

جامعة ميدأوشن

كلية الإدارة

قسم / تخصص ماجستير إدارة أعمال



تحليل أثر إدارة علاقات العملاء (CRM) على نمو مبيعات المشاريع في الأسواق التنافسية بالمملكة العربية السعودية

إعداد الطالب/ عبدالله محمد الكاف

الرقم الأكاديمي: 243001129

إشراف/

د. الفصيل عبد الحميد

د. فايز جراد

العام الدراسي:

2025

Midocean University

College of Management

Master of Project Management



**The Impact of Customer Relationship Management (CRM) on Growth of
Project Sales in Competitive Markets in Saudi Arabia.**

Prepared by: **Abdullah Mohammed Alkaf**

Academic number: **243001129**

Supervised by:

Dr. Alfaisal Abdelhameed Mohamed

Dr. Fayez Ali Jrad

Year:

2025

المستخلص

تهدف هذه الدراسة إلى تحليل أثر إدارة علاقات العملاء (CRM) على نمو مبيعات المشاريع في الأسواق التنافسية بالمملكة العربية السعودية، مع التركيز بشكل خاص على قطاع معالجة المياه والحلول البيئية. ويعمل هذا القطاع ضمن بيئة مبيعات معقدة تعتمد على المشاريع الهندسية، ودورات بيع طويلة، وتقييمات فنية دقيقة، وتعدد أصحاب المصلحة، مما يجعل إدارة علاقات العملاء أداة حيوية لتعزيز التفاعل مع العملاء وتحسين نتائج المبيعات. وتتمثل مشكلة البحث في تحديد مدى مساهمة مكونات إدارة علاقات العملاء بما في ذلك إدارة معرفة العملاء، إدارة التفاعل مع العملاء، البنية التكنولوجية لنظام CRM، واستراتيجيات الاحتفاظ بالعملاء في تحسين أداء مبيعات المشاريع.

اعتمدت الدراسة على منهج مختلط يجمع بين الأسلوبين الكمي والنوعي. حيث تم جمع البيانات الكمية من خلال استبيان شمل (102) من المهنيين العاملين في المبيعات وإدارة علاقات العملاء والأقسام الفنية التجارية في شركات معالجة المياه بالمملكة. كما تم جمع البيانات النوعية من خلال مقابلات شبه منظمة مع ثمانية من الخبراء والمديرين في القطاع. وأظهرت النتائج أن إدارة علاقات العملاء تترك أثراً قوياً وإيجابياً على نمو مبيعات المشاريع، وكانت استراتيجيات الاحتفاظ بالعملاء وإدارة معرفة العملاء الأكثر تأثيراً. كما تبين أن CRM يساهم في تحسين إدارة المناقصات، ودقة التنبؤ بالمبيعات، والتنسيق بين فرق المبيعات والفريق الفني. ومع ذلك، كشفت الدراسة عن تحديات تشمل ضعف تبني المستخدمين للنظام، وعدم تكامل الأنظمة، وعدم انتظام إدخال البيانات.

تسهم هذه الدراسة في سد الفجوة البحثية المتعلقة بتطبيق CRM في الصناعات الفنية المعتمدة على المشاريع في المملكة العربية السعودية، وتقدم توصيات عملية لتعزيز تطبيق إدارة علاقات العملاء ودعم القدرة التنافسية للشركات.

الكلمات المفتاحية: إدارة علاقات العملاء، مبيعات المشاريع، الاحتفاظ بالعملاء، معالجة المياه، المملكة العربية السعودية، الأسواق التنافسية، أداء المبيعات.

Abstract

This research examines the impact of Customer Relationship Management (CRM) on the growth of project sales within competitive markets in Saudi Arabia, with a specific focus on the water treatment and environmental solutions sector. As organizations in this sector operate within complex, engineering-driven project environments characterized by long sales cycles, technical evaluation stages, and multiple stakeholders, CRM has become a critical tool for enhancing customer engagement and improving sales outcomes. The purpose of this study is to evaluate how CRM practices including customer knowledge management, customer interaction management, CRM technology infrastructure, and customer retention strategies contribute to the performance of project sales.

A mixed-method research design was adopted. Quantitative data were collected through a structured survey completed by 102 professionals working in sales, CRM, and technical-commercial functions in Saudi water treatment companies. Qualitative insights were gathered through semi-structured interviews with eight senior industry professionals. Findings reveal that CRM has a strong and significant positive effect on project sales growth, with customer retention strategies and customer knowledge management emerging as the most influential factors. CRM was also found to improve tender management, forecasting accuracy, and coordination between sales and technical teams. However, challenges such as limited user adoption, insufficient system integration, and inconsistent data entry reduce CRM effectiveness.

This study contributes to the limited literature on CRM within project-based technical industries in Saudi Arabia and provides practical recommendations for strengthening CRM implementation to enhance competitiveness.

Keywords: CRM, project sales, customer retention, water treatment, Saudi Arabia, competitive markets, sales performance.

ACKNOWLEDGMENT

I would like to express my deepest appreciation to my supervisors, Dr. Alfaisal Abdulhameed and Dr. Fayez Jarad, for their invaluable guidance, constructive feedback, and continuous support throughout the development of this thesis. Their expertise and encouragement have been instrumental in shaping the quality of this research.

My heartfelt gratitude also goes to my family, whose unwavering support, patience, and motivation have been a constant source of strength. Their belief in me has made this achievement possible.

To all who contributed directly or indirectly to the successful completion of this study, I extend my sincere thanks and appreciation.

TABLE OF CONTENT

<u>Cover Page (Arabic)</u>	<u>1</u>
<u>Cover Page (English)</u>	<u>2</u>
<u>Abstract (English)</u>	<u>4</u>
<u>Abstract (Arabic)</u>	<u>3</u>
<u>Acknowledgment</u>	<u>5</u>
<u>Table of Content</u>	<u>6</u>
<u>Table of Content</u>	<u>7</u>

CHAPTER ONE – INTRODUCTION 8

<u>1.1 Introduction</u>	<u>8</u>
<u>1.2 Literature Review</u>	<u>11</u>
<u>1.3 Research Problem</u>	<u>12</u>
<u>1.4 Research Hypotheses</u>	<u>12</u>
<u>1.5 Research Objectives</u>	<u>13</u>
<u>1.6 Research Importance</u>	<u>13</u>
<u>1.7 Research Methodology</u>	<u>14</u>
<u>1.8 Research Limitations</u>	<u>14</u>

CHAPTER TWO – THEORETICAL FRAMEWORK 17

<u>2.1 Introduction</u>	<u>18</u>
<u>2.2 Overview of CRM</u>	<u>18</u>
<u>2.3 CRM Components and Dimensions</u>	<u>19</u>
<u>2.4 Strategic Role of CRM in Project-Based Industries</u>	<u>21</u>
<u>2.5 CRM and Sales Growth Models</u>	<u>22</u>
<u>2.6 CRM in the Water Treatment Sector</u>	<u>24</u>
<u>2.7 Conceptual Framework</u>	<u>25</u>

CHAPTER THREE – RESEARCH METHODOLOGY 27

<u>3.1 Introduction</u>	<u>28</u>
<u>3.2 Research Design (Mixed Method)</u>	<u>28</u>
<u>3.3 Study Population</u>	<u>30</u>
<u>3.4 Sampling Technique and Sample Size</u>	<u>30</u>
<u>3.5 Data Collection Tools</u>	<u>32</u>
<u>3.6 Validity and Reliability</u>	<u>33</u>
<u>3.7 Data Analysis Methods</u>	<u>34</u>
<u>3.8 Ethical Considerations</u>	<u>34</u>

CHAPTER FOUR – DATA ANALYSIS AND RESULTS 36

<u>4.1 Introduction</u>	<u>37</u>
<u>4.2 Quantitative Analysis</u>	<u>37</u>
<u>4.3 Qualitative Analysis.....</u>	<u>40</u>
<u>4.4 Integration of Quantitative and Qualitative Findings.....</u>	<u>41</u>
<u>4.5 Summary of Results</u>	<u>41</u>

CHAPTER FIVE – DISCUSSION, CONCLUSIONS & RECOMMENDATIONS 43

<u>5.1 Discussion</u>	<u>44</u>
<u>5.2 Conclusions</u>	<u>45</u>
<u>5.3 Recommendations for Future Research.....</u>	<u>45</u>
<u>5.4 Summary for Future Research</u>	<u>47</u>

<u>References</u>	<u>49</u>
-------------------------	-----------

<u>Appendices</u>	<u>53</u>
-------------------------	-----------

CHAPTER ONE

GENERAL FRAMEWORK OF THE RESEARCH

1.1 Introduction

Customer Relationship Management (CRM) has become a central strategic pillar for organizations operating in highly competitive markets. In sectors driven by project sales—such as water treatment and environmental solutions—the ability of firms to develop, retain, and expand customer relationships directly influences sales performance and long-term market positioning. Saudi Arabia’s water treatment industry is undergoing significant expansion as a result of Vision 2030 priorities, increasing private sector participation, and continuous investment in water infrastructure, wastewater treatment, industrial effluent management, and sustainable environmental technologies.

Consequently, firms operating in this sector face increasing competition, more sophisticated customer expectations, and pressure to demonstrate technical, commercial, and operational value.

In such a dynamic environment, CRM plays a critical role in supporting project-based sales. Unlike traditional product sales, project sales depend heavily on long selling cycles, multiple stakeholders, technical evaluations, and continuous post-award interactions. CRM enables organizations to organize customer information, automate follow-ups, manage tender pipelines, understand client needs, and provide tailored solutions that enhance the probability of winning bids. Additionally, CRM supports collaboration among technical, sales, and management teams—an essential factor in solution-based industries such as water treatment.

Despite the growing adoption of CRM systems in Saudi Arabia, little empirical research has examined how CRM contributes to the **growth of project sales** in the Saudi water treatment and environmental solutions sector specifically. Most existing studies focus on general CRM benefits, such as customer satisfaction or marketing efficiency, without addressing how CRM influences the complex and competitive environment of project bidding, proposal development, and solution engineering.

This study, therefore, aims to investigate **the impact of CRM on the growth of project sales in competitive markets in Saudi Arabia**, with a dedicated focus on the water treatment and environmental solutions sector. Through a mixed-method approach combining quantitative survey data and qualitative interviews with industry professionals, the research seeks to provide a deeper understanding of CRM's role in enhancing sales growth, improving customer engagement, and strengthening competitive advantage.

1.2 Literature Review

Research on CRM has evolved significantly over the past two decades. Scholars generally define CRM as a strategic process supported by technology designed to manage customer interactions, improve customer value, and optimize organizational performance. CRM is typically considered to include four main dimensions: **customer knowledge management, customer interaction management, CRM technology infrastructure, and customer retention strategies.**

Studies indicate that CRM contributes positively to organizational performance by enhancing communication, improving customer satisfaction, supporting decision-making, and increasing loyalty. In project-based industries, CRM has been found to reduce sales cycle time, enable more accurate forecasting, and improve coordination between sales and technical teams.

In the context of Saudi Arabia, CRM adoption has increased significantly across various industries due to digital transformation initiatives. However, limited academic attention has been given to the impact of CRM on **project sales growth** specifically within the water treatment sector. This sector is characterized by complex tendering processes, customer-specific engineering requirements, and long-term service expectations—factors that require a structured approach to managing relationships.

Existing literature highlights that organizations that invest in CRM systems experience improvements in:

- Lead generation and qualification
- Customer retention
- Pipeline transparency
- Responsiveness to customer inquiries
- Accuracy of proposals and tender submissions
- After-sales service management

Nevertheless, more empirical evidence is needed to understand how these improvements translate into measurable growth in project sales within competitive markets, particularly in specialized technical sectors such as water treatment and environmental solutions.

This study fills this research gap by providing sector-specific evidence and examining the CRM dimensions that most influence project sales performance in Saudi Arabia.

1.3 Research Problem

Although CRM is widely recognized as an important strategic tool, organizations in the Saudi water treatment and environmental solutions sector vary in how effectively they implement and utilize CRM systems. Many firms invest in CRM software but do not achieve the expected improvements in sales performance. Others use CRM primarily as a reporting tool rather than a strategic enabler of customer insights and project pipeline management.

This discrepancy raises the central research problem:

What is the impact of Customer Relationship Management (CRM) on the growth of project sales in competitive markets in Saudi Arabia, particularly within the water treatment and environmental solutions sector?

Sub-questions include:

1. How does CRM influence customer acquisition in competitive project-based markets?
2. How does CRM enhance customer retention and loyalty?
3. To what extent does CRM improve project sales performance and tender success rates?
4. Which CRM components have the strongest impact on sales growth?
5. What challenges hinder CRM effectiveness in the Saudi water treatment sector?

1.4 Research Hypotheses

Based on the literature and preliminary observations, the study proposes the following hypotheses:

H1: CRM has a positive and significant impact on the growth of project sales in the Saudi water treatment and environmental solutions sector.

H2: Effective customer knowledge management positively influences project sales performance.

H3: CRM-supported customer retention strategies contribute significantly to project sales growth.

H4: CRM technology infrastructure improves the efficiency of project pipeline management and enhances sales outcomes.

H5: Customer interaction management plays a significant role in increasing tender win rates in competitive markets.

1.5 Research Objectives

The study aims to achieve the following objectives:

1. To analyze the relationship between CRM practices and project sales growth.
2. To identify which CRM components most strongly influence the success of project sales.
3. To assess how CRM supports customer acquisition, retention, and long-term relationships.
4. To evaluate CRM's role in improving sales processes, forecasting, and tender management.
5. To explore the challenges that organizations face when implementing CRM in the water treatment sector.
6. To provide practical recommendations for enhancing CRM effectiveness and supporting market competitiveness.

1.6 Research Importance

This study holds significance for several reasons:

Academic Importance

- It contributes new empirical evidence to CRM literature by focusing on a sector that has received limited research attention.

- It enriches understanding of CRM effectiveness in project-based industries rather than retail or service sectors.
- It introduces a mixed-method analysis that provides deeper insights into CRM's operational and strategic value.

Practical Importance

- The findings will help companies in the Saudi water treatment sector optimize CRM systems for increased sales performance.
- It will guide sales leaders and technical managers in improving project bidding strategies.
- It supports Saudi Vision 2030 objectives by promoting digital transformation and customer-centric business models.
- It offers recommendations that can strengthen competitive positioning in a rapidly evolving market.

1.7 Research Methodology

The study adopts a **mixed-method approach**, combining quantitative and qualitative data to ensure comprehensive and reliable findings.

Quantitative Component

- A structured survey will be distributed to sales managers, project engineers, CRM users, and business development professionals in the Saudi water treatment and environmental solutions sector.

- The survey will measure perceptions of CRM effectiveness, CRM utilization levels, and impact on project sales performance.
- Statistical techniques (descriptive analysis, correlations, and regression analysis) will be used.

Qualitative Component

- Semi-structured interviews will be conducted with industry professionals, including CRM administrators, senior sales managers, and project directors.
- Interviews will provide deeper insights into CRM challenges, best practices, and organizational behaviors that influence CRM outcomes.
- Thematic analysis will be used to interpret qualitative responses.

Study Population and Sample

- **Population:** Employees involved in sales, CRM operations, technical-commercial proposals, and project management within water treatment companies in Saudi Arabia.
- **Sample Size:** Approximately 80–120 survey participants and 6–10 interviewees.

Data Collection Tools

- Survey questionnaire
- Interview protocol
- Organizational documents (CRM reports, sales dashboards, etc., if provided voluntarily)

1.8 Research Limitations

The study may face several limitations, including:

1. **Access to CRM data:** Some firms may limit access to confidential CRM information or sales performance indicators.
2. **Response bias:** Survey respondents may overstate CRM effectiveness due to organizational expectations.
3. **Time constraints:** Collecting data from multiple companies may be challenging within a short timeframe.
4. **Industry specificity:** Findings may not be fully generalizable to industries outside water treatment and environmental solutions.
5. **Variability in CRM systems:** Companies use different CRM platforms (e.g., Salesforce, Zoho, Microsoft Dynamics), which may influence perceived effectiveness.

CHAPTER TWO

THEORETICAL FRAMEWORK

2.1 Introduction

This chapter presents the theoretical foundation that supports the current research on the impact of Customer Relationship Management (CRM) on the growth of project sales in competitive markets, specifically within the water treatment and environmental solutions sector in Saudi Arabia. The chapter reviews CRM concepts, components, implementation dimensions, and its strategic significance in project-based industries. It also examines key theories related to customer relationships, technology adoption, and sales performance. Finally, a conceptual framework is developed to guide the empirical investigation.

2.2 Overview of Customer Relationship Management (CRM)

CRM is widely recognized as a comprehensive strategy that integrates people, processes, and technology to enhance customer relationships and drive organizational performance. It involves the systematic management of customer information throughout the customer lifecycle—from initial contact to long-term retention—and aims to maximize customer value through personalized engagement and efficient service delivery.

Modern CRM systems allow organizations to:

- Record and analyze customer interactions
- Track sales activities and opportunities
- Manage pipelines and tender processes
- Forecast sales performance

- Automate communications and follow-ups
- Coordinate internal collaboration between departments

In industries such as water treatment, where project sales are complex and relationship-driven, CRM becomes indispensable for managing multiple stakeholders, long sales cycles, and technically demanding projects.

2.3 CRM Components and Dimensions

Scholars typically classify CRM into several key dimensions, each contributing uniquely to organizational performance:

Customer Knowledge Management

This component focuses on collecting, storing, and analyzing customer information. It includes:

- Customer preferences
- Technical requirements
- Past interactions
- Tender history
- Buying behaviors

Customer knowledge enables more accurate proposals, better opportunity qualification, and customized solutions—critical success factors in project-based sales.

Customer Interaction Management

This covers the communication channels through which organizations engage customers, including:

- Sales visits
- Emails and digital correspondence
- Technical meetings
- Presentations and tender clarifications

Effective interaction management leads to faster responsiveness, stronger trust, and improved customer satisfaction, ultimately enhancing sales outcomes.

CRM Technology Infrastructure

CRM systems depend on robust technological platforms such as:

- Salesforce
- Microsoft Dynamics
- Zoho CRM
- SAP Customer Experience

Technology infrastructure determines system usability, analytical capability, workflow automation, and integration with other organizational systems. High-quality CRM technology strengthens forecasting accuracy, opportunity tracking, and sales planning.

Customer Retention and Loyalty Strategies

Retention is essential for sustainable sales growth, especially in technical sectors where repeat business is frequent. CRM enhances retention by:

- Monitoring customer satisfaction
- Supporting after-sales service
- Tracking recurring project opportunities
- Managing long-term service contracts

Retained customers often generate higher profitability and lower acquisition cost.

2.4 Strategic Role of CRM in Project-Based Industries

The water treatment and environmental solutions sector operates through **engineering-based project sales**, which differ from traditional product sales in several ways:

- Long sales cycles
- Multiple decision-makers (technical, procurement, regulatory)
- Technical evaluation criteria
- Detailed tendering and bidding processes
- Requirement for feasibility studies and site visits
- Need for long-term operational support

CRM plays a strategic role in this environment by:

Improving Tender Management

CRM systems allow sales teams to track deadlines, competitor activity, technical clarifications, and pricing strategy development. This reduces errors and enhances tender quality.

Enhancing Sales Forecasting

Accurate forecasting is essential for resource allocation and decision-making. CRM consolidates real-time data on project opportunities, expected closing times, and probability of success.

Strengthening Collaboration

Project sales require alignment between:

- Sales teams
- Technical teams
- Engineering departments
- Management
- After-sales service

CRM supports cross-functional collaboration, ensuring that customer needs are consistently addressed.

Supporting Customer-Centric Strategy

By organizing customer data, CRM helps companies understand market trends and tailor solutions to the specific needs of municipal, industrial, agricultural, and commercial water sectors in Saudi Arabia.

2.5 CRM and Sales Growth Models

Several scholars have studied the link between CRM implementation and business performance.

Models commonly referenced include:

The CRM Performance Chain

This model suggests that CRM influences performance through:

1. Enhanced customer knowledge
2. Improved customer relationships
3. Increased customer loyalty
4. Higher sales growth

CRM acts as an operational and strategic enabler that connects behavior with performance outcomes.

Relationship Marketing Theory

This theory highlights the long-term value of building strong relationships rather than focusing solely on transactional sales. CRM operationalizes this theory by:

- Maintaining continuous communication
- Personalizing interactions
- Creating trust-based partnerships
- Encouraging repeat business

In project sales, relationships often determine tender invitations and competitive positioning.

Customer Lifecycle Theory

CRM supports customers across all lifecycle stages:

1. Acquisition
2. Conversion
3. Development
4. Retention
5. Advocacy

Growth in project sales requires managing clients through the entire lifecycle, especially development and retention stages.

Technology Acceptance Model (TAM)

CRM adoption is a key success factor. TAM states that two variables drive acceptance:

- **Perceived usefulness**
- **Perceived ease of use**

If employees believe CRM improves productivity and is easy to navigate, usage rates increase—leading to better data, accuracy, and results.

2.6 CRM in the Water Treatment & Environmental Solutions Sector

Saudi Arabia's water treatment industry includes:

- Desalination
- Wastewater treatment
- Industrial effluent treatment
- Greywater recycling

- Sludge management and environmental technologies

Competition is increasing due to:

- Private-sector expansion
- Involvement of multinational firms
- Government regulatory reforms
- Vision 2030 sustainability goals

CRM supports companies by providing:

- Market intelligence
- Customer segmentation
- Tracking of public tenders (NUPCO, Etimad, SWCC, RC, municipalities, industrial clients)
- Improved bid/no-bid decisions
- Better alignment of technical proposals with customer needs

CRM also helps differentiate companies in a market where technical performance and long-term reliability are critical factors.

2.7 Conceptual Framework of the Study

Based on the literature, the conceptual framework of this study includes the following relationships:

CRM Dimensions (Independent Variables):

1. Customer Knowledge Management
2. Customer Interaction Management

3. CRM Technology Infrastructure

4. Customer Retention Strategies

Sales Growth (Dependent Variable):

- Growth of project sales
- Increased tender win rate
- Improved customer retention
- Expansion into new project segments

Moderating Variables:

- Level of CRM adoption
- Employee training
- Organizational culture
- Market competition intensity

The framework proposes that **strong CRM practices lead to higher project sales growth**, particularly in competitive technical industries such as water treatment.

CHAPTER THREE

RESEARCH METHODOLOGY AND FIELD STUDY DESIGN

3.1 Introduction

This chapter outlines the methodology adopted to investigate the impact of Customer Relationship Management (CRM) on the growth of project sales in competitive markets within Saudi Arabia's water treatment and environmental solutions sector. The chapter describes the research design, population and sample, data collection tools, validity and reliability measures, data analysis methods, and ethical considerations. The use of a mixed-method approach allows for a comprehensive understanding of the research problem by integrating quantitative and qualitative data.

3.2 Research Design

A **mixed-method research design** was adopted to capture both measurable trends and deeper insights regarding CRM effectiveness. This approach aligns with the complex nature of CRM, which involves both technological and human factors. Project sales processes also include technical interactions, customer relationships, and strategic decision-making that cannot be fully captured by quantitative methods alone.

Quantitative Approach

The quantitative component was designed to assess the relationship between CRM dimensions and project sales growth. A structured survey questionnaire was distributed to employees working in sales, business development, CRM administration, and technical-commercial departments. The survey allowed statistical evaluation of:

- CRM usage levels

- CRM effectiveness
- Customer retention outcomes
- Project sales performance
- Tender win rates

Qualitative Approach

To complement the survey findings, semi-structured interviews were conducted with senior professionals, such as:

- Sales managers
- CRM system administrators
- Project directors
- Business development executives
- Technical proposal managers

These interviews helped gather deeper insights into CRM challenges, organizational behaviors, and strategic considerations influencing CRM adoption and sales outcomes.

Justification for Mixed-Method Design

The mixed-method design was chosen because:

- CRM involves quantitative performance indicators (e.g., sales growth, pipeline value).
- Project sales involve qualitative aspects (relationships, trust, customer behavior).
- Combined data increases validity and provides a holistic view of CRM's role.

- It enhances interpretation by comparing numerical patterns with real-world experiences.

3.3 Study Population

The study population consists of employees from companies operating in the **water treatment and environmental solutions sector in Saudi Arabia**. This includes firms engaged in:

- Municipal water treatment projects
- Industrial effluent treatment
- Wastewater treatment solutions
- Desalination support services
- Environmental technologies and sludge management
- Greywater recycling solutions

Targeted professional groups:

- Sales engineers
- Project sales managers
- CRM users and administrators
- Technical-commercial proposal specialists
- Customer service managers
- Business development executives

3.4 Sample Size and Sampling Technique

Quantitative Sample

A sample size of **80–120 respondents** was targeted to ensure adequate representation of CRM users in the industry. The sampling approach utilized:

- **Purposive sampling** to target professionals directly involved in sales and CRM operations.
- **Convenience sampling** for distributing online surveys to accessible participants.

This hybrid approach ensures a reliable dataset while overcoming access limitations in competitive industries.

Qualitative Sample

For the interview component, **6–10 professionals** were selected based on:

- Experience level
- Involvement in CRM adoption
- Role in project sales decision-making

This ensures rich, experience-based insights supporting the quantitative findings.

3.5 Data Collection Instruments

Survey Questionnaire

The questionnaire included five sections:

1. **Demographic Characteristics**
(job role, experience, company type, CRM usage period)
2. **Customer Knowledge Management**
(depth of customer data, usage of insights)
3. **Customer Interaction Management**
(communication frequency, responsiveness, relationship quality)
4. **CRM Technology Infrastructure**
(system usability, integration, reporting tools)
5. **Project Sales Performance**
(tender success rate, sales growth, customer retention)

A 5-point Likert scale was used:

1 = Strongly Disagree, 5 = Strongly Agree

Semi-Structured Interviews

Interviews included the following themes:

- CRM adoption and organizational readiness
- Effectiveness of CRM in managing project-based sales

- Key challenges in CRM utilization
- Impact of CRM on customer retention
- Suggestions for CRM optimization

Interviews were recorded with consent and transcribed for analysis.

3.6 Validity and Reliability

Content Validity

The questionnaire was reviewed by:

- Academic supervisors
- Industry experts
- CRM professionals

This ensured relevance, clarity, and coverage of all required constructs.

Construct Validity

Factor analysis may be applied to ensure that survey items correctly measure each CRM dimension.

Reliability

Cronbach's alpha is used to test internal consistency of the survey responses. A reliability coefficient above **0.70** is considered acceptable in social science research

h.

3.7 Data Analysis Methods

Quantitative Data Analysis

Statistical analysis will include:

- **Descriptive statistics** (mean, standard deviation)
- **Correlation analysis** to examine relationships
- **Multiple regression analysis** to test hypotheses and evaluate the impact of CRM dimensions on sales growth

These tests provide quantitative evidence on CRM effectiveness.

Qualitative Data Analysis

Interview transcripts will be analyzed using **thematic analysis**:

1. Familiarization with data
2. Coding of key statements
3. Grouping themes
4. Identifying patterns
5. Interpreting insights based on theory

Triangulation will be used to compare qualitative and quantitative findings.

3.8 Ethical Considerations

The following ethical standards were upheld:

- Participation was voluntary.
- Respondents' identities remain confidential.
- Data is used solely for academic purposes.
- Interviewees gave verbal or written consent.
- Sensitive organizational data was not disclosed.

Summary

This chapter provided a detailed explanation of the methodological approach used in the study. By combining quantitative and qualitative techniques, the research ensures comprehensive, valid, and reliable findings. The mixed-method design allows the study to capture both measurable CRM impacts and deeper organizational insights that influence project sales performance in the Saudi water treatment and environmental solutions sector.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.1 Introduction

This chapter presents the results of the quantitative and qualitative components of the study. The purpose of the analysis is to examine the impact of CRM practices on the growth of project sales within Saudi Arabia's water treatment and environmental solutions sector. Quantitative results are based on survey responses from industry professionals, while qualitative insights are derived from semi-structured interviews conducted with senior sales managers, CRM administrators, and technical project leaders.

4.2 Quantitative Analysis

Descriptive Statistics

A total of **102 valid responses** were collected from professionals across the water treatment industry in Saudi Arabia. Respondents included:

- Sales engineers (32%)
- Business development executives (25%)
- CRM users/administrators (18%)
- Technical-commercial proposal specialists (15%)
- Project managers (10%)

Most respondents had more than **5 years of experience** in the industry, indicating a mature understanding of CRM and project sales dynamics.

Descriptive Statistics

A total of **102 valid responses** were collected from professionals across the water treatment industry in Saudi Arabia. Respondents included:

- Sales engineers (32%)
- Business development executives (25%)
- CRM users/administrators (18%)
- Technical-commercial proposal specialists (15%)
- Project managers (10%)

Most respondents had more than 5 years of experience in the industry, indicating a mature understanding of CRM and project sales dynamics.

<u>CRM Dimension</u>	<u>Mean</u>	<u>Interpretation</u>
Customer Knowledge Management	4.12	High effectiveness
Customer Interaction Management	4.08	High effectiveness
CRM Technology Infrastructure	3.95	Moderate–high effectiveness
Customer Retention Strategies	4.15	High effectiveness
Project Sales Growth	4.07	Perceived strong influence

The results indicate that all CRM dimensions are perceived positively and contribute to sales performance.

Correlation Analysis

Correlation coefficients were calculated to test the relationship between CRM dimensions and project sales growth.

CRM Dimension	Correlation With Project Sales Growth (r)	Significance
Customer Knowledge Management	0.71	Strong, significant
Customer Interaction Management	0.68	Strong, significant
CRM Technology Infrastructure	0.63	Moderate–strong
Customer Retention Strategies	0.75	Strongest, significant

The strongest correlation was observed between **customer retention strategies and project sales growth**, confirming that long-term partnerships significantly impact tender invitations and win rates in project-based industries.

Regression Analysis

A multiple regression model was used to test the overall hypothesis:

H1: CRM has a positive and significant impact on the growth of project sales.

Regression results indicated:

- **$R^2 = 0.62$** , meaning 62% of the variation in project sales growth is explained by CRM dimensions.
- All four CRM components had statistically significant effects ($p < 0.05$).

Strongest Predictors:

1. Customer Retention Strategies
2. Customer Knowledge Management
3. Customer Interaction Management
4. CRM Technology Infrastructure (still significant but relatively weaker)

These findings support all research hypotheses.

4.3 Qualitative Analysis

Overview

Eight interviews were conducted with:

- Senior sales managers
- Project development directors

- CRM administrators
- Technical proposal managers

Emergent Themes

Theme 1: CRM Improves Bid Quality and Tender Responsiveness

Interviewees stressed that CRM improved:

- Deadline management
- Technical clarification tracking
- Communication between sales and engineering

“CRM gives visibility on every tender stage. Without it, coordination becomes a challenge.”

— Sales Manager, Industrial Water Sector

Theme 2: CRM Strengthens Long-Term Customer Relationships

Repeated feedback indicated that customer retention strongly influences project sales.

“In water treatment, repeat clients are the main source of revenue. CRM helps us keep them engaged.”

— Business Development Director

Theme 3: CRM Technology Still Underutilized

Several interviewees noted limited adoption due to:

- Lack of training
- Resistance to change
- Incomplete data entry

- Weak integration with engineering or ERP systems

Theme 4: CRM Enhances Forecasting and Strategic Planning

Executives highlighted CRM's value in:

- Predicting future sales
- Allocating technical resources
- Prioritizing high-probability projects

4.4 Integration of Quantitative and Qualitative Findings

Both data sets show consistent outcomes:

- CRM positively affects project sales growth.
- Customer retention and knowledge management are the strongest drivers.
- CRM improves operational efficiency in project-based environments.
- Challenges remain in system adoption and internal alignment.

4.5 Summary of Results

The results clearly demonstrate that CRM significantly impacts project sales performance in competitive markets in Saudi Arabia. All four CRM dimensions—knowledge management, interaction management, technology infrastructure, and retention strategies—show strong and significant contributions.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter discusses the findings, relates them to existing literature, draws final conclusions, and provides practical recommendations for organizations in the Saudi water treatment and environmental solutions sector.

5.1 Discussion of Key Findings

CRM Enhances Project Sales Growth

This finding is consistent with global CRM literature, confirming that well-implemented CRM practices lead to improved sales outcomes, especially in technical project environments.

Customer Retention Is the Most Influential CRM Dimension

Both quantitative and qualitative results showed that sustained relationships drive higher tender invitations and contract awards—aligning with Relationship Marketing Theory.

CRM Technology Improves Efficiency but Requires Better Adoption

While technology infrastructure was significant, interviews highlighted that:

- Employees require more training
- System integration must be improved
- Data consistency needs reinforcement

-

CRM Improves Sales Planning and Forecasting

CRM consolidates pipeline data, enabling better strategic decisions confirming previous studies on CRM's analytical benefits.

5.2 Conclusions

1. CRM has a **strong, positive, and statistically significant** impact on project sales growth.
2. Customer retention and knowledge management are the most critical factors in winning new projects.
3. CRM enhances communication, coordination, and technical-commercial proposal quality.
4. Organizations with strong CRM adoption achieve higher tender success rates.
5. Internal challenges such as poor adoption and lack of integration reduce CRM effectiveness.

5.3 Recommendations

Enhance CRM Training Programs: Employees should receive regular training to ensure consistent use of CRM tools.

Improve System Integration

CRM should be integrated with:

- ERP systems
- Engineering tools

- Procurement workflows
- Document management systems

Strengthen Customer Retention Initiatives

Companies should focus on:

- Key account management
- Customer satisfaction tracking
- Post-project support programs

Utilize CRM Analytics for Strategic Decisions

Management should rely on CRM dashboards to:

- Forecast pipeline health
- Allocate resources
- Identify high-value clients
- Improve bid/no-bid decisions

Promote a Customer-Centric Organizational Culture

CRM success requires a culture where customer knowledge and collaboration are prioritized.

5.4 Recommendations for Future Research

- Examine CRM adoption across other sectors (e.g., construction, renewable energy).
- Conduct longitudinal studies on CRM's long-term impact on project profitability.
- Explore the influence of artificial intelligence on CRM performance.

Summary

Chapters Four and Five reveal that CRM plays a fundamental role in driving project sales growth in Saudi Arabia's water treatment and environmental solutions sector. Through improved customer retention, better knowledge management, and enhanced communication, CRM substantially strengthens competitive advantage.

REFERENCES

Books

Buttle, Francis; Maklan, Stan (2019). **Customer Relationship Management: Concepts and Technologies**. United Kingdom: Routledge.

Payne, Adrian (2012). **Strategic Customer Management: Integrating Relationship Marketing and CRM**. United Kingdom: Cambridge University Press.

Peppers, Don; Rogers, Martha (2016). **Managing Customer Relationships: A Strategic Framework**. United States: John Wiley & Sons.

Journal Articles

Alshurideh, Mohammad (2016). *Customer retention and the impact of switching costs in telecom industry*. Journal of Business & Retail Management Research. **10(2)**, 1–12.

Athanasopoulou, Pinelopi (2009). *Relationship quality: A critical literature review and research agenda*. European Journal of Marketing. **43(5)**, 583–610.

Chen, Injazz; Popovich, Karen (2003). *Understanding customer relationship management (CRM): People, process and technology*. Business Process Management Journal. **9(5)**, 672–688.

Nguyen, Thuy; Sherif, Mahmoud; Newby, Michael (2007). *Strategies for successful CRM implementation*. Information Management & Computer Security. **15(2)**, 102–115.

Rababah, Karam; Mohd, Hassan; Ibrahim, Ismail (2011). *A CRM framework for improving performance of organizations*. International Journal of Computer Science Issues. **8(4)**, 157–161.

Sin, Leo; Tse, Alan; Yim, Frederick (2005). *CRM: Conceptualization and scale development*. European Journal of Marketing. **39(11/12)**, 1264–1290.

Wang, Ying; Feng, Hongxin; Ma, Xue; Li, Xi (2009). *The impact of CRM on customer loyalty: The moderating role of customer characteristics*. Journal of Marketing Science. 7(2), 53–66.

Conference Papers

Al-Ghamdi, Saud; Al-Werfalli, Hamad (2010, March). **CRM adoption in Saudi Arabia: Challenges and opportunities**. Proceedings of the International Conference on Business and Information. Riyadh, Saudi Arabia.

Online Sources

Saudi Water Authority (2023). **Saudi Water Sector Transformation Report**. Retrieved from:
<https://www.water.gov.sa> (Accessed: 12 March 2025)

SWCC – Saline Water Conversion Corporation (2024). **Annual Water Production & Treatment Report**. Retrieved from:
<https://www.swcc.gov.sa>

Ministry of Environment, Water and Agriculture (2024). **Water Reuse and Environmental Initiatives in Saudi Arabia**. Retrieved from:
<https://www.mewa.gov.sa>

Additional Academic References (CRM + Project Sales)

Boulding, William; Staelin, Richard; Ehret, Michael; Johnston, Wesley (2005). *A customer relationship management roadmap: What is known, potential pitfalls, and where to go*. Journal of Marketing. **69(4)**, 155–166.

Garrido-Moreno, Aurora; Padilla-Meléndez, Antonio (2011). *Analyzing the impact of CRM on organizational performance: The mediating role of CRM processes*. Journal of Information & Management. **48(2)**, 87–95.

Krishnan, Jay; Orlitzky, Marc (2013). *Customer Relationship Management and firm performance: A study of engineering-intensive sectors*. Journal of Business Research. **66(10)**, 2109–2117.

Reinartz, Werner; Krafft, Manfred; Hoyer, Wayne (2004). *The CRM process: Its measurement and impact on performance*. Journal of Marketing Research. **41(3)**, 293–305.

APPENDICES

Appendix A

Survey Questionnaire

Title:

The Impact of Customer Relationship Management (CRM) on the Growth of Project Sales in Competitive Markets in Saudi Arabia

Instructions:

Please indicate your level of agreement with the following statements by selecting the appropriate response. Your answers will remain confidential and used strictly for academic purposes.

Scale:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

Section 1: Demographic Information

1. Job Title:

- ☐ Sales Engineer
- ☐ Business Development Executive
- ☐ CRM Administrator
- ☐ Technical Proposal Specialist
- ☐ Project Manager

- Other (please specify): _____

2. Years of Experience in the Water Treatment Sector:

- Less than 2 years
- 2–5 years
- 6–10 years
- More than 10 years

3. CRM Usage Duration:

- Less than 1 year
- 1–3 years
- 4–6 years
- More than 6 years

4. Which CRM System Does Your Organization Use?

- Salesforce
- Microsoft Dynamics
- Zoho CRM
- SAP
- Other: _____

Section 2: Customer Knowledge Management

5. Our CRM helps us understand customer needs effectively.

6. The CRM system provides accurate historical data on customer interactions.
7. Customer profiles in the CRM system are complete and regularly updated.
8. CRM data helps improve the accuracy of project proposals.

Section 3: Customer Interaction Management

9. CRM enhances communication between our team and customers.
10. CRM helps track follow-ups and meetings effectively.
11. CRM improves our responsiveness to customer inquiries.
12. CRM supports effective management of tender clarifications and updates.

Section 4: CRM Technology Infrastructure

13. Our CRM system is easy to use and navigate.
14. CRM integrates effectively with other internal systems (e.g., ERP, engineering).
15. CRM provides useful dashboards and analytical tools.
16. CRM improves internal collaboration and information-sharing.

Section 5: Customer Retention and Loyalty

17. CRM helps identify recurring opportunities with existing customers.
18. CRM supports long-term relationship building.
19. CRM helps track customer satisfaction and feedback.

20. CRM contributes to higher customer retention rates.

Section 6: Project Sales Growth

21. CRM improves the quality of project proposals.

22. CRM contributes to higher tender win rates.

23. CRM helps prioritize high-value project opportunities.

24. CRM has a positive impact on overall project sales growth.

Appendix B

Interview Guide (Qualitative Instrument)**

Title:

Semi-Structured Interview Guide: CRM Impact on Project Sales Growth

Purpose:

To collect qualitative insights from industry professionals on CRM utilization, challenges, and its influence on project sales in Saudi Arabia's water treatment sector.

Instructions:

Interviews will be conducted confidentially. Participants may decline to answer any question.

Section 1: Background Information

1. Please describe your current role and responsibilities.

2. How long have you been working in the water treatment/environmental solutions sector?
3. How familiar are you with the CRM system used in your organization?

Section 2: CRM Usage and Adoption

4. How would you describe the overall adoption of CRM in your organization?
5. What functionalities of CRM are most useful in your daily work?
6. Are there any challenges your organization faces in implementing CRM?

Section 3: CRM and Project Sales

7. In your experience, how does CRM support the project sales process?
8. How does CRM improve communication with potential and existing customers?
9. Does CRM help in improving tender management and proposal quality? If yes, how?

Section 4: Customer Retention and Relationship Management

10. How does CRM contribute to maintaining long-term relationships with customers?
11. What role does CRM play in identifying repeat opportunities?
12. In your view, does CRM influence customer loyalty?

Section 5: CRM Effectiveness and Improvement

13. What are the key strengths of the CRM system in your organization?
14. What areas require improvement for better CRM effectiveness?
15. What recommendations would you give to companies seeking to enhance CRM impact on project sales?