitive

pressures faced by firms. Practical challenges such as technological infrastructure limitations, logistical inefficiencies, and fluctuating consumer trust increasingly undermine firms' abilities to maintain consistent performance (Erhan et al., 2023; BENMIR & Mesnadi, 2023). In this context, especially for e-commerce businesses, understanding how to strategically enhance performance has become critically important.

Existing research has examined a wide array of factors influencing firm performance, including entrepreneurship (Siddiqui, Yusheng, Ravina-Ripoll, & Aden, 2024), social media (Siddiqui, Yusheng, Ravina-Ripoll, & Aden, 2024), social media technology use (Foltean, Trif, & Tuleu, 2018), big data analytical capability (Jaruwanakul, 2024), artificial intelligence adoption (Davenport & Ronanki, 2018), logistics efficiency, customer satisfaction, and website usability (Erhan et al., 2023). While these studies have provided valuable insights, there remains a notable paucity of empirical research investigating the roles of certain strategic capabilities in firm success—particularly the capabilities related to customer relationship management and market responsiveness. Some studies have highlighted the positive relationship between customer relationship management (CRM) capabilities and firm performance (Foltean et al., 2018; Trif et al., 2019; Mahfudz et al., 2025), as well as between responsive market orientation (RMO) and firm performance (Wei et al., 2014; Prifti & Alimehmeti, 2017; Schulze et al.,

2022). However, most of these investigations have been conducted in different sectors and predominantly in developed or emerging economies outside North Africa. The literature continues to lack comprehensive studies examining how these strategic dimensions influence firm performance within the e-commerce sector, particularly in the context of developing countries. This gap is especially pressing given the increasing recognition of strategic management practices as pivotal enablers of sustainable competitive advantage (Hitt et al., 2020; Mikalef et al., 2023). Therefore, there is an urgent scholarly need to undertake such investigations, filling the gap and enriching the strategic management discourse.

Moreover, most previous studies have focused predominantly on firms operating in developed economies, whereas little attention has been given to the specific challenges faced by firms in developing countries. In Algeria, although the e-commerce sector is expanding—reaching \$1.2 billion in 2024 with projections of \$2.5 billion by 2029 (Statista Research Department, 2024c; Digital Watch Observatory, 2022)—e-commerce firms continue to grapple with significant barriers such as limited digital infrastructure and low consumer trust (Diouani et al., 2023; BENMIR & Mesnadi, 2023). The high failure rate of startups, with more than 60% failing within two years, underscores the precariousness of e-commerce ventures in the Algerian market. Despite this, there is a severe shortage of empirical studies that explore how strategic capabilities could enhance firm

performance in Algeria's ecommerce industry, highlighting a critical research gap that this study seeks to address.

Given these considerations, the central research question guiding this study is: *To what extent do customer relationship management capabilities and responsive market orientation influence the performance of e-commerce firms in Algeria?*

1.3. Research Questions

1. To what extent do CRM capabilities impact the performance of e-commerce firms in Algeria, with statistical significance at $\alpha < 0.05$?
2. How does responsive market orientation influence the performance of Algerian e-commerce firms, ensuring statistical validity at $\alpha < 0.05$?

1.4. Research Objectives

1. To examine the relationship between CRM capabilities and the performance of e-commerce firms in Algeria, establishing statistical significance at $\alpha < 0.05$.
2. To analyze the impact of responsive market orientation on the performance of Algerian e-commerce firms, validating statistical significance at $\alpha < 0.05$.

1.5. Scope of the Study

This study examines the impact of Customer Relationship Management (CRM) capabilities and responsive market orientation on the performance of e-commerce firms, with a specific emphasis on businesses operating in El-Oued, Algeria. By concentrating on this regional context, the research aims to deliver a nuanced understanding of how these strategic factors contribute to enhancing firm performance within an emerging digital economy.

A quantitative research design has been adopted to assess the statistical significance of the hypothesized relationships, with the level of significance established at $\alpha < 0.05$. The study is deliberately confined to the selected variables of CRM capabilities and responsive market orientation, excluding other potential determinants of ecommerce success, such as logistical infrastructure, regulatory frameworks, or consumer demographics. This focused approach facilitates a comprehensive and indepth analysis of the role of strategic management practices in promoting ecommerce performance within the specified regional setting.

The outcomes of this research are expected to provide valuable insights for ecommerce managers, policymakers, and business strategists seeking evidence-based approaches to the integration of CRM and market-oriented strategies. While the findings will offer significant implications for the advancement of the e-commerce sector in El-Oued, caution should be exercised when generalizing the

results to other regions, given potential differences in economic conditions and infrastructural contexts.

1.7. Significance of the Study

In today's rapidly evolving digital landscape, strategic management practices are essential determinants of success for e-commerce firms. The effective deployment of Customer Relationship Management (CRM) capabilities and responsive market orientation enables businesses to cultivate stronger customer relationships, adapt to shifting market dynamics, and sustain a competitive advantage. Nevertheless, in emerging markets such as Algeria, many e-commerce enterprises encounter significant challenges in adopting and integrating these strategies, thereby constraining their growth and long-term sustainability. This study seeks to address this critical gap by investigating the influence of these strategic factors on firm performance, offering timely and actionable insights.

From an academic standpoint, this research contributes meaningfully to the growing body of literature on strategic management in the context of e-commerce, particularly within developing economies. While the majority of existing studies tend to emphasize operational considerations such as logistics or pricing strategies, relatively few have explored the impact of CRM capabilities and market orientation on firm success in settings like Algeria. By examining these under-

researched dimensions, the present study introduces novel perspectives that enrich the broader field of business management scholarship.

From a practical perspective, the findings of this study are expected to provide valuable guidance to e-commerce firms striving to overcome obstacles to strategic implementation. The research will offer actionable recommendations aimed at enhancing customer engagement, improving operational efficiency, and strengthening competitive positioning. Furthermore, policymakers and industry stakeholders can utilize these insights to create a more supportive and enabling environment for the growth of the e-commerce sector. Ultimately, this study aspires to empower Algerian e-commerce firms to thrive in an increasingly dynamic and competitive global digital economy.

1.8. Challenges of the Study

This study faced several challenges, particularly in data collection from e-commerce firms in El-Oued, Algeria. The lack of a centralized database complicated participant identification and required extensive manual outreach, prolonging the data collection process. Low response rates, driven by time constraints and limited awareness of academic research relevance, further hindered participation.

Technological limitations, including unreliable internet access and inadequate digital infrastructure, restricted some firms' ability to engage in the study.

Additionally, the absence of recent, reliable official statistics necessitated rigorous cross-verification of data sources. Sample bias also emerged, as digitally proficient firms were overrepresented, potentially limiting the generalizability of the findings. Despite these obstacles, the study employed targeted outreach and robust data validation to ensure the reliability and validity of the results, offering valuable insights into the strategic factors influencing e-commerce firm performance in ElOued.

1.9. Literature Review

1.9.1 The Relationship Between Responsive Market Orientation (RMO) and Firm Performance

Responsive Market Orientation (RMO) refers to a firm's capability to understand and respond effectively to the articulated needs and wants of customers (Narver et al., 2004; Wei et al., 2014). Unlike proactive market orientation, which seeks to anticipate latent customer needs, RMO emphasizes real-time intelligence gathering, dissemination, and responsiveness to expressed demands. Firm performance, in this context, is commonly evaluated by indicators such as profitability, market share, brand equity, customer satisfaction, and growth relative to competitors (Schulze et al., 2022; Iyer et al., 2020).

The concept of RMO has garnered significant attention as a key driver of firm performance in dynamic and competitive markets. By enabling firms to align their offerings closely with customer preferences and market trends, RMO enhances decision-making quality, agility, and the ability to deliver superior customer value. Studies consistently underscore that RMO fosters operational efficiencies, marketing effectiveness, and sustained profitability.

Several theoretical frameworks underpin the relationship between RMO and firm performance. The Resource-Based View (RBV) posits that RMO is a valuable, rare, and inimitable resource that facilitates customer-centric value creation, yielding competitive advantages (Barney, 1991; Wei et al., 2014). Dynamic Capabilities Theory further suggests that RMO enhances a firm's adaptive capacity, allowing it to reconfigure resources rapidly in response to changing market conditions (Teece, 2007). Additionally, Organizational Learning Theory supports the view that RMO fosters continuous learning and knowledge-sharing, vital for sustaining market responsiveness (Prifti & Alimehmeti, 2017).

Empirical studies have confirmed the positive impact of RMO on various dimensions of firm performance. Prifti and Alimehmeti (2017) demonstrated a direct and significant relationship between market orientation and both innovation and performance in Albanian firms. Their findings support the notion that market-oriented intelligence dissemination and responsiveness drive product and

process innovations that bolster competitive performance. Wei et al. (2014) found that firms practicing RMO benefit from effective exploitation strategies, leading to enhanced short-term performance outcomes, particularly when exploration activities are carefully balanced. Similarly, Schulze et al. (2022) revealed that responsive competitor orientation—a component of RMO—contributes to firm performance through its alignment with learning orientation.

Samanta et al. (2020) examined SMEs during fragile economic conditions and concluded that RMO is a key factor for maintaining performance, particularly when supported by robust IT marketing infrastructure and customer equity drivers.

Charbonnel and Valette-Florence (2025) provided further evidence, showing that RMO positively influences marketing performance and that its effects are mediated by value co-creation orientation, emphasizing the synergistic role of customer collaboration.

In the international marketing context, Ishii and Yuki (2025) observed that export market orientation, encompassing responsiveness, significantly improves new product performance, especially when complemented by appropriate output controls in export channel management. Additionally, Iyer et al. (2020) found that RMO supports the development of brand positioning strategies that lead to superior brand performance in B2B markets.

Mamash et al. (2025) added a sustainability perspective, indicating that responsiveness to sustainability-driven market demands enhances firm performance, particularly when integrated with circular economy principles and supported by cleaner production practices.

Collectively, these studies confirm a robust, positive relationship between RMO and firm performance across various industries and market contexts. However, scholars also highlight that the effectiveness of RMO can be influenced by mediating factors such as innovation, strategic flexibility, brand positioning, and value co-creation, as well as moderating variables like industry dynamics and organizational learning culture.

Future research is encouraged to explore the nuanced interplay between RMO and firm performance across different cultural, technological, and economic contexts. Additionally, longitudinal studies could provide deeper insights into how the sustained application of RMO influences long-term competitive advantage and firm growth.

Table 1.1: Relationship between Responsive Market Orientation (RMO) and Firm Performance

No.	Paper Title	Authors (Year)	Country	Variables	Methods	Findings
1	Market orientation, innovation, and firm performance—an analysis of Albanian firms	Prifti & Alimehmeti (2017)	Albania	Market Orientation, Innovation, Firm Performance	Structural Equation Modeling (SEM)	Positive relationship between market orientation and both innovation and firm performance
2	The Role of Circular Economy Entrepreneurship, Cleaner Production, and Green Government Subsidy for Achieving Sustainability Goals in Business Performance	Mamash, Iyiola & Aljuhmani (2025)	Turkey	Circular Economy Entrepreneurship, Cleaner Production, Sustainability Performance	PLS-SEM	Responsiveness to sustainability demands enhances firm performance
3	Organizational ambidexterity, market orientation, and firm performance	Wei, Zhao & Zhang (2014)	China	Ambidexterity, Market Orientation (Responsive/Proactive), Firm Performance	Survey & Statistical Analysis	Responsive market orientation positively affects exploitation and firm performance
4	Completing the market orientation matrix: The impact of proactive competitor orientation on innovation and firm performance	Schulze, Townsend & Talay (2022)	Multiple (Europe/USA)	Competitor Orientation (Responsive/Proactive), Innovation, Firm Performance	Survey, Primary & Secondary Data Analysis	Responsive competitor orientation enhances firm performance via learning orientation
5	Market orientation, positioning strategy and brand performance	Iyer, Davari, Zolfaghari &	USA	Market Orientation (Responsive/Proactive),	Survey Analysis	Responsive market orientation supports positioning strategies

		Paswan (2020)		Positioning Strategy, Brand Performance		that improve brand performance
6	Exploring value cocreation impact on marketing performance	Charbonnel & ValetteFlorence (2025)	France	Value Co-creation Orientation, Responsive/Proactive Market Orientation, Marketing Performance	PLS-SEM	Responsive market orientation positively mediates the relationship between value cocreation and marketing performance
7	Effects Of Market Orientation, Strategies And Actions On SMEs' Performance During Fragile Economic Conditions	Samanta, Niros & Pollalis (2020)	Greece	Market Orientation, IT Marketing Infrastructure, Performance	Survey Analysis	Market orientation positively impacts SME performance, especially with IT marketing support
8	Export market orientation and new product performance: the moderating roles of process and output controls	Ishii & Yuki (2025)	Japan	Export Market Orientation, Channel Controls, New Product Performance	Survey Analysis	Responsiveness dimension of export market orientation enhances new product performance

1.9.2 The Relationship Between Customer Relationship Management (CRM) Capabilities and Firm Performance

Customer Relationship Management (CRM) capabilities refer to a firm's ability to effectively manage customer relationships through the integration of people, processes, and technology to create value for both the customer and the firm (Foltean et al., 2018; Wang & Feng, 2012). These capabilities extend beyond technological solutions, encompassing strategic processes that focus on customer acquisition, retention, and development (Trif et al., 2019; Ali et al., 2019). Firm performance in this context is often assessed using indicators such as customer satisfaction, market effectiveness, profitability, competitive advantage, and long-term growth (Mahfudz et al., 2025; Siddiqui et al., 2024).

The concept of CRM capabilities has gained significant attention as a crucial factor enhancing firm performance in both stable and dynamic market conditions. By enabling firms to gather, analyze, and utilize customer data effectively, CRM capabilities support superior customer engagement, personalized marketing strategies, and improved operational efficiency. Studies consistently highlight that well-developed CRM capabilities lead to increased customer loyalty, higher sales growth, and better financial outcomes (Foltean et al., 2018; Trif et al., 2019).

Several theoretical frameworks support the relationship between CRM capabilities and firm performance. The Resource-Based View (RBV) identifies CRM capabilities as valuable, rare, inimitable, and non-substitutable resources that provide firms with sustained competitive advantages (Wang & Feng, 2012; Jaruwanakul, 2024). The Dynamic Capabilities Theory posits that CRM enhances a firm's agility and responsiveness to market changes by enabling continuous learning and reconfiguration of customer engagement strategies (Siddiqui et al., 2024; Foltean et al., 2018). Additionally, Institutional Theory recognizes the role of external pressures, such as customer expectations and competitive forces, in driving the adoption and enhancement of CRM capabilities (Foltean et al., 2018).

Empirical studies have confirmed the positive influence of CRM capabilities on various dimensions of firm performance. Trif et al. (2019) demonstrated that CRM capabilities significantly drive customer satisfaction and market effectiveness, although their impact varies across market settings and product types. Foltean et al. (2018) found that CRM capabilities mediate the relationship between social media technology use and firm performance, emphasizing the strategic role of digital engagement tools. Siddiqui et al. (2024) provided evidence that CRM capabilities, along with knowledge-based and social media use capabilities, mediate the effect of entrepreneurial orientation on firm performance in both China and Ethiopia.

Mahfudz et al. (2025) explored the retail industry in Indonesia and found that CRM positively influences firm performance, with Green Supply Chain Management serving as a significant mediator. Ali et al. (2019) confirmed that specific dimensions of CRM capabilities, such as CRM processes and organizational alignment, significantly impact organizational performance, particularly in the telecom sector. Adil et al. (2024) demonstrated that CRM, coupled with promotional strategies, enhances marketing performance, with competitive advantage acting as a mediator.

In the context of technological advancements, Jaruwanakul (2024) revealed that AICRM adoption enhances firm performance through improved integration capability and team collaboration, although competitive advantage did not directly mediate this relationship. Yulisa and Permana (2020) highlighted the role of CRM in improving the performance of micro, small, and medium enterprises (MSMEs) in Indonesia, facilitated by omni-channel strategies that enhance customer experience. Nguyen Dang Hat et al. (2024) identified that CRM capabilities, complemented by digital marketing capabilities, significantly boost hospitality business performance in Vietnam.

Collectively, these studies affirm a robust and positive relationship between CRM capabilities and firm performance across diverse industries and market contexts.

Researchers also emphasize that this relationship is often mediated or moderated by factors such as technology adoption, competitive dynamics, digital marketing capabilities, supply chain integration, and organizational commitment.

Future research is encouraged to examine the evolving role of CRM capabilities in the digital era, particularly the integration of AI, big data analytics, and social media engagement. Longitudinal studies could further elucidate how CRM capabilities contribute to sustaining competitive advantages and fostering long-term business growth in an increasingly customer-centric and technology-driven marketplace.

Table 1.2: Relationship between CRM Capabilities and Firm Performance

No.	Paper Title	Authors (Year)	Country	Variables	Methods	Findings
1	Linking CRM capabilities to business performance: a comparison within markets and between products	Trif, Duțu & Tuleu (2019)	Romania	CRM Capabilities, Customer Satisfaction, Market Effectiveness, Business Performance	Structural Equation Modeling (SEM)	CRM capabilities drive customer satisfaction and market effectiveness; impact varies by market setting
2	Dynamic firm performance: Entrepreneurship, knowledge, social media, customer relationship management, environment	Siddiqui et al. (2024)	China & Ethiopia	CRM Capabilities, Firm Performance, Knowledge-based Capabilities, Social Media Use	SPSS Mediation Analysis	CRM capabilities mediate the relationship between entrepreneurship and firm performance
3	Are Shared-Goal Congruence, Customer Relationship Management, and Customer Relationship Advantages Matter to Leverage Firm Performance?	Mahfudz, Batu & Almadana (2025)	Indonesia	CRM, Shared-Goal Congruence, Green Supply Chain Management, Firm Performance	SEM-AMOS	CRM positively impacts firm performance, mediated by Green Supply Chain Management
4	Customer relationship management capabilities and social media technology use: Consequences on firm performance	Foltean, Trif & Tuleu (2018)	Romania	CRM Capabilities, Social Media Technology, Firm Performance	SEM	CRM capabilities mediate the effect of social media use on firm performance
5	Analysis Effect of Omni Channel on the MSME's Performance in Craft	Yulisa & Permana (2020)	Indonesia	Omni Channel, Customer Experience, CRM,	Survey Analysis	Omni Channel improves MSME performance through CRM

	Industry through Customer Experience and CRM			MSME Performance		
6	The Impact of Promotional Strategies and Customer Relationship Management on Competitive Advantage and Marketing Performance	Adil et al. (2024)	China	Promotional Strategies, CRM, Competitive Advantage, Marketing Performance	Smart-PLS	CRM has a positive association with marketing performance, mediated by competitive advantage
7	IMPACT OF CRM CAPABILITY DIMENSIONS ON ORGANIZATIONAL PERFORMANCE	Ali et al. (2019)	Pakistan	CRM Capability Dimensions, Organizational Performance	Survey Analysis	CRM process and organization significantly impact organizational performance
8	The Influence of AI-CRM Adoption and Big Data Analytical Capability on Firm Performance of Large Enterprises in Thailand	Jaruwanakul (2024)	Thailand	AI-CRM, Big Data Analytical Capability, Firm Performance	CFA & SEM	AI-CRM adoption enhances firm performance via integration capability and team collaboration
9	The Influence of Customer Relationship Management in Enhancing Hospitality Business Performance: The Conditional Mediation of Digital Marketing Capabilities	Nguyen Dang Hat et al. (2024)	Vietnam	CRM, Digital Marketing Capabilities, Hospitality Business Performance	Structural Equation Modeling (SEM)	CRM positively affects hospitality business performance, with digital marketing capabilities as a mediator

1.20. Study Hypotheses

H1: Responsive Market Orientation (RMO) has a positive and significant effect on firm performance.

H2: Customer Relationship Management (CRM) capabilities have a positive and significant effect on firm performance.

1.21. Study Framework

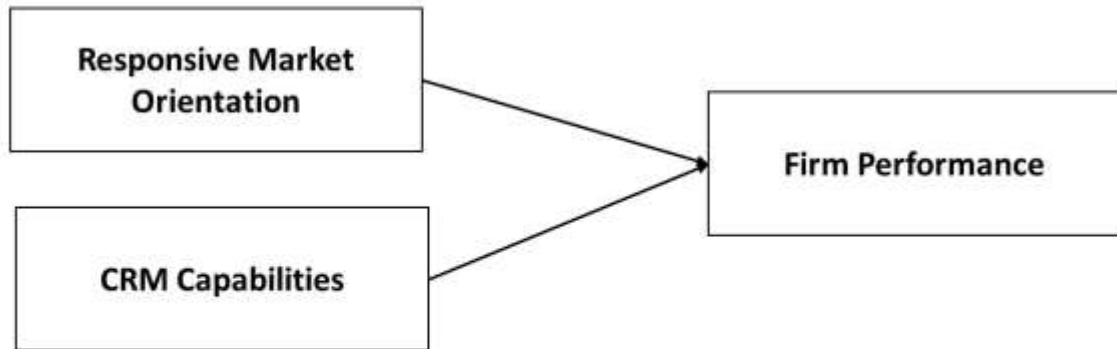


Figure 1.1: Study Conceptual Framework

CHAPTER TWO:

METHODS

2.1 Introduction

This Chapter outlines the methodology employed to examine the impact of AI competencies, big data analytics, and social media technology use on firm performance in e-commerce businesses. A quantitative approach was selected for this investigation, aiming to provide a comprehensive understanding of the study's focus areas, including the definition of the analysis unit, characteristics of respondents, and the study's target population within the context of e-commerce businesses in El Oued City, Algeria. This approach facilitated the detailed planning of the sampling method and the adaptation of the survey tool for this specific demographic. A structured, self-administered questionnaire was developed and disseminated to gather data from the targeted e-commerce firms, ensuring a methodical collection process and precise measurement of each variable under consideration. The final segment of this chapter delves into the data analysis techniques utilized to decipher the intricate relationships between AI competencies, big data analytics, and social media technology use, further exploring how these factors contribute to enhancing firm performance in the e-commerce sector.

2.2 Study Context

This research dives into the vibrant world of e-commerce in El Oued, Algeria, guided by the thesis title: Enhancing E-Commerce Firm Performance through CRM Capabilities and Responsive Market Orientation. It's all about understanding how local businesses thrive in the fast-paced digital marketplace by building strong customer relationships and staying nimble in response to market changes.

We're looking at 124 e-commerce firms, exploring how they use smart CRM tools and a keen sense of market trends to boost their success. The goal? To uncover what makes these businesses tick—how they tackle challenges, grab opportunities, and keep growing in El Oued's unique business scene. It's a story of innovation, connection, and resilience in the digital age.

2.2.1. E-commerce in Algeria

E-commerce in Algeria is experiencing remarkable momentum, emerging as one of the country's most promising digital sectors. Over the past few years, more Algerians have embraced online shopping, and the trend shows no signs of slowing down. By 2029, the number of e-commerce users is expected to grow by over 2.3 million, reaching around 9.35 million people—an increase of nearly 33% (Statista,

2024a). At the same time, the average amount each user spends online is projected to rise by nearly 19%, climbing to about 219 U.S. dollars, which reflects deeper trust and stronger engagement with online platforms (Statista, 2024b).

On the business side, digital entrepreneurship is thriving. The number of online merchants jumped from 337 in early 2023 to over 510 in the first quarter of 2024 alone, a clear sign of expanding digital business activity (Algerian Ministry of Commerce, 2024). This rapid growth is being fueled by a combination of better internet infrastructure, a digitally savvy youth population, and national strategies aimed at encouraging digital payments and reducing reliance on cash (World Bank, 2023).

In this dynamic environment, technologies like artificial intelligence, big data analytics, and social media are becoming more than just tools—they're essential assets for firms seeking to stand out in a competitive market. This study looks closely at how Algerian e-commerce businesses, especially those in El Oued, are leveraging these technologies to enhance their performance, better understand their customers, and build lasting competitive advantages.

2.3. Research Design

This study takes a hands-on, data-driven approach to better understand how ecommerce firms in El Oued, Algeria, can boost their performance through effective use of CRM capabilities and a responsive market orientation. Building on the framework suggested by Sekaran (2016), a quantitative research design was adopted, using a structured survey to explore how technologies like AI, big data analytics, and social media tools contribute to firm performance in this local context.

To gather meaningful insights, the questionnaire was carefully developed using well-established measurement scales (Sekaran, 2016) and a five-point Likert scale (Churchill & Iacobucci, 2006), making it easy for participants—primarily ecommerce business owners and managers—to share their experiences and views. This method ensured the responses were both reliable and relevant to the real-world challenges and strategies these firms face.

By analyzing the data collected from this survey, the research aims to uncover not just patterns, but actionable insights that reflect the unique dynamics of El Oued's growing digital marketplace. Ultimately, this approach helps provide a clearer picture of how e-commerce firms can strengthen their customer relationships and adapt quickly to market changes—two essential ingredients for sustainable performance in today's fast-moving digital economy.

2.4. Unit of Analysis

Guided by the methodological frameworks of Bhattacharjee (2012) and Neuman (2007), this study adopts the firm-level as its unit of analysis. Specifically, it focuses on e-commerce firms operating in El Oued city that actively engage in customer relationship management (CRM) practices and exhibit a responsive market

orientation. This firm-level perspective is directly aligned with the thesis objective of assessing how CRM capabilities and market responsiveness influence overall e-commerce firm performance within a localized business environment.

2.5. Respondent's Characteristics

The study employs the key informant method at the organizational level, using a single-respondent survey approach. Data is gathered from a senior executive within each e-commerce firm—preferably the owner or manager—who possesses a deep understanding of the firm's strategic objectives, CRM practices, market orientation, and overall performance. If the primary executive is unavailable, the survey is directed to the next highest-ranking official with comparable knowledge and responsibility. To ensure the reliability and depth of responses, all participants are required to have a minimum of three years of experience within their respective

firms, allowing them to accurately reflect on the organization's technological adoption and strategic direction.

2.6. The Target Population of the Study

Drawing on Malhotra (2004), this study focuses on e-commerce businesses operating in El Oued city that actively utilize AI competencies, big data analytics, and social media technologies to enhance operational efficiency and firm performance. The target population encompasses both formal and informal e-commerce practitioners. Formal businesses, totaling approximately 30, are officially registered entities, whereas the informal sector—estimated to include between 100 and 150 merchants—consists of unregistered sellers who primarily conduct transactions via platforms such as OuedKniss and social media channels like Facebook and Instagram.

2.7. Sampling Procedures

This study focuses on e-commerce businesses actively operating in the El Oued region. As previously noted, the estimated total population includes approximately 180 e-commerce practitioners, comprising both 30 registered businesses and around 150 informal sellers. Due to the absence of a comprehensive list of all

practitioners, a non-probability sampling technique—specifically, convenience sampling—was employed (Zikmund et al., 2013). E-commerce businesses were approached based on their availability and accessibility within key marketplaces and online platforms in El Oued.

While probability sampling methods, such as systematic sampling, are often preferred for generalizability, the lack of a complete sampling frame necessitated the adoption of a non-probability approach. This method allowed the researcher to include a diverse range of participants, ensuring representation from both formal and informal sectors. A total of 123 respondents were surveyed, aligning with practical constraints while still aiming to capture meaningful insights relevant to the study objectives.

2.8. Translation

Given that the study was conducted in El Oued province, where Arabic is the primary language, the survey instrument was carefully translated into Arabic to ensure clarity and accessibility for the target respondents. The original survey was developed in English, based on well-established and validated measures drawn from high-ranking academic journals, providing a strong methodological foundation. To preserve the accuracy and meaning of the original content, a

rigorous back-translation process was carried out. This involved bilingual experts in management—Dr. Oussama Saoula (Universiti Utara Malaysia) and Dr. Mouad Saadallah (Tabouk University, Saudi Arabia)—who meticulously reviewed the translations. Their work followed established best practices in cross-cultural research, as recommended by Brislin (1970), Douglas and Craig (2007), and Ozolins (2009). This careful process ensured that the Arabic version of the survey retained both the conceptual integrity and cultural relevance of the original, enabling the collection of reliable, meaningful data from e-commerce professionals in El Oued.

2.9. Data Collection

2.9.1. Questionnaire Design

To explore how CRM capabilities and a responsive market orientation influence the performance of e-commerce firms, this study employs a structured survey instrument. The survey begins with a brief introduction that welcomes participants, explains the research purpose as part of a Master's thesis at the University of El Oued, and emphasizes the value of their input. Participants are also assured that all responses will remain confidential and will be used strictly for academic purposes.

The questionnaire is thoughtfully organized into several sections to capture wellrounded insights. The opening section includes six questions related to the respondent's background and business profile—such as the firm's primary industry, age, size, the respondent's position, sales channels, and geographic reach. These demographic details provide important context for interpreting the findings. The subsequent sections delve into the study's core constructs, including organizational performance, CRM capabilities, and responsive market orientation. Using a fivepoint Likert scale—from “strongly disagree” to “strongly agree”—these items measure how widely these practices are adopted and how they contribute to the success of e-commerce businesses. Each section is designed to directly support the study's overarching research objectives.

2.9.2. Data Collection Procedure

Conducting survey research in a region like El Oued presents several unique challenges. Many local e-commerce business owners have limited exposure to academic studies, which can lead to uncertainty or reluctance—especially when the research explores emerging concepts such as CRM capabilities and responsive market orientation. To overcome these barriers and encourage meaningful participation, the study employed a personalized, hands-on approach using selfadministered questionnaires.

The data collection process began with direct phone calls to e-commerce businesses across all municipalities in El Oued province. These initial calls served to introduce the study, clarify its academic purpose as part of a Master's thesis at the University of El Oued, and reassure participants of the strict confidentiality of their responses. To further motivate involvement, respondents were also promised access to the study's key findings, underscoring the practical value of their participation.

The survey specifically focused on small and medium-sized e-commerce firms that are likely to adopt CRM capabilities and demonstrate a responsive market orientation. For those who agreed to take part, personal visits were arranged to deliver the questionnaires and provide any necessary clarification. This direct, faceto-face approach not only strengthened trust but also enhanced response quality by fostering a more open and supportive environment for participation.

2.10. Measurement Item

Surmise to previous studies on digital marketing capabilities, the questionnaire had adopted a multi-item scale in order to fit the study's context. The process had resulted in multiple-item measures for some constructs.

2.10.1. Firm Performance

We examine the domain of Organizational Performance by conceptualizing it as a unified construct, defined as "the ultimate criterion reflecting how well an organization achieves its objectives relative to competitors, encompassing dimensions such as profitability, market share, and growth" (Mikalef et al., 2023, p. 10). This construct comprises five performance-related items critical for assessing the success of e-commerce businesses in a competitive landscape. These items—overall success, market share, growth rate, profitability, and innovation—are adapted from Lee and Choi (2003) and tailored to the context of e-commerce SMEs in El Oued, reflecting their operational and competitive priorities.

To evaluate these performance dimensions, we utilized a 5-point Likert scale, ranging from 1 ('strongly disagree') to 5 ('strongly agree'). This scale was chosen to measure respondents' perceptions of their firm's performance compared to key competitors, providing a detailed understanding of how businesses assess their competitive standing and progress within the e-commerce sector. This measurement approach enables us to capture a holistic view of organizational performance, encompassing both the scope of competitive outcomes and the depth of their impact on business success and sustainability. The table below outlines the organizational performance items.

Table 2.1. Organizational Performance Items

No Label	Adapt/adopt from
01 Compared to our key competitors, our organization is more successful.	
02 Compared to our key competitors, our organization has a greater market share.	
03 Compared to our key competitors, our organization is growing faster.	Lee and Choi (2003)
04 Compared to our key competitors, our organization is more profitable.	
05 Compared to our key competitors, our organization is more innovative.	

2.10.2. CRM Capabilities

Customer Relationship Management (CRM) Capabilities refer to a firm's ability to effectively deploy relational resources to initiate, develop, and sustain mutually beneficial relationships with key customers (Vorhies, Orr, & Bush, 2011). In this study, CRM capabilities were measured using a set of items adapted from the validated scale developed by Orr et al. (2011). The original scale consists of

multiple indicators assessing a firm's relational strategies, including efforts to maintain customer loyalty, enhance relationship quality, and address long-term customer needs. One item—"Get target customers to try our products/services on a consistent basis"—was excluded due to unsatisfactory psychometric performance. The final measurement model retained four items: "Routinely establish a 'dialogue' with target customers," "Focus on meeting customers' long-term needs to ensure repeat business," "Systematically maintain loyalty among attractive customers," and "Routinely enhance the quality of relationships with attractive customers." All items were rated on a five-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), allowing respondents to express the extent to which each statement reflects their firm's CRM practices.

Table 2.2: CRM Capabilities Items

	No Label	Adapt/Adopt from
01 Routinely establish a "dialogue" with target customers.	02	Get consistent
03 Focus on meeting customers' long term needs to ensure repeat business		al.
04 Systematically maintain loyalty among attractive customers.		Orr et (2011)
05 Routinely enhance the quality of relationships with attractive customers		

2.10.3. Responsive Market Orientation

Responsive Market Orientation refers to a firm's cultural inclination and behavioral commitment to identifying and satisfying the expressed needs of current customers. It reflects the firm's ability to closely monitor, respond to, and act upon information related to customer preferences, market shifts, and competitor actions (Narver & Slater, 1990; Narver et al., 2004). In this study, the measurement items for responsive market orientation were adapted from Narver and Slater (1990), as validated and operationalized in subsequent empirical research, including Gotteland et al. (2020). The measurement scale includes items such as "We closely monitor and assess our level of commitment in serving customers' needs," "We frequently measure customer satisfaction," and "We are more customer-focused than our competitors." These items were selected for their relevance and clarity in the context of El Oued's e-commerce firms. To ensure consistency and respondent comprehension, all items were reformatted using a five-point Likert scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), which allows participants to indicate the extent to which each statement reflects their firm's market behavior.

Table 2.3. **Responsive Market Orientation Items**

Adapt/Adopt

No Label

from

We closely monitor and assess our level of commitment in
01 serving customers' needs

We freely communicate information about our successful
and unsuccessful customer experiences across all business

Narver and Slater 02
(1990) functions.

Our competitive advantage is based on understanding
03 customers' needs

04 We frequently measure customer satisfaction.

05 We are more customer-focused than our competitors

2.11. Data Analysis Procedure

To examine how CRM Capabilities and Responsive Market Orientation influence firm performance in e-commerce businesses, this study employed both descriptive and inferential statistical techniques using SPSS version 29 and SmartPLS 4. The descriptive analysis, carried out through SPSS, helped summarize the survey responses, offering a clear initial understanding of the dataset and facilitating data screening in line with best practices (Bichi, 2004). For the structural analysis, SmartPLS 4 was selected due to its suitability for modeling complex relationships— particularly when working with relatively small sample sizes—a feature that aligns well with our research context (Hair et al., 2012; Ringle et al., 2012; Goodhue et al.,

2006; Duarte et al., 2010).

Drawing from Diamantopoulos and Winklhofer (2001), the study used 27 reflective indicators to measure the key constructs: CRM Capabilities and Responsive Market Orientation, all tailored specifically for the e-commerce environment. A two-stage analytical process was applied to validate both the measurement and structural models, adhering to established methodological guidelines (Henseler et al., 2009; Hair et al., 2016). The Partial Least Squares Structural Equation Modeling (PLSSEM) technique was employed via SmartPLS 4, with bootstrapping procedures used to evaluate the model's path coefficients, reliability, validity, as well as the explanatory power (R^2) and predictive relevance (Q^2) of the constructs (Hair et al., 2014; Hair et al., 2016).

This comprehensive analytical approach provided robust insights into how CRM Capabilities and Responsive Market Orientation work together to drive firm performance in the dynamic landscape of e-commerce.

CHAPTER THREE

RESULTS

3.1 Rate of return

The data collection process for this study was conducted over a period of approximately two and a half months, starting in mid-January 2025 and concluding at the end of March 2025. During this period, researchers distributed a total of 170 questionnaires to e-commerce business owners and professionals across Algeria. This sample was drawn from an estimated 180 e-commerce businesses, ensuring broad representation within the sector. The selection process aimed to capture diverse perspectives on the role of CRM capabilities and responsive market orientation in enhancing e-commerce performance.

At the conclusion of the survey period, a total of 137 questionnaires were successfully retrieved, yielding a response rate of 80.6%. This high level of engagement indicates a strong interest among e-commerce professionals in contributing to research on digital transformation and technological advancements in their industry. However, upon careful review, 13 questionnaires were excluded from the analysis due to issues such as incomplete responses, inconsistencies, or failure to meet the study's criteria. As a result, the final number of valid

questionnaires included in the analysis was 124, accounting for 90.5% of the retrieved responses and 72.9% of the total distributed surveys.

Table 3.1: Total Number of Questionnaire Distributed and Collected.

Distributed Questionnaires	Retrieved Questionnaires	Excluded Questionnaires	Valid Questionnaires for Study
155	137	13	124

3.2. General Information

3.2.1. Business Activity

The table presents the distribution of e-commerce businesses based on their primary activity sectors. The data provides insights into the most common types of ecommerce businesses operating within the sample and highlights sectoral trends.

From the 124 valid responses, the most represented category is “Others” (21.8%), which suggests that a significant portion of businesses operate in niche markets or diverse fields beyond the predefined categories. This may include specialized services, digital products, or hybrid business models that combine multiple sectors.

Among the predefined categories, Fashion emerges as the leading sector, accounting for 18.5% of businesses. This aligns with global e-commerce trends, where fashion remains a dominant industry due to high consumer demand and the widespread use of online shopping platforms for clothing, accessories, and footwear.

Following fashion, the Electronics sector represents 16.1% of businesses. Given the increasing reliance on technology and digital devices, this figure reflects the growing market for electronic goods, including smartphones, accessories, and home gadgets. Similarly, the Home & Garden category accounts for 15.3%, indicating the presence of businesses catering to home improvement, décor, and furniture—an area that has gained traction with the rise of e-commerce solutions for household needs.

The Food & Beverages sector makes up 14.5% of the sample, reflecting a strong market for online grocery shopping, meal delivery services, and specialty food items. The growth of this sector could be driven by changing consumer habits, convenience, and digital transformation in the food industry.

Health & Beauty businesses, representing 13.7%, indicate a steady presence of companies offering skincare, cosmetics, supplements, and wellness products. The

sector's share in e-commerce is notable due to the increasing popularity of online beauty retailers, influencer marketing, and personalized shopping experiences.

Table 3.2: Business Activity

No.	Variable Category	Frequency	Percentage (%)
01	Activity Fashion	23	18.5%
	Health & Beauty	17	13.7%
	Electronics	20	16.1%
	Home & Garden	19	15.3%
	Food & Beverages	18	14.5%
	Others	27	21.8%
Total		124	100%

3.2.2. Business Age

The table presents the distribution of e-commerce businesses based on their age (years in operation). This classification provides insights into the maturity of businesses in the Algerian e-commerce sector and highlights the balance between new entrants and established firms.

Among the 124 valid responses, the businesses are relatively evenly distributed across different age groups, with the majority operating for 1 to 3 years (28.2%), followed closely by those that have been in business for less than 1 year (26.6%)

and more than 6 years (26.6%). Businesses that have been running for 4 to 6 years account for 18.5% of the sample.

Table 3.3: Business Age

No.	Variable Category	Frequency	Percentage (%)
	Less than 1 year	33	26.6%
	1 to 3 years	35	28.2%
	4 to 6 years	23	18.5%
	More than 6 years	33	26.6%
Total		124	100%

3.2.3. Business Size

The table presents the distribution of e-commerce businesses based on their size, specifically differentiating between sole proprietors and businesses with multiple employees (2 to 10 individuals). This classification provides insights into the structure of e-commerce enterprises in Algeria, highlighting the balance between single-owner businesses and small teams.

Among the 124 valid responses, a slight majority (54.0%) of businesses operate with 2 to 10 individuals, while the remaining 46.0% are sole proprietors managing their operations independently.

Table 3.4: Business Size

No.	Variable Category	Frequency	Percentage (%)
03	Size		
	Sole Proprietor	57	46.0%
	2 to 10 Individuals	67	54.0%
Total		124	100%

3.2.4. Respondent Position

The table categorizes e-commerce businesses based on the role of the respondent within the company. It distinguishes between owners/founders, assistants/partners, and other roles, providing insights into the leadership structure and decision-making dynamics in the Algerian e-commerce sector.

Among the 124 valid responses, the majority of respondents (52.4%) are owners or founders, followed by assistants or business partners (35.5%), while the remaining 12.1% belong to other roles within the business.

Table 3.5: Respondent Position

No.	Variable Category	Frequency	Role	Percentage (%)
04	Owner/Founder	65		52.4%
	Assistant/Partner	44		35.5%

	Others	15	12.1%
Total		124	100%

3.2.5. Channel Used in the Activity

The table presents the distribution of e-commerce businesses based on their primary marketing channels, highlighting the platforms they use to reach customers and promote their products. The data provides insights into the dominant marketing strategies within the Algerian e-commerce sector.

Among the 124 valid responses, the majority of businesses (44.4%) rely on social media platforms, followed by own websites (22.6%), marketplaces like Ouedkniss (21.8%), and other channels (11.3%).

Table 3.6: Channel Used in the Activity

No.	Variable	Category	Frequency	Percentage (%)
05	Marketing Channels	My Own Website	28	22.6%
		Social Media Platforms	55	44.4%
		Marketplaces (e.g., Ouedkniss)	27	21.8%
		Others	14	11.3%
		Total		124

3.3. Assessment of PLS-SEM Path Model Results

The study follows a two-step evaluation process for PLS-SEM path models, focusing first on the measurement model, then on the structural model.

3.3.1. Assessment of Measurement Model

In the assessment of the measurement model, we examine both reliability and validity:

3.3.1.1. Internal Consistency or Reliability

The table presents the reliability and validity metrics for the study's constructs, measured using Cronbach's alpha, Composite Reliability (ρ_c), and Average Variance Extracted (AVE). These indicators assess the internal consistency, reliability, and convergent validity of the three key constructs: CRM capabilities, responsive market orientation, and firm performance. Establishing these psychometric properties is critical in ensuring the robustness of the measurement model and the validity of the findings (Hair et al., 2021).

The table () shows results of the reliability and validity analysis for the constructs— CRM Capabilities (CRMC), Firm Performance (FPRF), and Responsive Market Orientation. These evaluations are based on three key indicators: Cronbach’s alpha, composite reliability (ρ_c), and average variance extracted (AVE), which together assess the consistency and accuracy of the measurement instruments used in the study.

Cronbach’s alpha values range from 0.624 to 0.675, with CRMC (0.675) and MRO (0.659) approaching the commonly accepted threshold of 0.70, and FPRF (0.624) slightly below it. While these figures suggest moderate internal consistency, they are still considered acceptable, especially in the context of exploratory research. These results also indicate that the items used to measure each construct are relatively consistent, though future refinement could further improve the reliability of the scales.

Composite reliability (ρ_c) offers stronger support for the consistency of the constructs. All three constructs meet or exceed the recommended benchmark of 0.70, with CRMC at 0.777, MRO at 0.804, and FPRF showing the strongest result at 0.839. These values suggest that the constructs are measured reliably and that the items are capturing the underlying concepts effectively.

As for convergent validity, the AVE values for each construct exceed the 0.50 threshold, which confirms that a substantial portion of variance in the items is explained by their respective latent variables. FPRF, in particular, stands out with an AVE of 0.723, followed by MRO at 0.582 and CRMC at 0.538. These results indicate that the constructs are valid and that the items used are closely related to the theoretical concepts they are intended to measure.

Taken together, these results confirm that the measurement model is both reliable and valid. Despite some room for improvement in internal consistency, the constructs are well-supported overall, providing a solid foundation for further structural analysis and hypothesis testing within the study.

Table 3.7: Internal Consistency or Reliability

	Cronbach's alpha	Composite reliability (rho_c)	Average variance extracted (AVE)
CRMC	0.675	0.777	0.538
FPRF	0.624	0.839	0.723
MRO	0.659	0.804	0.582

3.3.1.2. Convergent Validity Testing

The table (3.8) shows the item loadings, average variance extracted (AVE), and composite reliability for the three constructs used in the study: Firm Performance

(FPERF), CRM Capabilities (CRMC), and Responsive Market Orientation (MRO).

For Firm Performance, the two retained items (FPRF1 and FPRF3) exhibit high loadings of 0.896 and 0.802, respectively, indicating strong representation of the underlying construct. The AVE for this construct is 0.723, and the composite reliability is 0.839, both exceeding the recommended thresholds of 0.50 and 0.70 respectively (Hair et al., 2019), confirming good convergent validity and internal consistency. Similarly, CRM Capabilities includes three items with loadings ranging from 0.674 to 0.776, an AVE of 0.538, and a composite reliability of 0.777—again indicating acceptable levels of reliability and shared variance. Lastly, Responsive Market Orientation is represented by three items (MRO1, MRO3, MRO5), with loadings between 0.660 and 0.890. This construct demonstrates robust measurement properties, with an AVE of 0.688 and composite reliability of 0.868, reinforcing its strong internal consistency and convergent validity. These results support the overall reliability and validity of the measurement model.

Table 3.8: Item Loading, AVE, and Composite Reliability

Construct	Items	Loadings	AVE	Composite Reliability
Firm Performance			0.723	0.839

(FPERF)	FPRF1	0.896		
	FPRF3	0.802		
CRM Capabilities (CRMC)			0.538	0.777
	CRMC1	0.674		
	CRMC2	0.748		
	CRMC3	0.776		
Responsive Market Orientation (MRO)				0.688
	MRO1	0.890		
	MRO3	0.720		
	MRO5	0.660		

3.3.1.3. Discriminant Validity

Discriminant validity is a critical component of construct validity, ensuring that each latent variable represents a conceptually and statistically distinct construct within the structural model. In this study, discriminant validity is evaluated using the FornellLarcker criterion, which requires that the square root of the Average Variance Extracted (AVE) for each construct exceeds its correlations with any other construct (Fornell & Larcker, 1981). The results presented in Table 3.9 confirm that the constructs—CRM Capabilities (CRMC), Firm Performance (FPRF), and Responsive Market Orientation (MRO)—are empirically distinct, thereby reinforcing the soundness of the measurement model.

The square root of the AVE for CRMC is 0.734, which is higher than its correlations with both FPRF (0.675) and MRO (0.607), indicating a clear conceptual boundary.

Similarly, FPRF has an AVE square root of 0.850, exceeding its correlations with CRMC (0.675) and MRO (0.614), confirming that it captures a unique dimension of firm outcomes. MRO also demonstrates strong discriminant validity, with an AVE square root of 0.763, greater than its correlations with CRMC (0.607) and FPRF (0.614).

The correlation coefficients further reveal meaningful interrelationships among the constructs. For instance, the positive correlation between CRM Capabilities and Firm Performance (0.675) suggests that well-developed CRM systems are associated with better business outcomes, a finding supported by previous studies that highlight the role of customer-focused strategies in enhancing firm competitiveness (Trainor et al., 2014). Additionally, the moderate correlation between Responsive Market Orientation and Firm Performance (0.614) underscores the importance of market responsiveness in driving organizational success, aligning with the marketing literature that emphasizes adaptability as a key to performance (Narver & Slater, 1990).

In summary, the results affirm that all three constructs demonstrate strong discriminant validity, ensuring that each one contributes uniquely to the conceptual framework. This validation strengthens the credibility of subsequent structural path

analyses, hypothesis testing, and overall interpretation of model relationships (Hair et al., 2021).

Table 3.9: Discriminant Validity

	CRMC	FPRF	MRO
CRMC	0.734		
FPRF	0.675	0.850	
MRO	0.607	0.614	0.763

3.3.2. Assessment of Structural Model

3.3.2.1. Structural Model Specification (R-square values)

The structural model specification assesses the predictive strength of the model in explaining variations in the dependent variable—Firm Performance (FPRF)—using both R-square (R^2) and adjusted R-square (R^2 adjusted) metrics. In this study, the R-square value for Firm Performance is 0.185, indicating that the independent constructs (e.g., CRM Capabilities and Responsive Market Orientation) together account for 18.5% of the variance in firm performance. Although this proportion is moderate, it highlights that a meaningful share of performance outcomes can be attributed to the specified predictors. However, it also suggests the presence of additional unmeasured factors influencing performance, such as organizational

culture, innovation intensity, or external market conditions (Hair et al., 2021; Henseler et al., 2015).

The adjusted R-square value is 0.171, slightly lower than the R^2 , reflecting a correction for the number of predictors in the model to mitigate the effects of overfitting. This adjustment implies that while the model holds explanatory relevance, its predictive power is moderate and could be enhanced with the inclusion of more explanatory variables. Future research should explore additional organizational and environmental factors to improve the model's robustness and comprehensiveness (Sarstedt et al., 2019).

Despite the relatively modest R^2 values, they remain valuable for understanding the relationship between CRM capabilities, market orientation, and firm performance. These findings reinforce the idea that while internal capabilities are important, firm success in dynamic markets also depends on strategic alignment, resource integration, and competitive adaptability (Fornell & Larcker, 1981; Hair et al., 2021).

Table 3.10: R-square

	R-square	R-square adjusted
FPERF	0.185	0.171

3.3.2.2. Assessment of Effect Size (f^2)

The table presents the effect size (f^2) values, which provide insights into the individual contribution of each predictor variable to the explained variance in the dependent variable—Firm Performance (FPRF). The f-square metric is essential for evaluating the practical significance of the structural model relationships, complementing the R-square analysis by quantifying the impact of each exogenous construct when included or excluded from the model (Cohen, 1988; Hair et al., 2021).

In this study, CRM Capabilities (CRMC) exhibit an f^2 value of 0.106, which falls within the range of a small to medium effect size according to Cohen's benchmarks (0.02 = small, 0.15 = medium, 0.35 = large). This indicates that CRMC contributes moderately to explaining the variance in firm performance, highlighting the value of robust customer relationship management systems in enhancing business outcomes. On the other hand, Responsive Market Orientation (MRO) shows an f^2 value of 0.053, suggesting a small but meaningful effect on FPRF. While its contribution is less pronounced than CRMC's, MRO still plays a relevant role in improving firm performance by enabling firms to respond effectively to market changes and customer needs.

Overall, these effect size values confirm that both CRMC and MRO are relevant predictors of firm performance, with CRM Capabilities having a relatively stronger

impact. The findings underscore the importance of developing internal customer-focused capabilities and maintaining market responsiveness as part of an integrated strategy for performance improvement in competitive environments (Sarstedt et al., 2019; Hair et al., 2021).

Table 3.11: f-square

	f-square
CRMC -> FPRF	0.106
MRO -> FPRF	0.053

3.3.2.3. Global Criterion of Goodness of Fit (GoF) for Structural Model

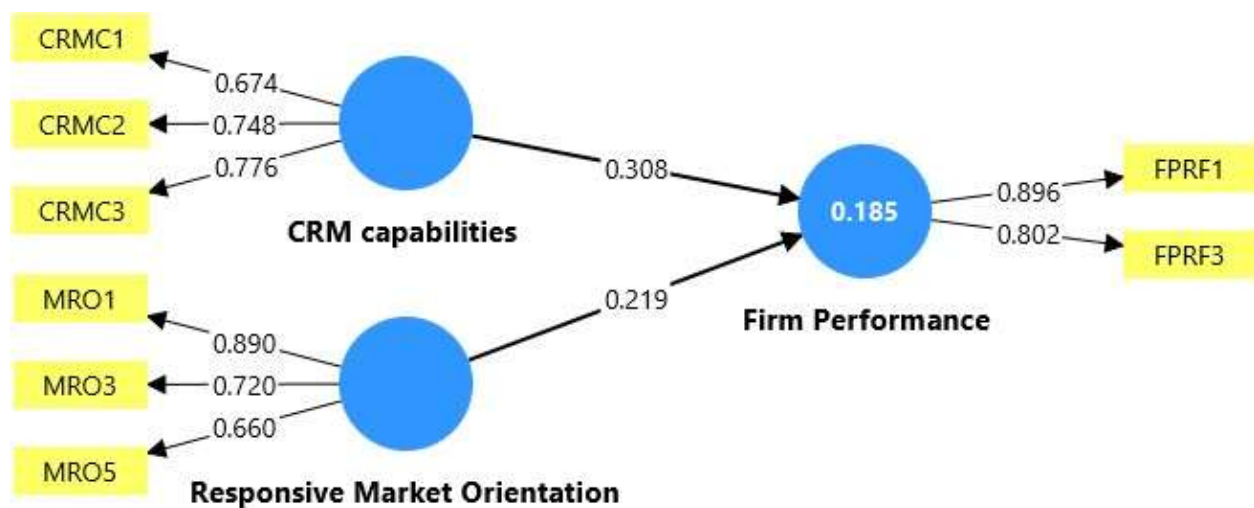


Figure 3.1: Items loading, f square, and R2 Value

3.3.2.4. Assessment of Goodness-of-Fit (GoF)

The Goodness of Fit (GoF) index serves as a comprehensive measure to evaluate the overall adequacy of the structural model, integrating both the measurement model's convergent validity and the structural model's explanatory power. This index is calculated using the geometric mean of the average variance extracted (AVE) and the R-square (R^2) of the key endogenous construct, as proposed by Tenenhaus et al.

(2005):

$$GoF = \sqrt{AVE \times R^2}$$

In this study, the R-square value for Firm Performance (FPRF) is 0.185, indicating that the independent constructs (CRM Capabilities and Responsive Market Orientation) explain approximately 18.5% of the variance in firm performance. The average AVE across the constructs (CRMC = 0.538, FPRF = 0.723, MRO = 0.582) is approximately 0.614.

According to the thresholds suggested by Wetzels et al. (2009), a GoF value of 0.10 indicates a small effect size, 0.25 a medium effect, and 0.36 a large effect. The

computed GoF of 0.337 thus reflects a moderate to approaching large model fit, providing evidence that the model achieves an acceptable level of global validity.

This conclusion is further supported by the results of discriminant validity presented in Table 3.9, which confirms that each construct—CRM Capabilities (CRMC), Firm Performance (FPRF), and Responsive Market Orientation (MRO)—is empirically distinct. The square root of AVE for each construct (CRMC = 0.734, FPRF = 0.850, MRO = 0.763) exceeds its inter-construct correlations, meeting the Fornell-Larcker criterion (Fornell & Larcker, 1981).

The following table summarizes the Global Criterion of Goodness of Fit (GoF) calculation:

Table 3.12: Goodness-of-Fit (GoF)

Criterion	Value
Average Variance Extracted (AVE)	0.614 (Average of AVE values)
R-square (FPERF)	0.185
Goodness of Fit (GoF)	$\sqrt{(0.631 \times 0.165)} \approx 0.337$

3.3.2.5. Estimates for Path Coefficients

The path coefficient analysis provides insights into the strength, significance, and direction of the relationships between the independent variables— CRM

Capabilities (CRMC) and Responsive Market Orientation (MRO)—and the dependent variable—and the dependent variable, Firm Performance (FPERF). The results are assessed based on the original sample (O), sample mean (M), standard deviation (STDEV), t-statistics, and p-values.

The path coefficient analysis provides insights into the strength, direction, and statistical significance of the relationships between the independent variables—CRM Capabilities (CRMC) and Responsive Market Orientation (MRO)—and the dependent variable, Firm Performance (FPRF). The analysis is evaluated based on the original sample estimates (O), t-statistics, and p-values, which are essential for determining the robustness of each hypothesized relationship within the structural model.

CRM Capabilities (CRMC) → Firm Performance (FPRF)

The path coefficient from CRMC to FPRF is 0.308, with a t-statistic of 3.966 and a p-value of 0.000, indicating a strong, positive, and highly significant relationship.

This result suggests that firms with well-developed customer relationship management capabilities are more likely to achieve enhanced performance outcomes. CRM systems may contribute to improved customer insights, stronger loyalty, and more efficient service delivery—all of which are crucial for sustaining

competitive advantage in dynamic markets. These findings are consistent with existing literature emphasizing the strategic role of CRM in driving business performance through better customer engagement and data-driven decision-making (Trainor et al., 2014; Wang & Feng, 2012).

Responsive Market Orientation (MRO) → Firm Performance (FPRF)

The path coefficient from MRO to FPRF is 0.219, with a t-statistic of 2.513 and a pvalue of 0.012, indicating a statistically significant and positive effect. This highlights that firms which actively respond to changing customer preferences and market dynamics tend to perform better. A responsive market orientation enables organizations to anticipate and meet customer needs more effectively, fostering higher satisfaction, adaptability, and long-term growth. This aligns with previous research asserting that market-oriented firms are better positioned to sustain profitability through customer-centric innovation and strategic flexibility (Narver & Slater, 1990; Kirca et al., 2005).

Overall, the results demonstrate that both CRM Capabilities and Responsive Market Orientation significantly contribute to Firm Performance, with CRM Capabilities having the stronger influence. These findings underscore the importance of customer-centric capabilities and adaptive strategies in enhancing organizational outcomes in competitive environments, particularly within the e-commerce sector. Future studies could examine additional mediators or

moderators—such as digital infrastructure, firm size, or leadership style—to further contextualize these relationships.

Table 3.13: path Coefficients

	Original sample (O)	T statistics (O/STDEV)	P values
CRMC → FPRF	0.308	3.966	0.000
MRO → FPRF	0.219	2.513	0.012

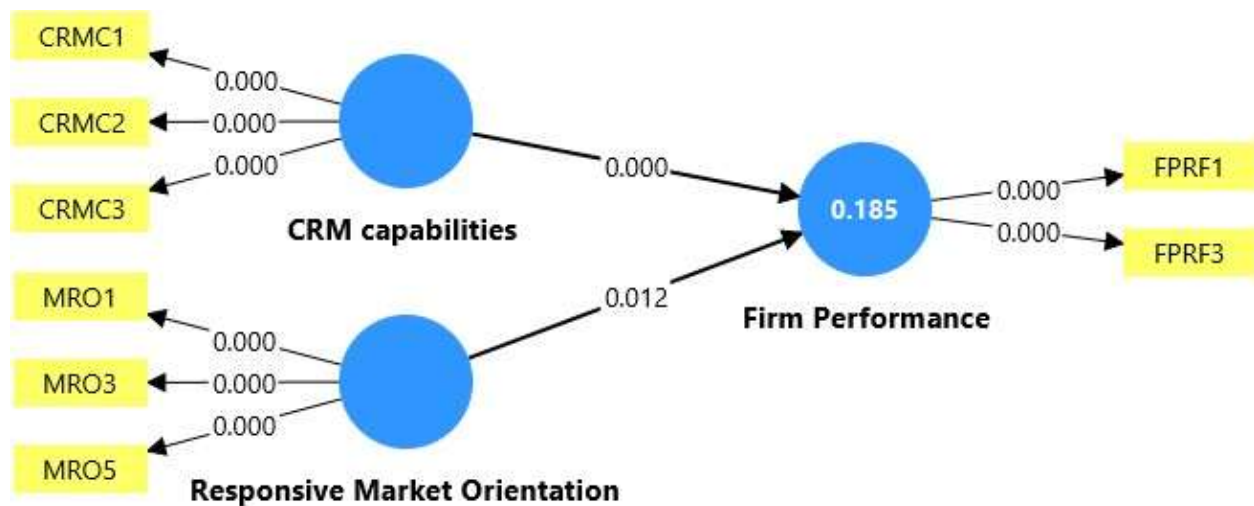


Figure 3.2: PLS Bootstrapping results of the Model

CHAPTER FOUR

DISCUSSION

4.1. Discussion

This study examines how Customer Relationship Management Capabilities (CRMC) and Responsive Market Orientation (MRO) influence firm performance. While previous research underscores the importance of CRM and market responsiveness, empirical evidence on their combined impact remains limited. Our findings show that firms leveraging strong CRM capabilities (e.g., customer data analysis and personalized engagement) and market responsiveness (e.g., adapting to customer needs and market trends) achieve significant improvements in profitability, customer retention, and competitive positioning. This supports the view that customer-centric strategies and market agility drive superior firm performance. The research contributes to theory by empirically linking these capabilities and offers practical insights for firms aiming to enhance performance through CRM and market orientation.

4.1.1 CRM Capabilities and Firm Performance

The findings of this study indicate a statistically significant relationship between Customer Relationship Management Capabilities (CRMC) and firm performance ($T = 3.966$, $p < 0.000$). This result suggests that, within the observed sample, firms' CRMC meaningfully contribute to enhancing performance outcomes, including profitability, customer retention, and operational efficiency. At first glance, this finding reinforces an established body of research positioning CRM as a cornerstone of competitive advantage and organizational effectiveness (Foltean et al., 2019; Wang, 2023; Siddiqui et al., 2024).

Several factors may explain why CRMC have demonstrated such a robust positive effect. First, as articulated by Foltean et al. (2019) and reaffirmed in this study's results, CRM capabilities enable firms to systematically gather, analyze, and respond to customer data, fostering personalized engagement and loyalty. By aligning customer insights with strategic objectives, firms can not only retain existing customers but also attract new ones through targeted value propositions and enhanced service delivery (Machiri et al., 2024; Mohammed et al., 2024).

Moreover, this study's findings are consistent with the Resource-Based View (RBV), which emphasizes that unique, difficult-to-imitate resources—such as CRM capabilities—are fundamental drivers of superior firm performance (Barney, 1991; Siddiqui et al., 2024). CRM capabilities often integrate both technological

infrastructure and human expertise, enabling dynamic customer management that adapts to evolving market demands (Wang, 2023; Foltean et al., 2019).

An additional explanation lies in the synergistic effect of CRM when combined with complementary organizational competencies. Prior studies (Rahman et al., 2023; Mahfudz et al., 2025) highlight that CRM capabilities yield their greatest performance dividends when integrated with marketing agility, cross-functional collaboration, and advanced data analytics. This holistic deployment enhances not only customer satisfaction but also operational responsiveness and innovation capacity.

Nevertheless, it is important to note that while CRM capabilities demonstrate significant effects in this study, their performance impact may vary across contexts. Factors such as industry type, firm size, technological readiness, and market volatility can moderate the CRM-performance relationship (Foltean et al., 2019; Wang, 2023; Siddiqui et al., 2024). Firms operating in highly dynamic or digitally mature sectors may realize faster and more pronounced benefits, while others may experience more gradual improvements.

Despite the positive findings, potential limitations warrant consideration. The cross-sectional design of the study limits the ability to infer causality or observe the long-term evolution of CRM-driven performance gains. Additionally, unobserved

variables—such as organizational culture, leadership quality, or customer segment diversity—may influence the strength or direction of the observed relationships.

In sum, this study contributes to the existing literature by empirically confirming the significant role of CRM capabilities in driving firm performance. The findings underscore that CRM is not merely an operational tool but a strategic resource that, when effectively leveraged, can yield substantial competitive and financial advantages. Future research should consider longitudinal approaches to track the temporal effects of CRM capability development and examine potential mediators such as innovation adoption or customer engagement depth. Further, studies could explore the moderating role of environmental dynamism, digital maturity, and crossindustry comparisons to refine our understanding of when and how CRM capabilities most powerfully enhance firm performance.

4.1.2 Responsive Market Orientation and Firm Performance

The findings of this study reveal a statistically significant relationship between Responsive Market Orientation (MRO) and firm performance ($T = 2.513$, $p = 0.012$). This suggests that firms that actively monitor and respond to changing customer needs and market dynamics experience measurable improvements in key

performance outcomes such as financial results, customer retention, and competitive positioning. These results reinforce the substantial body of literature emphasizing the importance of market orientation as a driver of business success (Javalgi et al., 2006; Samanta et al., 2020; Alhawamdeh et al., 2024).

This finding supports the foundational premise proposed by Slater and Narver (1994) and validated in numerous subsequent studies (Samanta et al., 2020; Win, 2024), which assert that a firm's dedication to understanding and fulfilling customer needs is a critical antecedent to superior performance. Responsive Market Orientation, by design, enables firms to swiftly assimilate market intelligence, adapt offerings, and anticipate customer preferences. This, in turn, fosters customer loyalty, enhances market effectiveness, and sustains financial returns.

Several mechanisms may explain why MRO positively influences firm performance. Market-oriented firms tend to develop advanced market-sensing capabilities and integrate customer feedback into their operations, which supports the alignment of product development, service delivery, and marketing strategies with evolving consumer demands (Javalgi et al., 2006). This strategic agility allows firms not only to retain existing customers but also to penetrate new market segments by addressing unmet needs.

Furthermore, the results align with the dynamic capabilities framework, which posits that firms operating in volatile or rapidly changing environments gain a competitive edge through their ability to sense and seize market opportunities (Samanta et al., 2020; Schulze et al., 2022). In this context, MRO functions as a dynamic capability that enhances a firm's adaptability and resilience amid market fluctuations.

It is also worth noting that market orientation's impact may vary across different organizational and environmental contexts. Prior research highlights that factors such as industry competitiveness, firm size, technological infrastructure, and organizational culture can moderate the effectiveness of market orientation (Samanta et al., 2020; Wei et al., 2014). For instance, in hypercompetitive or resource-constrained settings, the benefits of MRO might be contingent on complementary investments in innovation, human capital, and digital technologies.

Moreover, the cross-sectional nature of the current study imposes certain limitations, particularly in capturing the temporal dynamics of MRO's influence on performance. The positive effects of market orientation may unfold over varying time horizons, with early investments yielding delayed yet cumulative performance benefits.

In summary, this study contributes to the growing literature confirming that Responsive Market Orientation is a pivotal driver of firm performance. By systematically responding to customer needs and market shifts, firms can enhance both their operational outcomes and their strategic positioning. Future research should consider longitudinal designs to examine the long-term impacts of MRO and explore mediating variables such as innovation capabilities or organizational learning, along with moderators like environmental turbulence and digital maturity.

4.2. Limitation and Direction for Future Studies

This study offers valuable insights into how CRM capabilities and Responsive Market Orientation influence firm performance. However, several limitations present opportunities for future research. First, the study's focus on a specific sample limits the generalizability of the results. Broader, multi-industry, or cross-national studies are recommended to capture sectoral and geographic variability, thereby enhancing external validity.

Second, the cross-sectional design constrains the ability to infer causality and examine temporal dynamics. Future studies should adopt longitudinal designs to observe how CRM capabilities and market orientation evolve and impact firm performance over time. Moreover, reliance solely on self-reported survey data may introduce subjective bias; integrating objective measures such as customer

retention rates, financial records, or CRM system analytics would strengthen empirical robustness.

Third, while this study focused on CRM capabilities and market orientation, future research should incorporate additional organizational and marketing-related constructs to develop a more comprehensive model. In particular, *Social Media Marketing Capabilities*, *Entrepreneurial Marketing*, and *Firm Innovativeness* are promising variables for future investigation. These constructs reflect the growing importance of digital engagement, proactive market-making strategies, and innovation-driven competitiveness in dynamic business environments.

Finally, the current model explains only a portion of the variance in firm performance, indicating that other contextual, organizational, and technological factors may play significant roles. Exploring mediating or moderating variables such as organizational learning, leadership agility, or digital transformation readiness could yield deeper insights into the mechanisms through which CRM and market orientation drive superior outcomes. Comparative studies across firms of varying sizes, industries, and technological maturity levels are also encouraged to uncover differentiated strategic pathways for enhancing firm performance.

4.3. Contribution of the Study

This study offers several important contributions to both academic literature and practical business management, particularly in the domains of customer relationship management, market orientation, and firm performance.

Theoretically, the research advances the existing body of knowledge by integrating two critical organizational capabilities—Customer Relationship Management Capabilities (CRMC) and Responsive Market Orientation (MRO)—into a unified empirical model that explains firm performance outcomes. Unlike previous studies that often examine these constructs in isolation or within specific industry contexts, this study provides a comprehensive and contextually relevant framework applicable to a wider range of firms. By empirically validating the positive influence of both CRMC and MRO on firm performance, the study addresses notable gaps in the literature, particularly regarding the combined and synergistic effects of these capabilities. Additionally, the findings contribute to the Resource-Based View (RBV) and Dynamic Capabilities perspectives by demonstrating how CRM and market responsiveness serve as valuable, rare, and hard-to-imitate resources that enhance firm competitiveness and adaptability.

Methodologically, the study employs rigorous quantitative analysis, ensuring the validity and reliability of its findings. The use of robust statistical techniques to evaluate the relationships among latent variables adds methodological strength.

The sample design and data collection approach offer a replicable model for future research, especially studies seeking to explore performance outcomes across varied firm sizes, industries, and technological maturity levels. The study also acknowledges and addresses limitations—such as the use of cross-sectional data and potential self-report bias—which reinforces the transparency and scholarly rigor of the research design.

Practically, the study provides actionable insights for managers, business strategists, and policymakers. For practitioners, the findings emphasize the strategic importance of investing in CRM systems and cultivating a culture of market responsiveness. These capabilities not only improve customer retention and satisfaction but also strengthen financial outcomes and competitive positioning. The study also offers valuable guidance for firms seeking to enhance their operational efficiency, customer engagement, and market adaptability in increasingly dynamic and competitive environments. From a policy perspective, the research highlights the need for initiatives that promote CRM technology adoption, foster market intelligence development, and encourage the integration of customer-centric practices in firms, particularly small and medium-sized enterprises (SMEs).

4.4. Conclusion

This study set out to investigate the influence of Customer Relationship Management (CRM) capabilities and Responsive Market Orientation (RMO) on the performance of e-commerce firms, with a particular focus on businesses operating in El Oued, Algeria. Drawing on the Resource-Based View and Dynamic Capabilities Theory, the research proposed and empirically tested a model that integrated these two strategic capabilities as key drivers of firm performance. Through a robust quantitative methodology, using data collected from 124 e-commerce firms, the study confirmed that both CRM capabilities and Responsive Market Orientation exert significant positive effects on firm performance, with CRM showing a somewhat stronger influence.

The findings highlight that firms which invest in developing advanced CRM systems—capable of gathering, analyzing, and leveraging customer data—are better positioned to enhance customer engagement, foster loyalty, and improve financial outcomes. Likewise, a Responsive Market Orientation enables firms to adapt to changing customer needs and market dynamics, thereby securing sustained competitive advantage in an increasingly volatile business environment.

From a theoretical perspective, the study contributes to the existing literature by empirically validating the synergistic impact of CRM and market orientation on firm performance, especially within the under-researched context of Algerian

ecommerce. This reinforces the relevance of customer-centric and market-responsive strategies in driving organizational success across diverse markets and industries.

Practically, the results provide valuable insights for managers and policymakers. Ecommerce firms should prioritize the development of CRM capabilities and cultivate a culture of market responsiveness to enhance operational efficiency, customer satisfaction, and profitability. Policymakers and industry stakeholders are encouraged to support digital infrastructure improvements and training initiatives that enable firms—especially small and medium-sized enterprises (SMEs)—to adopt and integrate these strategic capabilities effectively.

However, the study also acknowledges certain limitations, including the cross-sectional design, which restricts causal interpretations, and the focus on a single geographic region, which may limit generalizability. Future research should consider longitudinal approaches, broader geographic coverage, and the inclusion of additional variables—such as innovation capabilities or digital transformation maturity—to provide a more comprehensive understanding of the determinants of ecommerce firm performance.

Therefore, this study underscores the strategic importance of aligning customer relationship management and market orientation practices to achieve superior

performance. As the digital economy continues to evolve, firms that master these capabilities will be better equipped to navigate competitive pressures and capitalize on emerging market opportunities.

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Appendix

1. The Study Survey

Dear Participant,

I am conducting research for my Master's degree at university of El Oued to examine the impact of various factors on the performance of e-commerce businesses. Your participation in this survey is valuable in helping us understand how these factors influence firm success.

The survey will take approximately 5 minutes to complete, and all responses will remain confidential and used solely for academic purposes.

Thank you for your time and input. If you have any questions, feel free to contact us.

Sincerely

Profile Questions

1. What is the primary industry of your e-commerce business?

- Fashion ○
Electronics ○ Health
& Beauty ○ Home &
Garden ○ Food &
Beverage ○ Other:

2. How long has your business been operating?

- Less than 1 year
- 1-3 years ○ 4-6
years ○ Over 6 years

3. What is the size of your business? ○ Sole proprietorship ○
Small (1-10 employees)

4. What is your role in the company?

○ Owner/Founder ○

Manager ○ Other:

5. **Which sales channels do you use?** ○ Own website ○

Marketplaces (e.g., OuedKniss, ,...) ○ Social media ○ Other:

6. **Do you operate across cities or locally?**

○ Just in El Oued ○

Across Cites ○ Both

Organizational Performance						
No	Label	strongly disagree	Disagree	Neutral	Agree	Strongly agree
01	Compared to our key competitors our organization is more successful.					
02	Compared to our key competitors our organization has a greater market share.					
03	Compared to our key competitors our organization is growing faster.					
04	Compared to our key competitors our organization is more profitable.					
05	Compared to our key competitors our organization is more innovative					

CRM capabilities						
No	Label	strongly disagree	Disagree	Neutral	Agree	Strongly agree
01	Routinely establish a “dialogue” with target customers.					
02	Get target customers to try our products/services on a consistent basis <input type="checkbox"/>					

03	Focus on meeting customers' long term needs to ensure repeat business.					
04	Focus on meeting customers' long term needs to ensure repeat business					
05	Systematically maintain loyalty among attractive customers.					
06	Routinely enhance the quality of relationships with attractive customers					

Responsive market orientation						
No	Label	strongly disagree	Disagree	Neutral	Agree	Strongly agree
01	We closely monitor and assess our level of commitment in serving customers' needs.					
02	We freely communicate information about our successful and unsuccessful customer experiences across all business functions.					
03	Our competitive advantage is based on understanding customers' needs					
04	We frequently measure customer satisfaction.					
05	We are more customer-focused than our competitors.					