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INTEGRATING THE CRITICAL SUCCESS FACTORS (CSF) OF CUSTOMER RELATIONSHIP MANAGEMENT (CRM), CUSTOMER SATISFACTION AND CUSTOMER RETENTION IN THE OIL AND GAS SECTOR: THE CASE OF UAE-ADNOC

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This dissertation is submitted in partial fulfilment of the requirements for the degree of Doctorate of Business Administration

Under the Supervision of Professor Riyad Aly Mohammed Eid

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Declaration of Original Work

I, Sawsan Mohammed Shouib Al Khouri, the undersigned, a graduate student at the United Arab Emirates University (UAEU), and the author of this dissertation entitled "*Integrating the Critical Success Factors (CSF) of Customer Relationship Management (CRM), Customer Satisfaction and Customer Retention in the Oil and Gas Sector: The Case of UAE- ADNOC*", hereby, solemnly declare that this dissertation is my own original research work that has been done and prepared by me under the supervision of Professor Riyad Aly Mohammed Eid, in the College of Business and Economics at UAEU. This work has not previously been presented or published, or formed the basis for the award of any academic degree, diploma or a similar title at this or any other university. Any materials borrowed from other sources (whether published or unpublished) and relied upon or included in my dissertation have been properly cited and acknowledged in accordance with appropriate academic conventions. I further declare that there is no potential conflict of interest with respect to the research, data collection, authorship, presentation and/or publication of this dissertation.

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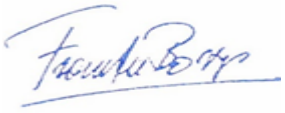
Signature  Date 24/6/2020

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Abstract

Customer Relationship Management (CRM) is a complex and revolutionary strategic management concept that aims at integrating organizational functions so as to present consumers with a single face of the organization. To this end, the presentation of this face of the company must be agreed upon by the multi-functional teams in the organization, especially regarding what the face of the organization is and/or how it should be presented. A number of critical success factors must apply if the implementation of CRM is to succeed. This study investigated the possibility of integrating the critical success factors (CSF) of customer relationship management (CRM), customer satisfaction and customer retention in the oil and gas sector in the United Arab Emirates. It was proposed to culminate in a framework/model for successfully implementing CRM and/or to provide an integrative perspective on the critical success factors of doing so in an international customer context in the UAE oil and gas industry. The present empirical study of this industry would help fill the current gap in explorations of the role of CRM and its applicability to both the UAE and other fuel exporting countries and could be used by CSF/enablers for successful CRM Implementation. CRM has proved useful in several industries, including banking, hospitality, healthcare and retailing. The research hypothesized that CRM, by virtue of aiming to develop and consolidate the vendor-to-customer relationship, could also be successfully implemented in the oil and gas sector to ensure sustainability, competitive advantage and higher levels of customer retention and satisfaction. The research and its hypotheses used data from on UAE's leading oil and gas entity – Abu Dhabi National Oil Company (ADNOC), which often deals in local and international business to business transactions.

Critical path analysis and confirmatory factor analysis were used to conduct the study. The critical path analysis revealed that, of all the dependent variables, human factors were important to the successful implementation of CRM and critical for determining the quality of transactions and relations. This justifies the contention of previous scholars that CRM promotes the usefulness of technology and human resources in the study of consumer behavior in delivering more value to consumers if their preferences can be identified. Overall, the research found that, although CRM allows consumer behavior to be studied, its success depends on building relationships with consumers

based on identified preferences and unique behaviors. The study is implicatively useful for marketing and management practitioners in the oil and gas industry from fuel exporting countries which deal specifically with B2B international customers and seek to leverage CRM tools and strategies to attain competitive advantage.

Keywords: Customer Relationship Management (CRM), Critical Success Factors (CSF), Customer Satisfaction, Customer Retention, Oil and Gas Sector, International Business to Business (B2B) Customers.

Title and Abstract (in Arabic)

دمج عوامل النجاح الحاسمة CSF في إدارة علاقات العملاء CRM، إضافة إلى رضا العملاء والاحتفاظ بالعملاء في قطاع النفط والغاز: دراسة في دولة الامارات العربية المتحدة-شركة أدنوك

الملخص

تعتبر إدارة علاقات العملاء (CRM) من المفاهيم الادارية الاستراتيجية الثورية المعقدة، التي تهدف إلى دمج الوظائف التنظيمية من أجل تقديم وجه تنظيمي موحد يعبر عن الشركة للمستهلك. ولذا فإن على جميع الفرق التشغيلية المختلفة في الشركة أن تتفق على إظهار واجهة موحدة للشركة أو الاتفاق على الكيفية التي يجب أن تظهر بها من قِبل الفرق المختلفة الوظائف في المنظمة، حيث أن هناك عوامل نجاح حاسمة يجب أن يتم تطبيقها للوصول إلى إدارة ناجحة لعلاقات العملاء. تهدف هذه الدراسة إلى التحقق من إمكانية دمج عوامل النجاح الحاسمة (CSF) في إدارة علاقات العملاء (CRM)، ورضا العملاء، والاحتفاظ بالعملاء في قطاع النفط والغاز في دولة الامارات العربية المتحدة (شركة أدنوك). كما أن هذه الدراسة تهدف إلى أن يتم تتويجها في إطار أو نموذج للتطبيق الناجح لإدارة علاقات العملاء (CRM) و/أو لأجل طرح مفهوم متكامل لعوامل النجاح الحاسمة (CSF) في سياق العميل الدولي الذي يتعامل مع صناعة النفط والغاز الإماراتية. كما أن هذه الدراسة التجريبية تهدف إلى المساعدة بملئ الفراغ في استكشاف دور (إدارة علاقات العملاء- CRM) وقابليتها للتطبيق من قبل دولة الامارات وغيرها من الدول المصدرة للنفط، مع إمكانية الأخذ بها كعامل مساعد في إنجاح التطبيق المتميز والناجح لإدارة علاقات العملاء (CRM). لقد أثبتت إدارة علاقات العملاء (CRM) أنها نافعة في العديد من القطاعات بما في ذلك الخدمات المصرفية والضيافة والرعاية الصحية وتجارة التجزئة.

افترض البحث بأن إدارة علاقات العملاء (CRM)، بحكم أنها تهدف إلى تطوير و ودعم علاقة البائع مع المشتري، تستطيع كذلك بأن تطبق بنجاح في قطاع النفط والغاز لضمان الاستدامة والميزة التنافسية بأعلى مستوياتها وزيادة نسبة الاحتفاظ بالعملاء ورضاهم بهدف تطوير وتوطيد علاقة البائع مع العميل. لذا فقد استخدم البحث وافتراضاته بيانات من - شركة بترول أبوظبي الوطنية (أدنوك) والتي تعد شركة نفط وغاز وطنية رائدة في دولة الإمارات العربية المتحدة تتخطى بتعاملاتها التجارية على المستويين المحلي و الدولي. تم تحليل البيانات الاحصائية باستخدام طريقة تحليل المسار الحرج (Critical path analysis) والتحليل العاملي التوكيدي

(Confirmatory factor analysis) لإجراء الدراسة. لقد كشف تحليل المسار الحرج (Critical path analysis) بأنه من بين جميع المتغيرات المعتمدة كانت العوامل البشرية مهمة للتطبيق الناجح لإدارة علاقات العملاء وضرورية لتحديد جودة المعاملات والعلاقات وهذا ما أكده. وان إدارة علاقات العملاء تعزز فائدة التكنولوجيا والموارد البشرية في دراسة سلوك المستهلك في تقديم المزيد من القيمة للمستهلكين إذا أمكن تحديد أولوياتهم. بشكل عام، وجد البحث أنه على الرغم من أن إدارة علاقات العملاء (CRM) تسمح بدراسة سلوك المستهلك فإن نجاحها يعتمد على قوة بناء العلاقات مع المستهلكين بناءً على اولوياتهم المحددة والسلوكيات الفريدة. تعتبر هذه الدراسة مفيدة للعاملين في مجال التسويق والإدارة في قطاع النفط والغاز من البلدان المصدرة للنفط والوقود والتي تتعامل بشكل خاص في التبادل التجاري (B2B) مع العملاء التجاريين الدوليين وتسعى إلى الاستفادة من أدوات واستراتيجيات إدارة علاقات العملاء لتحقيق ميزة تنافسية.

مفاهيم البحث الرئيسية: إدارة علاقات العملاء، عوامل النجاح الحاسمة، رضا العملاء، الاحتفاظ بالعملاء، التبادل التجاري بين الشركات، قطاع النفط والغاز، إدارة علاقات العملاء لعملاء الأعمال الدولية، إدارة علاقات العملاء بقطاعات الطاقة.

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In this regard, I would like to first thank Allah for the gifts of life and opportunity. I would also like to thank my parents for their encouragement, which urged me to this achievement. Their unending encouragement of my siblings and me to pursue the highest levels of education has had this result. I also want to extend my sincere gratitude to my brothers and sister for their support all through my studies. To my colleagues, who encouraged me through the research and study process, my heartfelt thanks cannot be understated. Finally, I would like to thank my advisor and the whole team at UAE University for their support and guidance through the course. I am humbled that through such endless support, I have been able to complete a stage in my life and contribute to knowledge.

Dedication

To my beloved parents, my wise Father, may Allah bless him with mercy, and my lovely Mother, may God keep her in good health, my unique and only sister, supportive brothers and my true friends.

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List of Abbreviations

ADNOC	Abu Dhabi National Oil Company
AED	Arab Emirate Dirham
B2B	Business to Business
B2C	Business to Customer
BP	British Petroleum
CRM	Customer Relationship Management
CSF	Critical Success Factor
CVP	Customer Value Proposition
EIA	Energy Information Agency
GDP	Gross Domestic Product
IT	Information Technology
ITA	International Trade Administration
OGJ	Oil and Gas Journal
OPEC	Organization of Petroleum Exporting Countries
SFA	Sales Force Automation
UAE	United Arab Emirates
US/USA	United States of America

Chapter 1: Introduction

1.1 Overview

The significance of CRM and its increasing acceptance and adoption in organizations' strategic management plans has necessitated a broad study of the subject. Hence, much evidence of research has built up on CRM from different global locations and different industries. The evidence has come from studying the advantages of CRM in the organization, the challenges of implementing CRM, the factors that enable CRM as a whole to be implemented and how CRM integrates different organizational functions to enhance profitability through establishing customer satisfaction. Despite the amount of informative theory, some knowledge lacunae about CRM remain in the oil and gas industry still remain, probably because most of the studies of CRM focus on satisfying the customer and in the case of most oil and gas industry operations; the relationship is usually between entities (Endrerud & Liyanage, 2015; Raza, 2017). Hence, this study seeks to fill such gaps by conducting in-depth empirical research on the integration of CRM's critical success factors, and the satisfaction and retention of B2B customers by oil export countries, with specific reference to UAE.

This study will contribute to the understanding of the value of customer relationship management in today's oil and gas industry. For this purpose, it focuses on the case of Abu Dhabi National Oil Company (ADNOC), a regional leader in oil and gas distribution. The fact that little study has so far been made of it indicates that the research will contribute not only to the development of better relationship management between ADNOC and its customers but to the informed adoption of CRM

best practices through understanding of its critical importance to the oil and gas industry as a whole.

1.2 Motivation of the Researcher

The researcher's first point of motivation is marketing as an important function of the organization. Marketing is critical to the success of organizations and the fact that the company under study engages in numerous business to business international client relationships, establish the need and urgency of efficient marketing. Development of CRM seeks to improve marketing activities but the B2C customer relationship is the default addressee of conventional CRM. Besides, whenever CRM is mentioned, people in the organization are observed to look to the IT team although its responsibility for CRM goes only so far as to set up the system. Before the development of CRM, companies, ADNOC included, were able to relate to and interact with customers to secure sales and build relationships. The research therefore, in understanding B2B international customer relationships in a field like oil and gas, is motivated by the need to see what CRM can do to improve the relationship between the company and its international business customers. The research's conviction is that CRM can be useful but only if effectively implemented and provided with marketing team support, since in her view the presence of this team determines the success of the CRM technologies.

The oil, gas and energy sector is a core economic enabler everywhere. As a result, oil producing countries are significant for global development that parallels their own national development. One of the countries that has been successful in producing oil for global consumption and efficiently pursuing rapid local development by managing the resulting revenues is certainly the UAE (Delgado, 2016; Hertog,

2017; Qudah, Badawi, & AbouElsoud, 2016). Delgado (2016) in an informative piece on ‘the case for economic success in the UAE’ notes that through prudent policy-making, the UAE has been able to effectively apply hydrocarbon revenues to ensure that the country is rapidly developed. The UAE has so far been an icon among the oil producing countries for the diversification of its hydrocarbon revenues and has been able to transform itself into an innovative knowledge-based economy. Although Hertog (2017) and Qudah et al. (2016) agree with the above position, they add that despite its widespread diversification the UAE is still heavily reliant on oil to drive its economy. The largest oil producing company in the UAE is the Abu Dhabi National Oil Company (ADNOC), which runs an almost vertically integrated system employing at least 50,000 personnel that earns at least a third of the country’s GDP (Embassy of the UAE, 2019; ADNOC, 2019). It is noteworthy that a good number of its employees work in the marketing department. This strongly validates the research as applied to this organization and the motivation for choosing it for such an enquiry. ADNOC’s high contribution to the GDP of the UAE and the continued dominance in the Arab peninsula of oil production single out this company as suitable for the present research.

Evidence from the research confirms the above findings; it states that ADNOC produces almost 4% of the world’s oil (British Petroleum, 2018). According to British Petroleum (2018) statistics, the UAE’s total global contribution currently stands at 4.2% more than the 95% which comes from the assets and operations owned by ADNOC. The company has over the years pursued a complete reorganization of its systems and processes in an effort to realize more returns by ensuring total control of the oil, gas and energy supply chain. These factors combined attract research attention and have motivated the researcher to conduct a study which might improve the company’s operations and its relations with its customers. The present author believes

that the impact of CRM in the oil and gas industry is still not fully known, although CRM has been successfully implemented in other industries. Most operations and relationships in the oil and gas sector, especially in the case of ADNOC, are between entities, supply chain actors and other stakeholders and hardly ever in contacts with end users. Therefore, it is valid to question the applicability of B2B international customer relationship management in this context. This doubt has prompted the present research to try to clear the air and find whether it is at all possible to apply CRM in a complex case such as ADNOC's – a leading oil and gas industry player with mostly B2B international dealings. With the above evidence and explanations in mind, it is believed that the importance of the company to so many people around the world and hence its continued success are in the best interests not only of the UAE but of the numbers that rely on its energy supplies.

1.3 Oil and Gas Sector

An in-depth understanding of the operational background of the present study is required so as to understand the oil, gas and energy industry properly. For this reason, while the previous section touched on the researcher's inspiration and commitment to this industry, this section concentrates in depth on the industry itself, its operations, and its processes, describing its impact on policies and its major trends. A comprehensive understanding of context will be useful in the holistic investigation of the present research topic.

The oil and gas industry is a multibillion industry controlled by a few giant oil companies that conduct vertically integrated operations to explore, mine, process and distribute reserves of oil (Bento, 2018). Bento reports that while most oil and gas is produced for global purposes, some smaller companies, especially in the US and

Canada, conduct oil and gas production operations solely for domestic use. Research finds that the bulk of the world's crude oil reserves are in the Middle East, with Saudi Arabia and United Arab Emirates among the countries in the region with significant reserves (OPEC, 2018). OPEC is the governing body for member states under an umbrella which presents the interests of the oil producing countries and regulates the prices of oil for the ultimate benefit of its source countries. These statistics are illustrated in Figure 1.1.

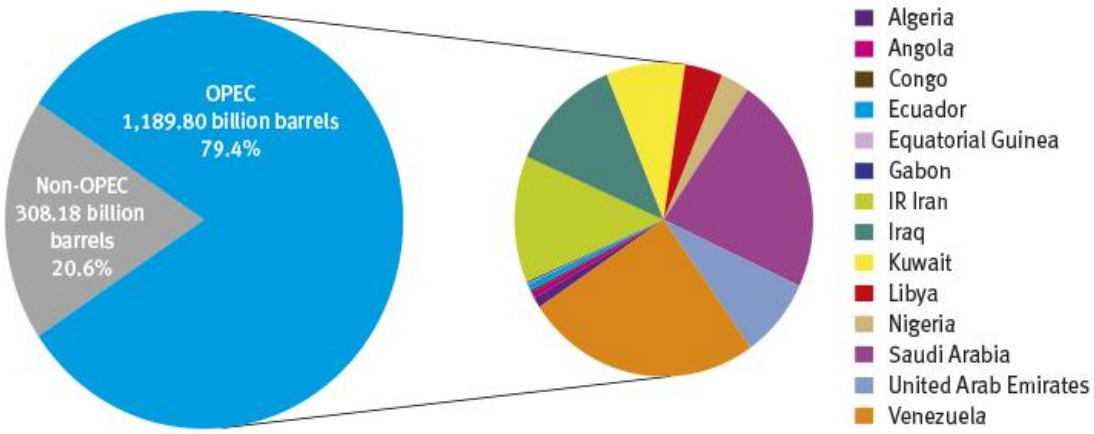

Figure 1.1: Distribution of OPEC's Global Oil Reserves

According to the OPEC (2018) statistics, 64.5% of the 79.4% of crude oil reserves under its control are in the Middle East. Through increased technological development and the adoption of newer methods of exploring and of processing crude oil, the member countries have been able to rival the global giants in these tasks. Further research concurs with the above findings, indicating that, like any other industry, oil and gas has had to develop with changing dynamics for the business environment (Buzzo & Mazzoni, 2019). As a result, newer policies for the effective management of oil exploration and production processes have been adopted by the oil producing countries in an effort to stay abreast of increasing competition and remain

ethical in its work processes. A case in point for OPEC has been the enhancement of overall efficiency and oil production per barrel by increased investment in the automation of its exploration processes. Buzzo and Mazoni (2019) agree that the growing competition in the oil and gas industry demands the innovative application of newer integrative measures to organize the security of its current market share by its management of operations and processes (Bento, 2018). Bento (2018) reports that, despite its complexities, continued effort has been made to secure Integrated Operations (IO). IO for best results involves the streamlining of relationships between people, processes and technology. Researchers agree that the future of the oil and gas industry lies in integrating its processes and automating its systems in order to enhance efficiency and pursue excellence (Bento, 2018, OPEC, 2018; Buzzo & Mazoni, 2019).

Further research on the oil and gas industry as a whole spotlights the notion of environmental sustainability and its significant impact in oil and gas operations. Researchers Ahmad, Brito, Rezaei and Tavasszy (2017), report that oil and gas exploration, mining and production activities, usually leave an enormous environmental footprint. Ahmad et al. (2017) explain that this is due to the direct involvement in different ways of the entire process of exploring for oil and gas with the environment, including mining, emissions and wastes. This makes it worth consideration to study this subject because the greater the impact of human activities on the sustainability of the planet, the more those involved should try to mitigate this impact or make it count. Many writers including Cordes, Jones, Schlacher, Amon and Bernardino (2016), Helmig, Rosabi, Hueber and Tans (2016) and Allan, Kuelertz and Woertz (2015) concur with this proposition and discuss the different ways in which the oil and gas industry is impacting negatively on the environment, demanding that the industry should remedy the damage it has done. According to Cordes et al. (2016),

deep water mining in this industry – which is the most common mining approach – has an impact on water sources and sea life. This has inspired a growing campaign for the sustainability of such operations: the proponents of environmental caution require the development and adoption of guidance in safe and environmentally sustainable ways of deep water mining, among other activities. Helmig et al. (2016) support them, adding that the continued emission of non-methane hydrocarbons into the atmosphere has a potentially negative effect on the ozone and is probably the primary reason for the effects of global warming. Allan et al. (2015), for their part, mention the key connection between energy, water and food and the need for petroleum mining companies to focus on implementing policies and practices that respect this nexus, otherwise the world will soon be in a global crisis over the future sustainability of the sources of water and food. Researchers, however, agree that oil companies have made great efforts to ensure that exploration, mining and production activities are approached responsibly (Ahmad et al., 2017; Cordes et al., 2016; Helmig et al., 2016; Allan et al., 2015). They also all accept that oil and gas are very important for life nowadays, implying that sustainability-focused compromises have to be made by all sides, i.e. in industry and society.

The supply chain of oil and gas is a pillar of the industry and probably the factor most closely related to the research subject in this section. Ahmad et al. (2017) indicate that with all the potential for pollution and the displacement of human, animal and sea-life populations, sustainable management of oil and gas supply chains is the only way to mitigate the negatives that may accompany the exploration and production of these valuable products. According to Ahmad et al. (2017), a number of external and inter-organizational factors govern the smooth operation of the supply chain. Some of these are related to operations, policies and systems while others are related to

territorial disputes e.g. political instabilities and regulations. Ahmad et al. (2017) identify these as impediments to the kind of supply chain management that would be in the best interests of all the stakeholders in the industrial cycle. A detailed review Gao and You (2015) of the supply chain process is presented from the exploration stage to the production of shale gas and its derivatives, which insists that effective management of the supply chain is instrumental in the success of the process. Several products including electricity are derived from this project and researchers note that there is constant communication and relationship building between the partners in the project to ensure its success. According to Gao and You (2015), the economic contribution and environmental performance of this project are determined by the collaboration between the stakeholders, some of whom are buyers downstream while others are upstream in the supply chain. Research from the OGJ (2019) endorses this point, mentioning that the supply chain of the oil and gas industry, like that in any other industry, is key to its success (OGJ, 2019). Research in the OGJ (2019) further notes that while the upstream links are important in the production of oil, they are also important for oil and gas producing entities to ensure the effective management of the downstream links, which consist of distributors and resellers (Kazemi & Szmerekovsky, 2015; Ahmad et al., 2017). The effective management of the supply chain is essential for ensuring the corporate social responsibility of every link in this chain, even the highest (Kirat, 2015; Orazalin & Mahmood, 2018). Orazalin and Mahmood (2018) note that through the management of supply chain activities, the highest member of the supply chain will have a responsibility to society and the environment for both the upstream and the downstream parts of the chain. In a study of the case of Qatar, Kirat (2015) points out that, despite much effort to institute sports,

healthcare and education activities, ethical concerns such as environmental sustainability in the upstream and downstream practices have rarely been considered.

The above review of the oil and gas industry has focused on three main points: the sources and trends in the operations and processes of the oil and gas industry; the impact of the growing notion of environmentally sustainable practices; and the importance of the supply chain in the success of the oil and gas industry. All three factors are important to the present research since they indicate the scope, the operational complexities and the trends of the industry under study. Globally speaking, research from credible sources finds that the Middle East is one of the dominant areas supplying these products and that the automation and integration of people, processes and technology form dominant trends in the industry. With regard to sustainability, research has tried to explain why actors in the oil and gas industry should guarantee that they are doing enough to work sustainably. The link between energy, water and food has been discussed and the duty of oil producing companies to ensure sustainability has been made clear. In any case, consumers and populations everywhere understand posterity's need for sustainable business practices now, a need which directly concerns the oil and gas industry. Nonetheless, the dependence of all contemporary global activities on the oil and gas industry cannot be denied. The last section investigated the supply chain and showed its importance for the ethical practices and sustainability of every aspect of oil production. The upstream and downstream links were shown to be equally important. Hence, it is high time that the oil producing companies started to consider and take responsibility for the effects of their activities on both ends of the supply chain. The three aspects listed above mesh together and point to an overall need for better policy and functional approaches to ensure sustainability. Synthesized, the three suggest that they all potently focus on the

effects of oil and gas production on society, specifically the consumer. While the first is based on sources and the integration of processes to serve the downstream links properly, the second considers the environmental footprint made by production activities on the downstream links, while the third shows the supply chain as a tool to ensure properly responsible services to the consumer.

The function of this section is to illustrate how the oil and gas industry owes it to consumers (downstream) to create a strong and responsible relationship with them that will continue in the future. It may be deductively postulated therefore that, while every society is acknowledged to depend on oil and gas, consumers globally are becoming more aware of the environment and this threatens any oil and gas companies that are slow to streamline and clean up their processes. At the same time, oil and gas companies that will take the consumers' concerns to heart are offered great opportunities to communicate this understanding in their production and marketing efforts. This seems to be an antecedent of CRM in the contemporary hyper-competitive oil and gas industry.

1.4 The Oil and Gas Sector in the UAE – ADNOC

Having indicated three aspects of the oil and gas industry globally and shown what impact they could have on the research, it may be useful now to consider in more detail the oil and gas industry in the UAE and the case of ADNOC. As noted above, the oil sector contributes around 30% of the UAE's GDP; ADNOC, as the largest oil producing company in the UAE contributes significantly to this percentage (Embassy of the UAE, 2019). Since the present research proposes to collect data relevant to the case of ADNOC and to consider its use of CRM, a good background understanding of

the company, its operations, achievements and strategies for the coming years may at this point be helpful.

According to evidence from the International Trade Administration (ITA), the United Arab Emirates holds a significant reserve of oil and gas, namely, about 4% of the world's crude oil reserves and at least 3.5% of the world's natural gas reserves (ITA, 2017). This information was corroborated by the STA Law Firm, a well-reputed legal organization operating in the UAE, whose in-depth research inferred that about 95% of the oil and gas reserves were under the jurisdiction of Abu Dhabi and that the other Emirates controlled altogether at least 6% of the joint reserves (Vasylyeva, 2019). Extrapolations by the US Energy Information Administration (EIA, 2015) indicate that the UAE ranks seventh in the world in the production of crude oil. OPEC ranks UAE fourth largest among the producers of petroleum products and among the top ten in terms of natural gas reserves (OPEC, 2018). Similarly, statistics from the Central Bank of the UAE show that hydrocarbon revenues are key to the economy of the UAE and account for at least 20% of all its export revenues, to the amount of approximately 65 billion dollars. The statistics indicate that the overall growth of revenues has been impressive, with a total growth of 13.9% to $66 billion (AED 243.1 billion) by the end of 2018 from $58.1 billion (AED 213.5 billion) in 2017. These numbers show how relevant ADNOC's effective implementation of CRM is to the present thesis. The following paragraph reviews the production processes, methods and partnerships in the UAE oil and gas industry.

The National (2019) indicates that ADNOC was recently ranked one of the top ten oil producing companies in the world and the only one to be located in the region. This is according to Global Data, a reputable market research company. Among the

reasons proffered in support if this ranking was the fact that despite already ranking twelfth in the world in terms of production, ADNOC has over the last decade and a half undertaken major reforms to enhance its competitiveness in the industry and promote the adoption of best practices. The company, which is state-owned, receives much support for its reforms of all types; this was justified by the United Arab Emirates' becoming the first major oil-producing country to sanction the Kyoto Protocol to the UN Convention on Climate Change, as a way of supporting the company's process reforms leading to sustainability (Embassy of the UAE, 2019). This put the company in the vanguard for shrinking its environmental footprint by implementing policies and approaches that would exemplify best practices in exploring and processing in its sector, down to the disposal of related waste. Further evidence from the Embassy of the UAE on the operations of the oil and gas industry in the UAE indicate that the Supreme Petroleum Council, which also functions as the ADNOC board of directors, is responsible for the setting of country-wide policies and objectives related to energy, oil and gas (Embassy of the UAE, 2019; EIA, 2015). The role of the SPC has been much praised, and the leadership of the council has been credited for adopting robust policies that have rapidly developed the oil and gas industry in the UAE, which can now diversify its revenues to promote overall sustainability.

One instance of great leadership in the SPC's policy-making can be seen in ADNOCs policies and strategies for improving efficiency, whereby the company imports natural gas from Qatar to boost its electricity production and exploration of oil reserves through reinjection into the oil reserves by what is known as extensive oil recovery techniques. It should be noted that the country has the world's 7th largest natural gas reserves but still imports natural gas to enhance efficiency while reducing

its consumption of its own stock (Embassy of the UAE, 2019; Vasylyeva, 2019). ADNOC has invested in other energy saving and consumption conscious methods of operation, including the Masdar Alternative Energy Project – reported to be the world's largest alternative energy project. Partnered by other organizations from the US and Japan, this project is expected to produce alternative energy that will help to diversify the country's energy strategy. Another venture is in nuclear energy which is expected to be an alternative way of meeting the country's growing nuclear demands.

1.4.1 ADNOC Vision 2030

In 2018, ADNOC officially unveiled a robust downstream plan that would vertically integrate its entire system. According to official evidence of research, this new venture is building on the existing Ruwais refinery foundation through which ADNOC seeks to diversify its methods of focusing more on the downstream links. In seeking to ensure the maximum value for each barrel of oil and gas, it will augment its refining capacity, triple its petrochemical production and increase the downstream demand (ADNOC, 2019). Codified as ADNOC's strategy 2030, this project was initiated by the investment of $45 billion by the company and its partners. The primary aim of the strategy is to systematically place ADNOC at the global center of the downstream supply and thereby ensure maximum profits to Abu Dhabi and all the Emirates. ADNOC's top officials present it as a good move in terms of meeting the global demand for energy, which seems to be growing at a resounding rate. Oil and gas experts (Menachery, 2018) hail its wisdom, claiming that if the principles of the strategy are anything to go by, then the move will be one of the most ambitiously profitable that ADNOC has ever made. Citing the partnerships, the strategic targeted international investments approach and the building of the world's largest integrated

petrochemicals refinery, Menachery (2018) acknowledges the strength of the vision and its ability to completely turn around the company's profit trends.

The ADNOC Vision 2030 downstream establishment strategy is credited to the current CEO, Dr. Sultan Ahmed Al Jaber, who was appointed in 2016 is determined to reorganize the operations and processes at ADNOC to maximize capital profitability (US-UAE Business Council, 2019). The fundamental impetuses for devising this ambitious strategy include the projected rise of the world's oil demand to about 10 million b/d in the next twenty years; a rise of over 60% in the global petrochemical demand by 2040; a shift in the sources of growth in demand, with Asia-Pacific countries projected as the primary drivers and less demand coming from the OECD countries; a projected 45% increase in the demand for natural gas by the year 2040; and the development of digitization which can promote upstream and downstream gains of over 5%. As part of the plan to successfully implement the ADNOC 2030 strategy, the company has set out a number of strategic tasks that will help to realize the ambition of increasing the overall efficiency and profitability of its value chain. The pathways and strategic priorities include more profitable upstream links; a more sustainable and domestically economical gas supply; increased profitability from the downstream links; and proactive and dynamic marketing efforts. Under the leadership of its CEO, the New ADNOC is undertaking these strategic tasks through portfolio diversification, optimized capital allocation, partnerships, increasing operational capabilities and the recapitalization of legacy assets. An example of the last method is the Abu Dhabi Government's decision to amalgamate three of its legacy sovereign assets, namely, the Abu Dhabi Investment Council (ADIC), the International Petroleum Investment Company (IPIC) and the Mubadala Development Company into one strong company (US-UAE Business Council, 2019). The companies, which had

their own separate oil and gas interests, stakes and assets before the merger, now form one of the strongest and most formidable petroleum and petrochemical platforms, with accrued financial and operational capabilities and efficiencies across the hydrocarbon value chain. This platform provides ADNOC with the required financial and operational capabilities to pursue the new strategy sustainably and systematically. This recapitalization, one of several initiatives, underpins ADNOC's augmented operational and sustainable financial capabilities and thus helps the country.

1.4.2 ADNOC's Corporate Structure

As part of the restructuring efforts to become commercially sound and ready for the downstream transition, ADNOC has significantly changed its corporate structure by mergers, complementary business lines, rebranding its subsidiaries and simplifying the overall group structure into a more efficient and capital market-centered structure. Table 1.1 shows the current group structure of the company.

Table 1.1: ADNOC Corporate Structure

ADNOC GROUP CORPORATE STRUCTURE		
Exploration & Production	**Processing & Refining**	**Marketing & Distribution**
ADNOC Onshore	ADNOC Gas Processing	ADNOC Distribution
ADNOC Offshore	ADNOC Sour Gas	ADNOC Logistics & Services
ADNOC Drilling	ADNOC LNG	Abu Dhabi National Crude Oil Pipeline (ADCOP)
Al Yasat Petroleum	ADNOC Refining	
Al Dhafra Petroleum	Fertiglobe ADNOC Industrial Gas	
	Abu Dhabi Polymers Company (Borouge)	

Internal evidence reveals that the number of employees in the marketing and distribution segment of ADNOC group exceeds the total number of employees in any of the other segments. The Marketing and Distribution segment is responsible for the interaction with consumers and the distribution of oil and gas products and services to them. Official evidence from ADNOC (2019) points to its distribution systems as a renowned operator of service stations in the UAE, over 360 of them being scattered across the country to serve at least 20 million consumers per month. Meanwhile, ADNOC Logistics and Services is a regional leader in the provision of support to international clients off shore and on shore in shipping services and logistics. The company leverages the extensive operational capabilities of 28 ocean going vessels, 48 offshore support vessels and 47 port operation vessels, all providing excellent shipping and logistic support to international hydrocarbon products (ADNOC, 2019). The third company included under marketing, the Abu Dhabi National Crude Oil ADCOP, operates one of the major assets of the parent company – a pipeline from Abu Dhabi to Fujairah that is over 400 km long and carries crude oil to the international market. These three business segments, under ADNOC's combined marketing and distribution system, employ most of the company's 55,000 employees. It would seem that a major portion of its employees are in marketing, which is essentially the venue for CRM.

When the vision of more profitable and defined downstream links is realized, it is believed that the 'Marketing and Distribution' segment of the ADNOC group will have much to do, especially in promoting the new ADNOC branded petrochemical products to the consumers. In this regard, it should be noted that a knowledge of CRM, its adoption and employees' understanding of the value of building stronger consumer relationships will be critical to the success of all projects. In light of the above,

therefore, it would seem timely to try to forestall failure and create a propitious climate by studying the subject of this thesis: “Integrating the critical success factors of CRM, customer satisfaction and customer retention in the oil and gas sector of the UAE”. According to the research, without a proper understanding of the importance of CRM in establishing ADNOC’s downstream position and the success factors critical for the successful implementation of CRM, the downstream links will not succeed. However, it is believed that a proper model for the implementation of CRM in ADNOC’s vision 2030 can be designed through the present research.

1.5 Research Background

The background of this research is generally the UAE oil and gas industry. As seen in the research, the UAE economy is almost entirely dependent on the crude oil revenues which make up the huge bulk of its overall exports – research evidence indicates that it is the greatest single contributor of export revenues (Central Bank United Arab Emirates, 2018). Further evidence of research confirms that, despite several measures to diversify and run other robust operations in other industries in the UAEs, the oil and gas industry is responsible for the energy that they all need. From a review of the operation of the oil and gas industry in the UAE, it emerges clearly that the UAE exports at least 60% of its crude oil products (Energy Information Administration, 2019). Research has shown that the country imports a quantity of natural gas, among other things, in order to extensively explore its oil reserves and boost its national energy demand. Local gas supplies only about 30% of the overall energy demand.

Altogether the UAE’s oil and gas industry are one of the most inviting of the oil producing economies to international investors. According to current research, the

UAE enjoys one of the rare mixes of state-owned and private sector robust oil and gas operations a (Embassy of the UAE, 2019; EIA, 2019; Vasylyeva, 2019). The country has numerous partnerships with international oil and gas industry companies in different ventures. For instance, in the Dolphin pipeline program, which is responsible for importing natural gas from Qatar, ADNOC has a 51% partnership with Occidental US and a 49% partnership with Total France. This open market environment, coupled with the significant oil reserves and production that the UAE controls, makes it an ideal location for investments; it is an ideal environment for ethical oil and gas business operations.

In the research background the policy formulation processes in the UAE oil and gas industry have been explored, as have some of the robust policies that have stemmed from the wise leadership in the country's highest oil and gas authority – the Supreme Petroleum Council, ADNOC's directorial board. The Masdar project, the Dubai light rail system, nuclear energy, the importation of natural gas and the new robust downstream vertical integration plan are among the recent policies that are ongoing. This will ensure that the country's top oil and gas company uses all its powers to improve its overall efficiency and enhance its market position in the world. This cautious leadership and the foresight of its strategies may account for ADNOC's top ranking as a relevant global oil and gas company even in an increasingly competitive oil and gas industry.

With a clear understanding of the background of the research, the study can therefore probe below the surface and state the problem that the research has identified.

1.6 Statement of the Problem

The research is most concerned with the growing competitiveness in the international oil and gas industry. Second, the research asks whether the newly unveiled ADNOC Strategy 2030 can enable the UAE to face and outdo other countries in the increasingly competitive business environment. Third, the research is concerned with the strategies through which ADNOC will maneuver the downstream links and attain success. The following paragraphs analyze these concerns and state the problem of this research.

According to a market-centered report on the world-wide oil and gas industry by McKinssey (2019), the trend of heightened competition is growing because of the world's growing demand for energy. Concurrent research evidence projects a growth in the demand of crude oil to 10 million b/d, a 60% rise and a 45% increase in the demand for natural gas by the year 2040 (US-UAE Business Council, 2019). McKinssey agree, adding that most of the oil producing companies and countries are seeking to integrate in order to leverage their strengths into a strategic position which captures the promising growth opportunities downstream and thus increases their overall profitability. This view is supported in further research by PWC (2019). Suggesting that the trend of the oil and gas industry looks promising but is still subject to volatility. This reputed market research company indicated that, after a drop in the price per barrel for five years, the price rose in 2018-19 to around double, that is, $70 per barrel. The research from PwC (2019) indicates that the industry is looking to recover from a period of poor oil prices. These two market-centered studies concur that the oil and gas industry is now much more competitive than it used to be and consequently companies are improving their efficiency, realignments and capital

restructurings (PwC, 2019; McKinssey, 2019) in order to remain competitive, even though volatility threatens – but this, according to PwC, is all the more reason to improve customer service, especially downstream.

The ADNOC strategy 2030 has been presented as an effort to capture the downstream, capitalize on strengths and maximize profits through vertical integration. The growing projections of the global need for oil, natural gas and petrochemical products have been used to give antecedent impetus to this strategy. The sole concern is that, while the guiding principles and priorities of the downstream strategy are clear, any specific strategy for strengthening the downstream links is obscure. Proactive and dynamic marketing efforts have been identified as a priority and among the guiding principles in implementing the strategy, but the lack of a framework for understanding how CRM is to be applied to this industry makes it hard in advance to digest it pragmatically. The previous relationships between ADNOC and its customers were most often much more entity based or treated as Business to Business (B2B), whereas the new strategy will expose the company much more to its end consumers. This is all the more reason for giving due weight to a proper understanding of consumer needs and preferences. Only CRM can provide this; hence the present research asks how CRM might help ADNOC's strategy for 2030. The research is concerned that, without a proper strategy for interaction and engagement with the consumer, the company might not satisfy the expectations of the stakeholders.

Having dissected and clarified its concerns, the present study brings up a problem in applying CRM in the UAE's oil and gas industry, due mostly to the previous neglect of it and overall failure to understand how the industry might effectively it CRM. Very little research has been conducted in this context, especially

in the business-to-business set-up and in an international context. This study is one of the very few focusing on the United Arab Emirates to provide an integrative perspective of the critical success factors in this industry for the fuel exporting countries. It is believed that studying the case of ADNOC and investigating how to integrate the critical success factors in CRM, customer satisfaction and customer retention, will help to develop a framework for the successful implementation of CRM which is especially needed for the success of ADNOC's Downstream Strategy 2030 for international B2B marketing.

1.7 Novelty and Significance of the Study

This study is novel, original and very important to the fuel exporting countries, the oil and gas industry and other industries across the UAE. The research evidence in this introductory section makes clear the significant gap in the knowledge and implementation of CRM across industries in the UAE. A basic search online yields few results – thus, too little research – on this subject in respect of the UAE. In the oil and gas industry, research relating to the use of CRM to improve the vendor/customer relationship and pursue customer satisfaction and retention is even more limited. Very little research has considered the context of the oil and gas industry, especially with regard to B2B in international contexts. Hence the unusual slant of the present study. These factors, and the proposed development of a framework for the effective implementation of CRM, justify it.

The contribution and significance of the study is its claim to enhance the understanding of the applicability of CRM in the oil and gas industry and reflect on its ability to improve organizational revenues and enhance the retention of the international B2B customers of the fuel exporting countries. Together with this, the

study will propose a model for the successful implementation of CRM that can be adopted by any oil and gas industry companies and even other operations that have no proven model for such implementation or have had no success with it. Despite focusing on the oil and gas industry, the research will sufficiently review the aspects of CRM implementation, such as the critical success factors that can be transferred from one organization to another across industries. The research will be useful to organizational leaders and management strategists and will also provide sufficient detail for use by academics in a currently under-researched area.

1.8 Research Objectives and Questions

1.8.1 General Research Objective

The general objective of the research is to identify all the factors related to the oil and gas industry that are relevant for the successful implementation of CRM for the B2B international customers of fuel exporting countries. These are termed the critical success factors (CSFs). Another aim of the research is to identify the marketing activities affected by CRM use and thereby develop a clear conceptual model that integrates CRM's CSF constructs and their consequences for the satisfaction and retention of international B2B customers. Below are set out the specific objectives of the research.

1.8.1.1 Specific Research Objectives

- Investigation and identification of the critical success factors for the implementation of CRM.
- Investigation and description of the relationship between the critical success factors identified and customer satisfaction.

- Investigation and description of the relationship between the critical successful factors and customer retention.
- A framework for the successful implementation of CRM in the oil and gas industry in the UAE through integrating the critical success factors, customer satisfaction and customer retention.
- Evaluation of the effectiveness of implementing of CRM in promoting, customer satisfaction and customer retention in the ADNOC oil and gas downstream.

1.8.2 Research Questions

- What are the critical success factors for successful CRM implementation in the UAE's oil and gas industry – the case of ADNOC?
- What are the impacts of CRM's CSFs on CRM effectiveness?
- What are the effects of CRM implementation on customer retention and customer satisfaction?

1.9 Chapter Summary and Outline of the Dissertation

This chapter has conducted an in-depth overview of the background of the study, painting the motives behind and direction of the study. It asserts that the UAE is largely dependent on its leading oil and gas producer ADNOC, which contributes greatly to the country's GDP and to the global oil market. Aspects affecting the oil and gas industry including automation, environmental regulations and the supply chain and the fact that the bulk of global oil comes from the Middle East have been highlighted in order to emphasize the usefulness of the study and the eligibility of the selected company to be studied. The research has detailed the processes and operations in this industry and the new approaches that ADNOC is taking to enhance its position in the global oil market. The growing competition in the global oil market characterized by

companies revamping their production efficiencies and realigning their capital structures to secure their present current share and seize more has been discussed. The research has raised concern about the market readiness of the ADNOC Strategy 2030, especially regarding interaction and engagement with clients. So little research has considered the implementation of CRM in the oil and gas industry that ADNOC will have to test the water in the competitive global petrochemicals downstream. It has heavily invested in such efforts; this is why it may be helpful to study beforehand the critical success factors in implementing CRM and the ways of integrating these with customer satisfaction and customer retention to provide ADNOC with a framework for the purpose.

Chapter 2: Literature Review will concentrate in depth on the literature pertinent to CRM and seek to elucidate the critical success factors for the successful implementation of CRM, which is held essential in the case of ADNOC.

Chapter 3: Research Methodology will set out the strategy for conducting the research and explain the presumptions and assumptions made in developing this strategy, showing why it is the best suited to an effective study of the subject.

Chapter 4: Findings and Analysis will outline the results of implementing the methodological approaches described in Chapter 3 and discuss their meaning in detail.

Chapter 5: Discussion of Findings will extensively discuss the findings in Chapter 4 in relation to the research hypotheses and claim the value of the research and its overall ability to fulfill its purpose. This chapter is especially useful for clarifying how the research questions raised, the objectives outlined and the hypotheses developed were addressed in the empirical conduct of the research.

Chapter 6: Conclusion will wrap the entire study up, detailing the critical findings, the points of strength as well as the limitations of the research and its implications for academics and practitioners.

Chapter 2: Literature Review

2.1 Introduction

Earlier, the background of the research was outlined: the oil and gas sector in the UAE and specifically the case of ADNOC. It is the function of a first chapter to lay down a strong foundation for the choice of subject, the company to study and the industry to focus on. This chapter investigates the subject matter of the research – Customer Relationship Management (CRM). The fact that this subject concerns an industry that has enjoyed limited research from this perspective explains the need to describe the context of the industry and its trends and justifies the choice of company in the industry. Moreover, it explains the goal of the research – to contribute to industry-specific knowledge in the subject area. The following literature review focuses on CRM and aims to analyze it clearly in detail.

2.1.1 What is CRM: Evolution and Practice

The research suggests that customer relationship management is a technologically integrated strategy applied by companies so as to learn more about their customers. The aim of the approach is to gather customer-specific information about needs, behaviors and preferences in order to develop better relationships with customers. Research notes that all successful business and multinational corporations have risen through good customer relationships. While this concept seems to be little more than thirty years old, a tradition of customer relationship management by organizations in several industries, banking, for instance, has grown under the guise of relationship marketing. According to Sheth, organizations focused on a customer's 'net worth' and tried to retain the customer by offering more personal exclusive services. This was called the 'share of wallet' approach to relationship marketing,

otherwise identified by researchers as one of the earliest instances of CRM (Sheth, 2017).

In the contemporary business environment, however, Sheth (2017) reports that the focus of customer relationship building and management has shifted from the 'net worth' basis of individual customers to the holistic consideration of the value of the customer and the value to the company of a proper relationship with each customer, irrespective of their 'perceived net worth'. This school of thought finds support from intensive research (Maggon & Chaudhry, 2015) on fifteen years of development and transition from relationship marketing to customer relationship management. According to researchers, relationship marketing in service industries focused at first on specific targeted clients who, as Sheth (2017) explains, were considered of high net worth. However, as competition in the business environment increased, companies had to do more to consolidate their revenues and market shares and a paradigm shift from relationship marketing to total customer relationship management ensued. With customer relationship management, companies concentrate on all their customers, whether first time or regular, to improve profitability by offering turnkey solutions for the next interactions with the same clients based on the information that has been gathered about their behaviors, needs and preferences (Maggon & Chaudhry, 2015; Sota, Chaudhry, Chamaria, & Chauhan, 2018).

Concurrent research agrees that the current practice of customer relationship management can be attributed to traditional relationship marketing and the customer value proposition (Payne, Frow, & Eggert, 2017; Tonder & Petzer, 2018). Payne et al. (2017) studied in depth the antecedents of customer relationship management and reported that the practice started out with the development and brief practice of the

Customer Value Proposition (CVP). This notion was a core element of customer value management as pioneered by Roy Kordupleski in the 1980s. The notion of CVP provided the customer with a total value proposition and a promise from the seller about the commitment to pay. According to Payne et al. (2017), customers relying on this proposition could choose what to buy according to what best suited their needs and could trust the vendor's commitment to work until he was sure of delivering a total value package.

Tonder and Petzer (2018) claim to find interrelationships between the practices of relationship marketing and contemporary customer relationship management and see most of the practices of relationship marketing as embedded in today's revamped customer relationship management. The baseline point of agreement between these authors which is found to apply also to a host of other authors is that contemporary customer relationship management has been practiced in disparate models and has developed over time to be the most prolific strategy for driving productivity and creating competitive advantage in the contemporary business environment (Payne et al., 2017; Tonder & Petzer, 2018; Vivek, Beaty, & Morgan, 2014; Chen, Weng, & Huang, 2016; Debnath, Datta, & Mukhopadhyay, 2016). In this regard, researchers make one point clear: that technology was the cutting edge factor that separated customer relationship management from traditional relationship marketing, or the customer value proposition, and all other traditional efforts to engage customers (Maggon & Chaudhry, 2015; Chen et al., 2016; Debnath et al., 2016).

A consensus of these researchers indicates that technology, which provides the opportunity and capacity to systematically collect, archive, analyze, arrange and interpret customer information and data in order to provide bespoke services, is the

determining element of customer relationship management. In sharp disagreement, however, some researchers like Santouridis and Veraki (2017) maintain that the quality of the human relationship is of great importance, even though CRM can use technology to leverage data mining and learn more about the consumer base, interests and behavior. In their research on 'CRM impact on customer satisfaction and the mediating role of the quality of the relationship' Santouridis and Veraki (2017) report that thinking of CRM from an exclusively technological standpoint is a grave mistake and one of the reasons that implementing CRM fails. It seems that CRM thrives on the shrewd integration of people, processes and technology rather than the application of any one of them in isolation (Faiz, 2016; Dewnarain, Ramkissoon, & Mavindo, 2018). These researchers agree that among the three constructs for the successful implementation of CRM, 'people' or the human factor, is the one most needed for getting the best out of investing in technological systems and processes to engage and retain customers (Santouridis & Veraki, 2017; Dewnarain et al., 2018). A study with a broader perspective by Eid (2007), maintains that a more pragmatic and objective way of thinking and looking at CRM is to understand it as a resourceful process-based tool for bringing together information on the responsiveness and effectiveness of market trends, customer behaviors, sales and marketing efforts.

This mass of information is what needs to be synthesized and effectively synergized in the interests of effectively managing the customer relationships in an organization. Eid notes that the biggest returns come from the synergetic integration of departmental efforts with CRM and IT capabilities instead of popularly misconstrued department-specific CRM implementation techniques which automatically lead to failure (Thejaswarup, 2017). This is why an organization's readiness to implement CRM is identified by researchers as one of the core constructs

for success when it does so. Eid (2007) notes that organizational readiness should be considered critically before deciding to implement CRM. Among the factors to consider under the heading of organizational readiness are the purpose of installing CRM, employees' knowledge and understanding of CRM, and the changes in processes and information technology that it will require. These factors are identified as critical success factors and the successful implementation of CRM in contemporary organizations is contingent on understanding them. Besides holistically discussing CRM and its application, this literature review will seek to clearly describe these critical factors as a prerequisite for achieving the objectives of the research.

Other important notions related to the history, evolution and practice of CRM include the fact that CRM was initially identified as a separate business strategy aimed at augmenting an organization's marketing efforts (Frow & Payne, 2009). The watershed moment for CRM came with the development of automation software for sales forces in the USA in the early 1990s. Buttle (2009) indicate that by the mid-1990s, CRM had emerged as a critical tool in automating the work of sales staff, and had been widely adopted in many companies. At the same time, research from CRM Switch (2013) suggests that the development of Software as a Service (SaaS) in 1999 marked a new phase of CRM in which it began to be used with automation in companies' marketing. This period is also characterized by software companies of all sizes developing various CRM software programs. The advantages of the internet at this time must not be understated and software companies did not hesitate to use it as they constantly developed powerful web-based applications for enabled companies to collect, store and analyze consumer data, as opposed to merely automating their work (Saarijarvi, Karjaluoto, & Kuusela, 2013). Another study by He and Erturk (2018) established that the development of cloud computing gave CRM applications yet

another boost and promoted their prominence in the market. According to He and Erturk (2018), cloud-based CRM afforded organizations better security for their information and data and the capacity to do more with these data. The researchers spotlight the role of cloud computing in facilitating the integration of CRM with all the ERP functions of the organization in the pursuit of seamless connectivity and data sharing between functions to increase the efficiency of CRM, as well as other integrated services.

Research from CRM Switch (2013) endorses this finding and dates the development to 2007. CRM Switch adds that almost immediately, with all data stored in the cloud and increased ease of integration, social CRM also took root. Currently, most of the cloud-based CRM applications and software contain provisions for social CRM, which has recently been identified by researchers as a game changer in its context (Buttle, 2009; Saarijarvi et al., 2013). Despite the steady philosophical and technological development of CRM, as noted above, scholars are still debating exactly what CRM is. Technological experts identify CRM as a group of technological capabilities that help companies in the effective marketing and management of relationships with customers. Looking back to one of the most fruitful developments in CRM – the launch by Tom Siebel of the Siebels System, now Oracle – it may be noted that technological experts confined their definition of CRM to technological terms (CRM Switch, 2013).Yet, from the managerial perspective, CRM is identified as the organization of effort and capabilities to effectively exploit the profitability of the relationships between organizations and their customers.

The following three perspectives on CRM should be kept in mind to minimize the debate on CRM:

Strategic: This perspective on CRM highlights its focus, which is the customer. Therefore, strategic CRM is customer-centered, and its aim is winning and retaining profitable customer relationships.

Operational: This perspective on CRM is concerned with the processes of CRM, which include the automation and streamlining of such aspects as marketing, sales and customer service.

Analytical: This perspective emphasizes the use of data to derive and develop data that can be used in the first two aspects of CRM, described above.

2.2 Definitions of CRM

CRM is not wholly new to today's businesses, but understanding how different authors define CRM is critical to an accurate focus on and foundational knowledge of the study. The growing popularity of CRM, as noted above, has resulted in much research on it; authors have provided various definitions, which all converge on its customer-centered approach. According to one study by Abbot, Stone and Buttle (2001), it is a strategic management approach that focuses on satisfying the customer on the basis of customer data; it comprises management, marketing and IT. Another study from Buttle (2009) improves on the definition by Abbot et al. (2001), defining CRM as a conceptual business strategy aimed at the capitalization of profitability and customer satisfaction by focusing on customer segments and implementing bespoke customer-centered interventions. A third view is provided by Appiah and Doku (2010) which seems to concur with the last, and adds that CRM as a business strategy is aimed at ensuring the effective and integrated management of all aspects of the interactions

between a company and its clients, including marketing and sales. This definition seems to resemble one that sees the strategy as important in managing the relationship between a customer and the business immediately before the purchase and long afterwards (Jutla, Craig, & Bodorik, 2001; Umanshakar, 2001; Sanjay, 2012). According to Jutla et al. (2001) in a conference on system science, CRM is to be understood as a facilitating technology that ensures effective interaction between a business and a consumer primarily because relationships between these two in today's business environment should not end with a sale. Appiah and Doku (2010) concur that, through the application of the technological capabilities of CRM software, companies can understand their consumers better and in this way be on the right path to maximizing the delivery of value to their customers.

Further evidence of research on the definition(s) of CRM focuses on its capacity for technological integration, whereby it can encourage the gathering of critical data from customers and provide insight into customers' behavior and preferences. CRM has been shown to have the technological capacity to integrate core business elements, i.e. internal processes and functions as well as leveraging the external network to target customers and develop value packages to them (Chen & Popovich, 2003; Buttle, 2009; Baran, Strunk, & Galka, 2008; Kumar & Reinartz, 2012). Further research adds that, despite relying on technology, the main purpose of CRM and its function is customer-centered (Rababah, Mohd, & Ibrahim, 2010). Rababah et al. (2010) define CRM as a tool that relies on technology to pursue customer satisfaction through the management and matching of customer data in order to improve their satisfaction and promote targeted sales. CRM's improvement of satisfaction and its overall purpose for companies seems to be the improvement of profits but the successful implementation of CRM in any organization is entirely

dependent on the balance between the purpose and the mode of establishing CRM (Lun, Jinlin, & Yingying, 2008). In concurrence with previously cited research, Lun et al. (2008) further make the point that any one-sided approach to the implementation or the aim of implementing CRM will weaken the CRM input and make it more susceptible to failure. Research at first raised concerns about one-sided perceptions of CRM as a technological tool that must be implemented by the IT department and will then perform miracles (Santouridis & Veraki, 2017; Dewnarain et al., 2018). At this point also, concern was raised over simplifying the purpose of CRM; for instance, most businesses would want to implement CRM in order to gain more sales and profits, but exceptional businesses see it also as a chance to cater or care for customer satisfaction (Lun, Jinlin, & Yingying, 2008). According to Lun et al. (2008) the balance in implementing CRM is critical to its being identified and defined as CRM – in essence, a zeal for customer satisfaction, as one of the core purposes in implementing CRM, should not be neglected.

There is no doubt a plethora of definitions of CRM; reviewing them suggests that the term has no universally acceptable definition. Some researchers Ngai (2005), Farhan, Ellatif and Abed (2017) agree, concluding in fact that the only way to define it is to read holistically and try to distill what best suits the purpose of each study. Farhan et al. (2017) is categorically clear that the study and implementation of CRM depend entirely on the clarity of the definition; hence, the present research should be guided by its own working definition of CRM. Before summarizing the literature on definitions and finding something suitable, it may be helpful to outline some of the reasons why CRM, despite its growing popularity, lacks a unified definition. Farhan et al. (2017) notes that researchers on CRM view it differently from different perspectives, including the strategic, process-based, technological and business

philosophy-based ones. These different standpoints, coupled with the different preconceptions and academic and professional backgrounds of the investigators, ensure that CRM can hardly have a uniform definition (Frow & Payne, 2007). Other factors that are held to contribute to the lack of consensus on a definition of CRM is its multi-spectrum application, the multidisciplinary nature of its application, which integrates marketing, IT and management, the fact that CRM is still an emerging concept and the lack of theory on it. With the above in mind, the present study takes the following as a working definition of CRM: a holistic approach to marketing strategy taken by IT and other people across business units and functions to support the understanding of the organization's customers with a view to profitable and long term relationships with them and increased shareholder value. In this regard, therefore, the success factors of CRM are based on the management's scope, integration of process, people and technology and control of the components of CRM.

2.3 Importance of CRM

Research has acknowledged that CRM has been a revolutionary system in organizations conferring a wide range of benefits (Bhaskar, 2004; Eid, 2007; Garbarino & Johnson, 1999; Rigo, Pedron, Caldeira, & Araujo, 2016). As a relatively new way of thinking and a modern business practice, CRM creates and sustains outstanding long- lasting relationships between customers and organizations. According to research, CRM is one of the most significant means of establishing competitive advantage (Eid & El-Gohary, 2014). CRM has drawn much interest, as an important tool for increasing any organization's ability to gain retain and satisfy customers efficiently and effectively by creating and sustaining long-lasting relationships with customers (El-Gohary, Edwards, & Huang, 2013). Economic gains

are the primary reason for companies to want relationships with customers; they produce better results by managing their customer base to recognize, acquire, satisfy and retain customers and thus earn more (Baran & Galka, 2013). Companies with an outstanding CRM system find it easier to acquire and retain customers, leading to their increased sales and subsequent profitability (Buttle, 2009).

Rababah et al. (2011) state that CRM has the potential to create competitive advantage for an organization by making its brand(s) more attractive (Rababah, Mohammed, & Ibrahim, 2011). If CRM enables organizations to know the needs of their customers better, it becomes easier for an organization with effective CRM to satisfy its customers better and thus gain competitive advantage (Bhaskar, 2004). However, despite the effectiveness of CRM in some organizations, research has shown that a poor CRM system can negatively affect performance, especially if the service system fails in business to business international customer relationships (Bolton, Lemon, & Verhoef, 2008). It is evident from the literature that CRM systems must be aligned with each organization's technological capabilities and strategic goals since there is no standard CRM system that can fit all organizations (Bose, 2002). Thus, the management of an organization should set up a customized customer relationship system that best fits its particular strategic goals and capabilities and avoids service failures, which are mostly brought about by inefficient CRM systems (Boulding, Staelin, Ehret, & Johnston, 2005). For the oil and gas industry, little research has investigated the CRM designs that could most effectively guarantee success.

From past research, it is evident that CRM failure is relatively high, with estimates indicating that CRM projects failing in the year 2001 ranged from 55% to 75%, leading to losses or no improvement on the bottom-line from 70% of such

projects (Finnegan & Currie, 2010; Zablah, Bellenger, & Johnston, 2004). In contrast, other research demonstrates that effective CRM can contribute about a 5% increase in customer loyalty and between 20% and 100% in an organization's profitability from increased sales (Reichheld, Markey, & Hopton, 2000). In the contemporary business environment where competition is high and the external environment is turbulent, Rababah et al. (2011) state that effective CRM may contribute to an increase in a firm's competitiveness as a result of its market grip and customer preferences, resulting in increased sales. Connecting with its diverse customers by means of technological platforms, CRM puts organizations in a position to not only understand their customers' needs better, but also to engage with potential customers and form long-term sustainable relationships. Research indicates that CRM is more closely related to the engagement of customers through a firm's processes (Buttle, 2009; Chalmeta, 2006); the bottom-line aim is usually to form successful and sustainable customer-business relationships in the long run.

Given the greater sophistication of consumers today, one study by Crosby and Johnson (2001) makes the point that managers cannot afford to ignore CRM, since it establishes a strategic link between customers and organizations. Fundamentally, organizational managers should appreciate the benefits associated with customer value, sales, profitability, and the subsequent acquisition of opportunities for competitive advantage created by CRM (Eid & El-Gohary, 2014). Nonetheless, research has shown that implementing successful CRM is a complex process that needs much planning and collaboration. This is because a CRM program is a process of change that should be effectively aligned with the goals, vision, and strategic capabilities of firms, otherwise they cannot successfully integrate it with the firm's existing processes (Chan, 2005). While many organizations make the mistake of

perceiving CRM system as merely an IT project Hande and Zarali (2009), Lukkari (2011), Chang, Park and Chaiy (2010), argued that an effective CRM system is a business process that integrates all the varied activities within an organization in order to cohesively achieve success and reap the numerous benefits associated with it. Success therefore depends on managers planning effectively for a CRM system in which all the relevant departments and units of the organization are fully aligned with the new business system (El-Gohary, 2011; Karakostasa, Kardarasb, & Papathanassiou, 2005).

Though technology is considered one of the most important aspects of effective CRM (Croteau & Li, 2003), researchers indicate that improving the employees' management of customer relationships is critical (Davenport & Short, 1990, Moreno & Melendez, 2011). In planning a CRM system, a number of past studies consider the employee factor to be critical in determining its success (El-Gohary, 2011; Kalustian, Lombardi, & Fletcher, 2002). This is because customers use technology to interact directly with employees; thus, the ability of employees to interact satisfactorily with customers is the most critical aspect of an effective CRM system. For example, when customer inquiries are responded to promptly and fully it becomes easier for an organization to satisfy its customers, leading to high customer loyalty. From this point of view, it can be argued that effectively understanding and addressing customers' needs builds a positive relationship between these people and the organization which in return promotes the organization's ability to retain customers.

2.3.1 Benefits

After this review of the general importance of CRM, some of its specific benefits should be outlined and elaborated, for the sake of clarity. The evidence

supports a number of direct benefits from CRM which precede its adoption in the business environment nowadays. They are listed below.

Increase the productivity of marketing – The research evidence notes that CRM and marketing are paired practices which are hard to discuss in isolation. According to researchers Abdullah, Al-Nasser and Husain (2017), CRM came to improve the efforts of marketing and ensure that marketing activities would have more insightful strategies than before and consequent conversions. Abdulla et al. (2017) explain that this result comes from the CRM software providing the marketing team with insightful data, which then enables the team to tailor its approaches and focus specifically on the client in question. This ensures improved results from marketing and thus contributes to better returns on investment for CRM and marketing alike.

Sales retention – The research noted above, focusing on the importance of CRM to the organizations, touches on this aspect of CRM. Further, concurrent research identifies it as one of the benefits of CRM. According to one study by Dubrovski (2018), CRM ensures the retention of sales in the organization, thereby ensuring a steady revenue flow. This retention is achieved because the technological tools can advise the sales team with insightful analytics showing especially what clients want and the quantities or combinations they want it in (Dubrovski, 2018). The sales team can therefore proceed to package their sales effort in a particular way, which is more attractive to the targeted clients (hence more effective). It thus ensures that the clients are hooked in to the business and therefore results in sales retention.

Improving service level – Esichaikul and Sikaramula (2000) report that one of the main purposes of CRM is establishing good relationships with customers. The authors go on to say that a good and meaningful relationship is attainable only through

evidence of good service for the customer, who will generally want to be a regular customer if the level of service is high enough. Esichaikul and Sikaramula (2000) comment that by implementing CRM, a business can study the behavior of its clients and devise ways of serving them better, for instance, offering them add-ons and/or certain packages together or at a discount. This makes the customers feel much more personally involved with the store because they are impressed by the store's level of service and level of understanding of their needs and preferences.

Increasing customer satisfaction – This is directly related to the above point: researchers maintain that when clients finds that a store has all that they need, their purchases are packaged in a way that saves time for them and the customer service professionals are warm, interactive and seem to understand them, they feel much more satisfied and confident. The ripple effect, according to Esichaikul and Sikaramula (2000), is that customers hardly need to visit any other stores for any services but choose to stay with the store that seems to understand their needs and satisfies them.

Increasing market share – Chien (2013) in a study of marketing management in the contemporary business environment states that customer relationship management has been identified by organizations world-wide as a huge contributor to an increased market share. Researchers have dedicated time to finding how customer relationship management has contributed to this outcome. It seems probable that, in synthesizing these different evidences of research, the capacity of CRM to increase a firm's market share of companies is directly tied to increased customer satisfaction and to the increased level of services in the organization (Chien, 2013). The research reveals that, through the effective application of CRM, organizations can ensure that they retain their clients through ensuring their satisfaction. When they do this,

organizations can be confident of essentially retaining their market share. Chien (2013) infers that the increase occurs when customers, due to their satisfaction and the high quality of service, start recommending colleagues and friends to try out the service and goods offered by the organization. Maintaining the same cycle of high quality service and satisfaction based on insights from CRM ensures that new clients of this kind will be long-term clients, implying an increased market share.

Increased revenues – Earlier cited evidence identified greater revenue as one of the motivators for implementing CRM. The research evidence from Lun, Jinlin and Yingying (2008) advises against focusing on increasing revenues alone when implementing CRM; instead, firms should balance customer satisfaction by the promotion of sales. In agreement, Chien (2013) observes that by pursuing customer satisfaction revenues automatically increase because they are tied to the increased market share. Lun et al. (2008) note that when the service quality increases and the level of satisfaction required by the client is met the revenues will no doubt increase. However, when the focus is only on the increase in revenues without using insight from CRM to ensure the satisfaction of the client the revenues hardly ever increase.

Increased mutual value – Researchers Cheng and Shiu (2018) indicate that the value between the customer and the business is mutual in every sense and should never be considered one-sidedly. According to a researcher who reviews the quality of B2B relationships, the better the position and service quality of one of the parties in the relationship, the better these are for the other party. This ideally implies that mutual value comes between parties to a business relationship, whether B2B or B2C. The research further indicates that through effective relationship management, which can be achieved by adopting a robust CRM framework, a company can significantly

improve the mutual value of the relationship between its customers and its operations (Cheng & Shiu, 2018). Gupta (2019) agrees with this and notes that customers are likely to confer value on the relationship between them and a business that offers them satisfaction and tailored service; this ensures that the company also benefits directly from the conferred value through different means including increased business opportunities (Gupta, 2019).

2.4 Components of CRM

Having introduced and defined CRM and identified its importance and primary benefits, this study locates at this point a review of the components of CRM. The research evidence reveals that underpinning its multifaceted nature CRM carries a number of components and levels which can all be exploited by the business managers who decide to apply CRM in their organization. According to the research, each of the components of CRM, depending on the firm's needs and objectives, can be treated as a standalone solution or combined with another to cater for multiple objectives (Gupta & Shukla, 2001). This is supported by further evidence from researchers Heygate (1999), Hoffman, Novak and Peralta (1999), who note that the different components of CRM and their applications are dependent on the organizational goals and overall organizational strategy. To this extent, therefore, some organizations choose to apply a whole set of components of CRM or else specific components well-synergized to achieve a particular function. This dual capacity in the application of CRM and the multiplicity of components makes it helpful to study and understand its components, if the research is going to achieve any of its objectives and answer the questions raised in the introductory chapter. Pushmann and Alt (2001) in a study of CRM application in the pharmaceuticals industry found that the major components of CRM included

Marketing Automation, Customer Service and Sales Force Automation. Although different organizations have different names for the above components of CRM, research suggests that the basic elements of the components are similar despite the nominal differences.

2.4.1 Sales Force Automation (SFA)

Pushmann and Alt (2001) further find that Sales Force Automation (SFA) is the earliest component of CRM and has been use in the US since the early 1980s. The three primary components of CRM are agreed on in further research by Sahay, Singh and Gupta (2001), who add that SFA in its wide sense includes the automation of business functions such as calls, sales processes and the configuration of product information. Evidence from more recent research agrees with this point and implies that sales force automation as a component of CRM has been very useful in a number of business sectors for improving the selling and conversion efforts of sales teams in organizations (Roman & Herrera, 2015; Bradford, Johnston, & Bellenger, 2016). In a review of SFA in B2B relationships, Bradford et al. (2016) note that the introduction of SFA in the sales effort enhances the lead time conversion cycle for sales efforts and ensures that businesses have more access to clients and more sales due to the accelerated conversion times. Roman and Herrera (2015) for their part indicate that SFA is a critical component in supporting the sales effort and clearly analyzes the performance of the sales team in a way which could be used next to enhance the performance of the sales team. The researchers quoted here agree that SFA is critical to the work of sales teams and is a vital component of CRM, which most organizations seek to implement (Pushmann & Alt, 2001; Sahay et al., 2001; Roman & Herrera, 2015; Bradford et al., 2016; Farhan et al., 2017).

2.4.2 Marketing Automation

Research evidence identifies this as another critical component of the CRM initiative and one that leverages the power of technology to essentially provide insightful data and analytics that the organization can rely on to make use of CRM (Lapide, 2018). According to Lapide (2018), the marketing automation function of CRM relies on the data collected by the CRM applications and software of the organization and arranges these data into information which is useful for ensuring that sales efforts are streamlined and the benefits of CRM identified above, such as customer satisfaction and improved marketing efforts, are attained. After the collection of customer-centered data in what is popularly termed data mining, these data are analyzed to yield meaningful actionable information for the marketing team. Then the marketing automation component of CRM pursues excellence in the sales and marketing work of the organization (Jarvinen & Taiminen, 2016; Al-Homery, Asharai, & Ahmad, 2019). Jarvinen and Taiminen (2016) in their research review the ability of marketing automation to promote the harnessing of sales and profits in B2B relationships. They note that, through marketing automation, organizations are able to use data collected from their customers to come up with content and marketing information that is tailored and targeted to their specific needs. The ripple effect of this is that the costs of sales decrease since the targeted customers probably receive only the important information and act on it. This by extension means more profits retained and the overall success of the marketing efforts, all because these last are automated. Al-Homery et al. (2019) in their insightful research agree with the above points and add that, through marketing automation, organizations can tailor critical information that can influence a customer's decision, thereby making sure that customers can be

regularly informed and regularly react to the targeted marketing actions of the organizations – ideally implying increased sales.

2.4.3 Customer Service

Despite previous consideration as an important component of CRM, owing to the focus on sales force automation, CRM these days identifies customer service as an integral part of CRM. Earlier research identifies customer service as an after-sales benefit aimed at supporting customers with any type of problem and pursuing overall satisfaction with the service (Abdullah, Al-Nasser, & Hussain, 2001; Cho, Im, Hiltz, & Fjermestad, 2002; Dubrovskiy, 2001). In concurrence, Santouridis and Veraki (2017) assert that customer service as a component of CRM should not be confined to after-sales service but entails all the interactions that the customer will have with the organization. To this extent, therefore, Santouridis and Veraki (2017) indicate that organizations should ensure that all their personnel are well trained in customer service, with special reference to personnel who are likely to have direct contact with the public. This position is agreed to in further research evidence, which reports that in the competitive business environment of the 21st century, customer service should be the start and finish of CRM. According to the researchers this is the actual manifestation of CRM and is altogether handled by humans (Rahimi & Kozak, 2015). Rahimi and Kozak (2015) note that the technological devices of self-service have no doubt started to permeate industry but they still can hardly replace the function of the customer service specialists who in this capacity are deployed to implement CRM. Rahimi and Kozak (2015) and Santouridis and Veraki (2017) agree that the role of the marketing team and the human factor in the organization in facilitating and effecting

CRM is altogether critical and this is essentially why in the contemporary business environment the customer service component of CRM has started to attract interest.

2.5 CRM Critical Success Factors

The research evidence indicates that critical success factors, popularly initialized as CRM's CSFs, is a term that originated from project management circles and essentially refers to the different elements necessary for the successful attainment of project goals (Zwikael & Globerson, 2006; Da Costa, Campos, & Silva, 2014; Silva, Warnakulasuriya, & Arachchige, 2016). The researchers indicate that the term has since permeated the business environment and is commonplace in any attempts by strategic management to inform the business strategy. Farhan et al. (2017) define the critical success factors as the few key areas that the business is required to focus on in order to attain success in its endeavors. These definitions seemingly justify earlier definitions of critical success factors by Digman (1990), Guynes and Vanecek (1996), Butler and Fitzgerald (1999) who all relate the critical success factors to the specific mistakes that organizations must put right in order to ensure the success of projects or the attainment of the organization's objectives. One study which agrees with this is conducted by Oackland (1995) and provides a more detailed process of defining the critical success factors; it mentions that they are related to what the organization must do in order to accomplish its mission, the first step being to identify and categorize its specific critical success factors.

As in any other project, CRM beyond question requires the identification and total pursuit of the critical success factors in order to succeed overall. Researchers tend to agree on the above, indicating that in the case of CRM the critical success factors would no doubt imply the essential parameters whose attainment would guarantee the

success of any CRM project. It is mentioned above that more than 65% of CRM implementation projects fail; this can be attributed to the lack of a proper strategy for implementation, one of the key strategic components being the identification and fulfillment of the critical success factors. Researchers Keramati and Sangari (2011) in a study of the implementation of CRM in Iran's business environment note that among the critical factors of success were the CRM goals, change management, customer knowledge management and top management support. In simpler terms, they Keramati and Sangari (2011), find that, for the successful implementation of CRM in the Iranian business context, these factors had to be considered first. Woodcock et al. (2011) conclude that the critical success factors may vary from project to project but would generally include factors related to the project that are essential for its successful running. Research stipulates that the identification of critical success factors is an essential part of the CRM implementation strategy (Ranjan & Bhatnangar, 2011). In a study 'Principles for successful implementation of CRM', Ranjan and Bhatnangar (2011) noted that most unsuccessful CRM projects are derailed by the lack of understanding of the critical success factors involved in the implementation of CRM. With all the above in mind, the present study will review some of the critical success factors for the implementation of CRM in the oil and gas industry. Due to the scarcity of research in the field, this paper will use synthesis and experiential knowledge to identify and discuss these critical factors.

2.5.1 CRM Enablers

Before discussing the critical success factors for the implementation of CRM, it would be best to incorporate a piece of critical evidence from a study of CRM enablers in a work environment. According to Gholam and Rahman (2012), the CRM

enablers are partly related to the critical factors and also stand alone as salient considerations in discussions of critical success factors in CRM. Gholam and Rahman (2012) identify four main enablers of CRM and emphasize their usefulness in studying the implementation of CRM. They claim that these enablers play a significant, role in ensuring the effectiveness of any CRM project in an organization. Gholami and Rahman (2012) claim that the number of failures per implementation of CRM is 2 out of every 3, indicating that the research on CRM enablers merits proper respect and understanding because it contributes to the effective application and implementation of CRM. The following, in their view, are the enablers of CRM.

2.5.1.1 People

The role of people in the effective implementation of CRM should not be underestimated. Of the four enablers identified by research, people have been found to be inherently integrated with all the others. Research evidence has already been revealed that sees the role of people in the organization as central to the successful implementation of CRM. For their part, Gholami and Rahman (2012) reiterate this fact and mention that people in the micro or macro environment-based application of CRM are important for ensuring that CRM is effectively applied. This is because, despite CRM's dependence on technology, the people and the consumers must interact at times. Scholars Merkel, Jackson and Pick (2010) agree with the contentions of Gholami and Rahman (2012) above and add that people are an integral part of an organization, indeed, its very life. Management effectively based on robust HR processes and functions will ensure that when a company seeks to implement CRM, it will have a suitable team with the right knowledge to do so. Without people, for Merkel et al. (2010), CRM would be impossible because the marketing and sales teams are all

composed of people who will be in direct contact with the customers. Therefore, if the company ensures that its people are well prepared to handle CRM in practice, then its employees will encourage and not deter its processes. Researchers agree that one way of preparing people in an organization to be ready and able to handle CRM implementation is to train them sufficiently if they have not been trained already (Merkel et al., 2010; Gholami & Rahman, 2012).

2.5.1.2 Technology

Earlier in the research, it was mentioned that technological enthusiasts identify CRM as a technological approach to the management of marketing efforts. The basis of this type of thinking is justified if technology is found to be a key enabler for the implementation of CRM. Research also initially stated that the shift from relationship management was marked by the introduction of technology into the equation of the relationship between the customer and the business (Maggon & Chaudhry, 2015; Chen et al., 2016; Debnath et al., 2016). Essentially, therefore, technology qualifies as one of the key enablers of CRM. The contemporary application of CRM depends on technology based applications and software programs that help organizations to gather, store, analyze and disseminate information until enough market/customer knowledge has accumulated to guarantee successful action from the organization. Gholami and Rahman (2012) state that plans for CRM should give due weight to technology, as one of its prime drivers. Among its advantages for researchers is its user-friendliness in terms of interface, information and operation. Proper technological attention can ensure greater benefits from implementing CRM.

2.5.1.3 Strategy

One essential enabler of CRM is strategy. Various items of evidence support the application of CRM as a strategic management approach. To this extent, therefore, it should be understood that the optimization of CRM projects depends on strategy. Gholami and Rahman (2012) investigate the role of strategy in this regard and find that organizations must at least have a proper strategy for instigating and maintaining a CRM project. Concurrent evidence reports that strategy makes CRM possible by concentrating on the technological capabilities of CRM software, tools or applications and also on the ways in which the organization will adjust its functions and approaches to ensure that the tools attain their intended objectives (Osarenkhoe & Bennani, 2007). Osarenkhoe and Bennani (2007) indicate that strategy in CRM seems to be directly connected to people and it is therefore important to understand both.

2.5.1.4 Process

Process is another important enabler of CRM. Parvatiyar and Sheith (2001) identify a number of key processes in the CRM cycle, namely, targeting management, customer information management, service optimization and production, expansion management and the backing of management. The researchers refer to these as some of the critical processes that have to be followed under the ‘process’ enabler function of CRM. The researchers are categorical that CRM projects are likely to be uphill and may fail unless the appropriate steps in the process are followed. This position is corroborated by further evidence showing that ‘process’ as a CRM enabler needs to be aligned with the strategy and needs to be effected by people (Payne & Frow, 2005). Researchers note that, if people fail to pursue the process and strategies for which they alone are responsible, the technological devices and systems invested in cannot deliver

the CRM related results (Parvatiyar & Sheth, 2001; Payne & Frow, 2005). This therefore confirms the view that CRM relies heavily on people.

In a nutshell, Gholami and Rahman (2012) find that CRM can be divided into the spectrums of micro and macro implementation. While the former focuses on customer interaction management to pursue long term profitable relationships between organizations and their customers, the latter focuses on the company-wide processes that inform its implementation (Oztaysi, Sezgin, & Ozok, 2011). Researchers also note that the critical success factors of CRM fall within both spectrums and can each be merged with one of the four enablers for ease of understanding. In simpler terms, Gholami and Rahman (2012) noted that the CRM enablers are divided into a number of critical success factors – for instance, under 'people', one would find the top management contribution, knowledge management and training, which also ideally come under the micro spectrum of CRM. Below is a discussion of some of the critical success factors for the implementation of CRM.

2.5.2 Critical Success Factors

Researchers have studied the critical success factors of CRM, finding the evidence mostly in particular industries and often in such service industries as banking and hospitality. After reviewing more than 25 studies, it is found that ideally most of the critical success factors of CRM hold good from industry to industry, as follows;

2.5.2.1 Management Factors

2.5.2.1.1 Top Management Support

Bohling et al. (2006), in one of the earliest investigations of CRM constructs in organizations, indicate that top management support is critical for the effectiveness

of CRM. According to these researchers, CRM has been successfully carried out in organizations where the top management has committed itself to change and to the holistic implementation of CRM (Bohling, et al., 2006). Bohling et al. (2006) note that positive top management endorsement widely supports its own initiatives in the form of resources. Eid (2007) in this regard concurs and goes on to say that with such support a CRM project is likely to be successful: top management support guarantees funding for the training of personnel on the project and its year-long stage by stage implementation, monitoring the key success criteria. Concurrent research supports this point and adds that top management is responsible for the success of any full-scale organizational project that requires its activities to change (Chang, 2007). Among the ways of reflecting this commitment from the top management are:

- A renewed job evaluation and rewards program aligned with the new customer-orientation goals.
- The allocation of sufficient CRM implementation resources.
- Sufficient interest and importance given to propositions for implementing CRM.
- Sufficient interest from the top management in propositions for the adopting f CRM as a strategy.
- Performance measures based on the support given to the work of CRM implementation.

2.5.2.1.2 Clarity in the Strategy

Gholami and Rahman (2012) identify strategy among the key enablers of CRM and see the need to make the strategy clear. The researchers also note that the enablers act as antecedents to most of the critical success factors. This is justified by presenting

clarity in strategy as a critical success factor of CRM. Because CRM is not a technology-only application, it needs to be guided by a clear and well-developed strategy after the required technological infrastructure has been put in place (Osarenkoi & Benjamin, 2007; Ranjan & Bhatnangar, 2011). According to Ranjan and Bhatnangar, the purpose of CRM is to use technology to support business strategy and promote the efficiency of both. Therefore, an effective and robust strategy outlining the goals of CRM and the purpose of adopting it should guide the technological infrastructure. The researchers note that, without a strategy, no objectives will be agreed on and this will be a waste of funds. Ranjan and Bhatnangar (2011) admit the need for organizations to analyze in depth their readiness to handle such a big change before seeking to invest in CRM. In agreement, Eid and El-Gohary (2014) report that the introduction of CRM in an organization should aim at fulfilling certain objectives and, like all projects, should be confined within budget allocations, time allocations and goals. The researchers note that this is the only way to ensure that the organization can benefit from investing in CRM.

Eid and El-Gohary (2014) further report that organizations that have succeeded in CRM implementation did not consider CRM as specific to any department. Rather, these organizations invest in company-wide knowledge development about the imminent change. Moreover, an accurate analysis of organizational readiness shows the organization the time, costs and departmental constructs in the organization as a whole that will be most affected. This enhances the overall readiness of the organization and by extension its overall chance to successfully implement CRM. The bottom line, according to researchers, is to consider CRM as a process-based rather than a systems-based change. Some of the important points for consideration under strategy as a critical success factor of CRM re listed below:

- Clear project scope and vision.
- The overall change that the CRM implementation proposal is going to require.
- Clear goals for the implementation of CRM.
- The development of a clear and robust CRM implementation strategy.

2.5.2.1.3 Benchmarking

Mack et al. (2005) identify benchmarking as an important step in an organization's successful implementation of CRM. In a study of organizations in Europe, Mack and his colleagues find that, through benchmarking, organizations can gather insights into the causes of failure in the organization and implement best practice to ensure that they attain the projected results without having to go through a trajectory of individual failure and learning (Mack, Mayo, & Khare, 2005). Eid and El-Gohary (2014) define benchmarking as the process of studying competitors in the market and analyzing their best practices and processes in order to inform the process of implementing CRM in the organization. Mack et al. (2005), Eid and El-Gohary (2014) are in concordance that, critical success factor of CRM is to blame when 65% of CRM investments fail. Therefore, one of the surest ways of reducing the chances of failure is to benchmark leading organizations in the same industry or in different industries and discover what these organizations did in order to prevent their CRM from failing. The research evidence supports the effort to benchmark, claiming that organizations that followed the steps of industry leaders and successful competitors in this task were twice as likely to report early and sustained success as organizations that relied on their own knowledge and expertise (Ocker & Mudambi, 2003). A study which accepts this finding (Mishra & Mishra, 2009) adds that CRM does not promise

that one size fits all, but certain steps and approaches are always appropriate. This study goes on to say that organizations should as a rule keep in mind the steps taken by other successful organizations, if they encounter certain challenges in the implementation, they can relate these to the benchmark organization and in this way ensure that each stage is successfully passed. Important steps in 'benchmarking' as a critical success factor are listed below:

- Note the importance of studying and analyzing competitors' practices, products and services.
- Emphasize the study and analysis of non-competitors' practices, products and services.
- Focus the benchmarking objectives on customer service improvement.
- Focus the benchmarking objectives on reduced implementation costs.

2.5.2.2 Human Factors

2.5.2.2.1 Training

Training is a core human-based critical success factor of successful CRM. According to the research evidence cited above, organizations must focus on building the capacity of the workforce at every customer contact point in the interests of CRM (Bohling et al., 2006; Chang, 2007). Eid and El-Gohary (2014) endorse this and reflect that winning commitment across all levels of the organization must precede successful CRM. Through training, Eid and El-Gohary (2014) argue, employees in the organization can learn about the various systems of CRM, their use, the benefits that they bring and the organization and importance of CRM at a particular time in the organization. Essentially, research raises the notion that CRM in an organization may require certain process and system changes. This implies that trained employees in the

organization will have the understanding and ability to use the new systems. The research evidence concurs with this point and suggests that, while it may seem obvious that ordinary line employees need training to implement new systems of operation, with CRM systems, the managers who will be using CRM insights and analyses to make key management decisions also need training (Fredrick & Christopher, 2019; Rafiki, Hidayat, & Razzaq, 2019). Scholars largely agree that while CRM may seem to focus only on the analysis of information in order to guide the organization's customer management strategy, it is essential to provide operational and system-based training for all employees who will be dealing with the system. The pointers derived from research that effectively summarize 'training' as a critical success factor for the successful implementation of CRM are as follows:

- Provision of training for employees.
- Provision of the required resources for the training of employees.
- Offering frequent training to embed skills.
- Monitoring training programs to ensure that employees are satisfied and have become confident in using the new systems.
- Maintaining records of the employees trained in a particular CRM concept.

2.5.2.2.2 Trust

Chow and Chan (2008) point out that trust can be instilled by allowing the balance of power to shift into more supportive contact between a business and its customer. In today's technology era, CRM systems need to enhance trust between organizations and their customers (Chow & Chan, 2008). According to Roberts et al. (2005) web-based CRM systems should be secure so that customers can develop the much-needed trust that keeps them loyal to an organization. Since the aim of

organizations leveraging CRM systems is to use knowledge about their customers to gain more value for their organizations, the issue of fairness and trust has gained prominence (Roberts, Liu, & Hazard, 2005; Gholami & Rahman, 2012). In the B2B context, the use of the right communication channel is considered by Zablah, Bellenger and Johnston (2004) to greatly influence the level of trust between the buyer and the supplier. Equally, King and Burgess (2008) argue that management should develop mutual trust with the low-level employees who implement the CRM system. This is because every department or stakeholder within an organization shares the responsibility for attaining the CRM goals, and hence mutual trust is necessary between the various strata. Asking the various departments to speak the same language during the implementation process also greatly influences the trust between buyers and organizations (King & Burgess, 2008). This suggests that trust among staff and from the customers, especially in the B2B international context, helps CRM to function.

2.5.2.2.3 Organizational Culture

Farhan et al. (2017) claim that organizational culture is a critical human factor in the successful implementation of CRM. Rahimi and Gunlu (2016) agree, noting that in principle the organizational culture greatly affects the success of all projects in an organization. Hence it is very important for supporting CRM because it lays down how the roles will be distributed to ensure effective implementation. Researchers also concur that organizational culture determines how the values, goals and mission of an organization are restated and entrenched for the new project, thereby implying that it will act as the fabric that holds the operations of implementing the new project (Rahimi & Gunlu, 2016). Discussing the culture in the organization and the distribution of roles when CRM is implemented, research notes that a number of things may have to change

and, similarly, the strategies for implementing CRM will have to change through the realignment of the culture, values, mission and goals of the organization (Farhan et al., 2017). Rafiki et al. (2019) describe organizational culture in this context as an essential body of customs and attitudes that guides the paradigm shift in the organization from profit-oriented to customer-satisfaction-oriented that supports CRM.

2.5.2.3 Technological Factors

2.5.2.3.1 Software Selection and Integration

These belong with the technological enablers mentioned by Gholami and Rahman (2012) where it is advised that the CRM software should be chosen and integrated with other processes as carefully as possible. Ranjan and Bhatnangar (2011) observe that the technological aspect of CRM is meant to optimize the interactions between clients and businesses by gathering client-related information to ensure that the clients are satisfied and engaged. Researchers say that CRM software selection and integration should be treated as very important parts of the CRM strategy (Kale, 2004; Nguyen, Sherif, & Newby, 2007; Keramati, Moshki, & Nazari-Sharkuhi, 2009). Kale (2004), in an in-depth investigation of the causes of CRM failure, notes that the non-objective selection of CRM software is one of the clearest. According to Kale (2004), a business must assess its processes and goals and set a strategy for the attainment of goals which will ideally outline what the organization seeks to gain from CRM. This should also be aligned with the type of information that the organization wants to collect from its customers and the way that this information will be used by the organization. Nguyen et al. (2007) note that certain groundwork rules, objectives and purposes must be outlined before the CRM software is chosen, or the organization may choose incompatible applications.

Speier and Venkatash (2002) add that front-end CRM software must be integrated with back-end transactional processes for the effective management of the CRM. For instance, these writers note that the most effective CRM applications require the integration of sales, marketing and services processes (Speier & Venkatesh, 2002). This point is emphasized by Pushmann and Alt (2001), who report that the integration of CRM in the front office with back-office processes enabled by ERP measures success in CRM. A well-integrated system should create fruitful relationships with customers by strengthening the ability of the sales and marketing personnel to access all relevant customer information at once (Umanshakar, 2001). The key points for organizations to focus on in this regard are as follows:

- Informed selection of software.
- Integration of front-end software with other related back-end software and applications.
- Ability of the selected CRM software to facilitate communication with customers.
- Robust information technology software to support the implementation of CRM.

2.5.2.3.2 Data Mining

He et al. (2019), in an insightful empirical study on the use of CRM to identify consumer information and use it to manage consumer relations, reveal that data mining is one of the strong points of CRM. According to researchers, the success of CRM is highly contingent upon the objective collection, arrangement and analysis of consumer data to produce actionable information (He, Zhang, Tian, Tao, & Akula, 2019). Through CRM, organizations have the capacity to store and update customer

information in a way that ensures that the organization better understands consumers' needs, preferences and behaviors. He et al. (2019) describe this as data mining; it requires the adoption of secure databases that enable organizations to store consumer information for long periods with least threat of loss. Earlier concurring research mentions that for the effective adoption of CRM, businesses should be able to develop and maintain a customer database as the first step in managing their customers (Winer, 2001). The development of web-based and current cloud-based CRM software strengthens the ability to create and maintain a customer data base. Further research evidence tells us more about data mining, i.e. that CRM applications and software have automated data mining capabilities but even so organizations should find workers with data mining expertise and understanding of algorithmic operations to oversee the data mining process (Lam, Ho, Wu, & Choy, 2014). According to Lam et al. (2014), this is because the results of automated data mining can be misinterpreted unless experienced individuals deal with it. For data mining, the following things should be considered:

- All information about consumer preferences, transactions, contacts and even behavior should be collected.
- All customer information should be properly stored and regularly updated.
- Information should be gathered about the availability of other products and services from the company.
- Customer data should be available to managers.

2.5.2.3.3 Knowledge Management

The technological impact of knowledge management on the successful implementation of CRM in organizations cannot be overlooked. According to research evidence, such knowledge management is focused on the sustained management of

customer knowledge in order to increase the chances of closing sales and converting new customers (Tseng, 2016; Kargaran, Pour, & Moeini, 2017; He et al., 2019). Tseng's (2016) research clearly shows the impact of knowledge management in an organization on the performance of the organization. Tseng details that, through the use of CRM and the analysis of consumer data, organizations can learn to gradually and consistently manage their knowledge of the consumer's typical products and services in order to improve the prospects of conversion and purchase. As in the case of data mining and customization, the success factor, knowledge management, is the one to pursue so as to expose the company's products and services to the understanding of the consumer and thus greatly increase the level of sales in the organization. Kargaran et al. (2017) indicate that, with the development of social CRM, knowledge management is more important, because all organizations are competing to make sure that their brand is best reflected. He et al. (2019) highlight the idea that through robust CRM software organizations can leverage data analytics in order to ensure effective knowledge management. Srivatsava et al. 2019 add to the above point that continued increase in competition in the business environment warrants the application of strategies and skills that can help to secure a firm's market share while allowing more clients to be converted. According to Srivatsava and her colleagues, the knowledge management factor in CRM goes hand in hand with data mining and serves as a continuation of it. Through knowledge management, the organization can use the data collected from clients to produce information about the organization's goods or services that may be of importance to the customer.

2.6 CRM Effectiveness

Research has shown that the achievement or maintenance of critical success factors for CRM contributes to successful CRM implementation and consequently to CRM effectiveness. According to the research evidence, CRM effectiveness is determined by the quality of the resulting relationship and transactions (Buttle & Maklan, 2015; Eid, 2007; Kumar & Reinartz, 2012; Storbacka, Strandvik, & Gronroos, 1994). The following is a review of all the characteristics of CRM effectiveness in an organization.

2.6.1 Relationship Quality

According to Hennig-Thurau and Klee (1997), relationship quality between buyers and sellers is measured by its strength. Concurrent evidence observes that relationship quality from the customers' point of view is the ability of sellers to minimize perceived uncertainties in a situation where customers might fully rely on the integrity and confidence of the salespeople (Crosby, Evans, & Cowles, 1990). Research on the concept of 'relationship quality' finds that the aspects of customer trust and commitment are among the key indicators of the quality of the relationship between customers and organizations (Buttle & Maklan, 2015). The process of establishing such a relationship is thus seen by researchers as a critical determinant of its subsequent quality. This implies that the communication channels and the language used by the seller ought to be reliable and consistent to promote the development of customer trust and confidence in the salesperson (Havlicek, Breckova, & Zampeta, 2013).

The aspect of service quality is singled out by Buttle and Maklan (2015) as a decisive aspect of relationship quality because when customers perceive the service

quality of a seller to be outstanding, they readily develop a positive attitude to the enterprise and consequently develop more trust and confidence in it. Research has also pointed out that relationship quality is directly related to customer satisfaction and retention (Buttle & Maklan, 2015; Kumar & Reinartz, 2012). Adherence to the previously reviewed critical success factors in the strategic and successful implementation of CRM plays an important role in the development of quality in the relationship. According to the research evidence, when staff members are highly trained and empowered by the management, and have access to effective IT platforms that allows them to interact with customers in a seamless, efficient and constructive way, they can present the best face of the organization to the clients at every contact point. This plays an important role in enhancing the quality of the relationship and by extension the effectiveness of CRM (Obeng & Loria, 2006; Reinartz et al., 2004). This being the case, it can be argued that relationship quality plays a critical role in reinforcing the trust between marketers and customers, and subsequently fosters customer satisfaction and the intention to remain loyal.

2.6.2 Transactional Quality

According to Eid (2007), transaction quality is determined by the accuracy, timeliness and clarity of the transactions between organizations and customers. Woodcot, Stone and Foss (2003) in seconding the foregoing report that since one of the key aims of CRM is to deliver customer value and nurture customer confidence and trust in an organization, adopting an effective CRM system balancing people and technology equally ensures the efficiency of the transactional processes between the customers and the marketers. This is a critical CRM effectiveness strategy that contributes to customer satisfaction and loyalty (Kumar & Reinartz, 2012; Obeng, &

Loria, 2006). In order to achieve sustainable customer satisfaction, the research has observed that organizations should continually improve the quality of business processes by integrating effective technology and highly trained staff members to execute customer transactions accurately and promptly (Frow & Payne, 2009). The aspect of transactional quality is considered by Havlicek, Breckova and Zampeta (2013) to be infused in the total quality management (TQM) paradigm, which is based on the ability of an organization to accurately meet the needs of the customers. Alongside the quality of the products offered to customers, transactional quality is also associated with the ability of the entire process of delivering value to customers to promote customer satisfaction and subsequently the retention of the customers (Hooley, Greenley, Cadogan, & Fahy, 2008; Wagner & Hughes, 2010). From this point of view, it can be argued that the CRM system must be able to promote transactional quality through supplying the highlighted CRM success factors for this purpose.

2.7 CRM Success

Past researchers have pointed out that CRM success is measured by customer satisfaction and retention (Garbarino & Johnson, 1999; Yang & Peterson, 2004). While this system is mainly associated with the process of delivering customer value, the process of CRM must be well planned and executed in order to ensure sustainable customer satisfaction and subsequent retention of the customers. Among the key CRM characteristics considered critical in this regard are the attributes of relationship and transactional quality, as noted above. When customers perceive their relationship with organizations to be based on integrity, honesty, and trust they easily develop positive perceptions of it, leading to high levels of satisfaction and subsequent loyalty.

Research has shown that customer retention is more beneficial than acquisition to organizations because retaining a customer costs less (Kim, Choi, Qualls, & Park, 2012; Khalaf, Rasli, & Ratyan, 2013). Thus, organizations should adopt effective CRM strategies that promote customer satisfaction and thereby customer retention. For this reason, it can be argued that CRM success is largely a matter of customer satisfaction. This in turn results in customer retention, which is the bottom-line of the CRM system, leading to sustainable increases in the profitability and market share of organizations. However, very little empirical evidence seems to be available to show how CRM success factors impact on customer satisfaction and retention in the B2B context (Arici & Niranjan, 2014; Lipianen, 2015).

2.7.1 Customer Satisfaction

Much theoretical evidence from research supports the view that the effective application of CRM to organizational marketing and selling processes effectively increases the level of customer satisfaction. However, little empirical evidence has been found to support this. According to an empirical study of over five hundred organizations and their use of CRM, most reported that CRM contributed to an over 47% improvement in customer satisfaction (Hollar, 2015). This improved the overall profitability of the company and reduced the costs of a sale or acquisition for clients, as inferred by Kim et al. (2012) and Khalaf et al. (2013). Among the benefits of CRM reviewed earlier in the research, the improvement of customer satisfaction stood out as a key benefit and the statistics provided by Hollar (2015) serve only to underpin this impression. Yaghoubi et al. (2017) report in justification that, among the effects of customer relationship management along different dimensions, including customer acquisition, customer satisfaction and organizational productivity, customer

satisfaction emerged as the highest scoring dimensional effect of successful CRM efforts in the organizations studied (Yaghoubi, Asghari, & Javadi, 2017). This implies that CRM has the capacity to greatly improve customer satisfaction and the relationship between businesses and their clients. The research, however, notes that there is limited empirical evidence of the impact of CRM on customer satisfaction in organizations and therefore there are no authoritative statistics to stiffen the discussion. Nonetheless, the shared statistics are sufficient to reveal the impact of CRM on customer satisfaction.

2.7.2 Customer Retention

As with customer retention, much theoretical evidence in the research concerns the potential impact of CRM on customer retention in organizations. Researchers Reichheld et al. (2000) indicate that, through the implementation of customer relationship management in organizations, companies can increase the rates of customer retention by at least 5% and increase the overall profits by up to 100%. Hollar (2015) in a review of 500 companies and their implementation of CRM indicates that over 70% of the respondents informed him that CRM had led to an over 40% improvement of their customer retention prospects. As in the case of customer satisfaction, research gives limited empirical evidence about the impact of CRM on customer retention. Most of the available evidence of research noted at the beginning of this study focus on the theoretical relationships between CRM and customer retention. Despite the shortage of empirical research, there is no doubt that CRM is important in fostering the retention of clients in the organization. Retention grows through providing customer satisfaction and maintaining good relations after a purchase.

2.7.3 Synthesis

The scarcity of empirical evidence of the contribution of CRM to customer retention and satisfaction are aligned with the initially shared statistics on the rates of failure in CRM implementation in organization. According to research evidence, 2 out of every 3 or roughly 65% of CRM projects reportedly fail (Zablah et al., 2004; Finnegan & Currie, 2010; Gholami & Rahman, 2012; Eid & El-Gohary, 2014). These results may explain the lack of empirical research on the percentage rates of the contribution of CRM to elements such as customer satisfaction and customer retention. From a theoretical standpoint, however, there is unanimous agreement among researchers that effectively implemented CRM can result in higher levels of customer satisfaction and customer retention. The above stalemate and the available statistical evidence give even more point to the present study. To this extent, the research notes the validity of studying the critical success factors that would affect the implementation of CRM in the case of the oil and gas industry in the UAE. If the critical success factors for implementing CRM in this industry were understood and a research framework were developed, future research might more easily distinguish the quantification of benefits – customer satisfaction and retention, plus any other related aspects of CRM success – from such implementation in other cases.

2.8 Conceptual Framework

The conceptual framework is a critical component of research because it encapsulates the researcher's understanding of the literature and essentially showcases overall comprehension of it. As a critical component of research, the conceptual framework leads the researcher in synthesizing ideas and deductions from the literature into plans of action called hypotheses, which the researcher can then use to keep the

research as objective as possible (Veiga et al., 2017). The research evidence complements this statement by adding that the conceptual framework is mandatory and should be located between the literature review and the methodology to keep the argument on track. According to these writers, the conceptual framework should ignite the thoughts of the researcher and provoke questions which, when developed into hypotheses, will give the research a specific direction to follow. The next section will discuss the development of hypotheses and the proposed conceptual framework of the research.

2.8.1 Hypotheses Development

The following development of the hypotheses for the present study is based on a careful synthesis of many documents from different industrial backgrounds. The researcher has input her experience-based thoughts in order and sought to come up with hypotheses that relate closely to the oil and gas industry and that would best promote the rest of the thesis. The review of research evidence noted that CRM is a complex process involving the integration of different systems and business processes. The success of CRM as a process needs to be facilitated by several factors. Technological, strategic and human factors were found to be the key factors that directly affect the implementation of CRM and these were then analyzed into elements for study, while the literature indicated how far they influenced the successful implementation of CRM. In this regard, many authors commented on the importance of organizations, considering the human factors to have more weight than the strategic and technological factors combined. According to generally deductible notions based on the review of a wealth of literature from Greenberg (2010) to Eid and El-Gohary (2014) all the way to Ranjan and Bhatnanagar (2011), among many others

unmentioned, humans in the organization as representatives of the organization were directly responsible for the successful implementation of CRM on their own and in their day-to- day operation of the CRM systems or their work by implementing key strategies for them. The wide evidence of research does not fall short of stating the most important aspect in the successful implementation of CRM, which is the ability to identify in it and adhere to CRM's CSFs. Further, Hart, Hogg and Banerjee (2004), Hande and Zarali (2009) and Lukkari (2011) all note that the identification of CRM's CSFs is the first step in the successful implementation of CRM, ensuring that organizations lose nothing from unsuccessful CRM implementation.

Building mainly on Eid's (2007) research on the implementation of CRM, the present study listed people and technological and strategic factors among the CRM enablers. In order to encourage the objective development of the hypotheses to guide the research in future stages, the present study considered top management, clear CRM strategy and benchmarking as the strategic management factors. At the same time the study considered the factors associated with people, including training, trust and organizational factors, to be the 'people-based' enablers, referred to more simply as human factors. Technological or tactical factors were considered to include IT platform/software and integration, data mining and knowledge management. The research noted that 'people' factors among the CRM enablers interact and are involved in all the other enablers and factors. The above factors were all hypothesized to be related to CRM success and effectiveness, which could be measured through the lens of transactional and relationship quality. Consequently, they were hypothesized to result in customer satisfaction and retention.

2.8.1.1 Relations between Strategic Management Factors, CRM Effectiveness and CRM Success

Based on research evidence, management factors such as top management's support, the clarity of the CRM strategy and benchmarking were important in improving the success rate of CRM. This position is noted by Eid (2007), who in an in-depth study on the successful implementation of CRM in the banking sector found that the top management had to be fully on-board with the CRM implementation project if it were to come to life at all and eventually achieve success. The above is justified by further research from Bohling et al. (2006) and Chang (2007), who note the need for management support in any successful implementation of CRM in an organization. Current evidence from the literature echoes the above points and adds that top management support directly improves transactional quality and facilitates improvements in overall customer satisfaction (Al-Arafati, Kadir, & Al-Haderi, 2019). According to Al-Arafati et al. (2019), these are all achieved through the mediating impact of product or service quality output to the client. The researchers indicate that when the top management is involved and supporting the process of implementation, any challenges that arise in the process can be mitigated through effective leadership. The management is best positioned to provide step by step guidance on the implementation of this new system and to monitor it in order to ensure that milestones are duly reached. Therefore, through these efforts, the quality of the transaction mediated by service improvement or product improvement will lead to better prospects of customer satisfaction.

In agreement, Rafiki et al. (2019) in a study of over 150 telecommunication organizations inferred that the support of the top management through laying down clear strategy and setting targets based on industry-wide benchmarks was responsible

for improved performance in CRM projects and the organization as a whole. The improvement of performance, according to Rafiki et al. (2019), can clearly be measured through considering the quality of the relationship of the customers with the organization's personnel and its consequent impact on customer retention. Researchers agree that the involvement, leadership and resources of the top management through its support of the necessary change activities; the laying down and subsequent monitoring of a clear implementation strategy; and the setting of goals based on market-wide and industry-wide benchmarks enhance the effectiveness of the CRM project through improved transactional and relationship quality and customer satisfaction and retention (Bohling et al., 2006; Chang, 2007; Eid, 2007; Al-Arafati et al., 2019; Rafiki et al., 2019). The following are the research hypotheses derived from this discussion:

H1: Management factors, through top management support, clarity of strategy and benchmarking, will have positive effects on the transaction quality.

H2: Management factors, through top management support, clarity of strategy and benchmarking, will have positive effects on the relationship quality.

H7: Management factors, through top management support, clarity of strategy and benchmarking will have positive effects on customer satisfaction.

H8: Management factors of top management support, clarity of strategy and benchmarking, will have positive effects on customer retention.

2.8.1.2 Relations between Human Factors, CRM Effectiveness and CRM Success

On the basis of experience, the study hypothesized that human factors were directly related to the effectiveness of CRM strategies. The study came across much evidence that suggests the same. The literature showed the division of the human factors into a number of other sub-constructs, including customer orientation, customization, trust, training and organizational culture. Deeper investigation of the human factors and their potential relationship with CRM effectiveness led to the view that the human factors of successful CRM should be considered in relation to both the organization's human resources and to those owned by the client (King & Burgess, 2008). To this extent, research finds that through the three human factors considered for the development of this hypothesis – training, trust and organizational culture – the organization can greatly improve the quality of transactions and relationships. Fredrick and Christopher (2019) support this notion, mentioning that when organizations invest in the training of their employees, they increase the value of their resources and enable their employees, in the case of CRM implementation, to provide services and interact with clients confidently through the different CRM systems and avenues. Above, the research advised that the training should not be limited to ordinary line employees but should be extended to all the managerial employees who would be using the CRM applications to make their strategic decisions. Moreover, the culture of the organization should serve as the hidden force supporting effective action by employees at the point of each interaction with customers through a deep sense of ownership, responsibility and pride in the values of the organization (Rahimi & Gunlu, 2016; Farhan et al. 2017). This should generate a form of trust between employees and the

organization which the employees can share with the customers, thus ensuring customer satisfaction and retention.

Zablah et al. (2004), Chow and Chan (2008) and Gholami and Rahman (2012) jointly argue that trust as a human factor should be mutual and will enhance the quality of relationships and transactions. When consumers feel that their information is secure and that they are able to effectively communicate and be heard by the organization through the channels established by the CRM system, they begin to rely more on the organization and gain confidence in it. Deducing from experience and synthesizing evidence from the literature, it can be seen that trust and organizational culture are very much connected, such that the culture in the organization needs to be positive, as far as using new technological systems in communicating with clients is concerned. This will increase intra-organizational trust, which is the bedrock for building a relationship of trust with the client. Deductively, also, it can be stated that training employees increases their familiarity with the system, which improves their ability to effectively use it to improve the quality of relationships and transaction and foster increased customer satisfaction and retention. The following set of hypotheses is derived from this section:

H3: Human factors, through training, trust and organizational culture, will have a positive effect in transaction quality.

H4: Human factors, through training, trust and organizational culture, positively affect relationship quality.

H9: Human factors, through improved training, trust and organizational culture, positively impact on customer satisfaction.

H10: Human factors, through improved training, trust and organizational culture, positively affect customer retention.

2.8.1.3 Relations between Technological Factors, CRM Effectiveness and CRM Success

Technological factors in CRM are an integral part of the power, intelligence, capability and overall usefulness of CRM systems. Organizations in pursuing the implementation of CRM should consider the importance of such factors. Key sub-constructs of this factor – including the IT platform – which can also be referred to as software selection and integration, data mining and knowledge management, have been selected for review in this section in order to support the development of further hypotheses. Kale (2004), Nguyen et al. (2007) and Keramati et al. (2009) uniformly agree that the selection of the IT platform together with sub-factors such as the integration of the platform and its user-friendliness were important for the implementation of CRM. With the proper integration of front-end services and back-end services, an organization benefits from smooth transactional processes, which improve the transaction quality. Researchers also note that if the systems are well integrated and secured, the relationship quality will automatically rise, not to mention the fact that the designated information collected by a particular organization's CRM system greatly affects the marketing and sales strategies adopted. Logically, therefore, if the system collects all the necessary customer information aligned with the goals of the organization, it will be able to produce the right statistics, allowing the marketing and sales team to act effectively to improve the quality of the relationship (Pushmann & Alt, 2001; Umanshakar, 2001; Speier & Venkatash, 2002).

Researchers contend that the platform's capability for collection, storage, analysis and the effective dissemination of this information to the respective business units for action supports data mining and knowledge management and vice versa. Tseng (2016) and Kargaran et al. (2017) justify this, believing that data mining, knowledge management and the IT platform in their functionality and capabilities are interdependent and it is impossible to conceptualize one of them completely detached from the others. This implies that the infrastructure will very much depend on data mining and knowledge management and, in turn, that these two will stress the value of the infrastructure in fostering improved transactions and relationships, which will consequently support CRM success in the form of customer satisfaction and retention. Experiential deductions lead to the correlation of these factors to improve the choice of an IT platform that is interactive, user-friendly and easy to use, allows appropriate information to be collected in line with organizational goals and objectives and leads in turn to the effective management of this knowledge in order to inform targeted marketing campaigns and tailored sales approaches. The ripple effect from these improves the quality of transactions and relationships and the statistics of customer satisfaction and retention. The following hypotheses reflect the above research and experiential deductions:

H5: Technology factors, through effective IT platforms, data mining and knowledge management, positively affect the transaction quality.

H6: Technology factors, through effective IT platforms, data mining and knowledge management, positively affect the relationship quality.

H11: Technology factors, through effective IT platforms, data mining and knowledge management, positively affect customer satisfaction.

H12: Technology factors, through effective IT platforms, data mining and knowledge management, positively affect customer retention.

2.8.1.4 Relations between the Quality of Transaction, Customer Satisfaction and Customer Retention

The inseparability of the three constructs discussed above can already be noted on the basis of the literature reviewed. From a deductive standpoint, the research reflects that the transactional quality was directly related to the level of customer satisfaction. This means that customers are satisfied if the quality of the transaction is sufficient and would certainly be dissatisfied if the quality of the transaction was not at all what they had expected. The research evidence justifies the above postulates, indicating that the service profit chain theory is one of the significant theories in explaining the relationship between the quality of transaction/service and customer satisfaction and retention (Tan, 2019). According to Tan, the service profit chain explains how the quality of service – which is hereby taken to refer extensively to transaction quality – impacts directly on customer satisfaction and future customer loyalty. The notion gains validity from research (Kaura, Prasad, & Sharma, 2015) which describes the relationship between service quality and customer satisfaction in organizations that use CRM. Citing the 'needs theory' Kaura et al. (2015) indicate that customers are all motivated by their needs and would be satisfied to find an organization that adequately caters for these. Therefore, with the effective application of CRM to improve customer knowledge and pursue the needs and interests of the consumer in a more targeted manner, it is clear that the organization can leverage improvements in transaction quality, goods and services to achieve better customer satisfaction and improve future customer loyalty overall, thus generally retaining more

customers. The following hypotheses are related to the above research and experiential notations:

H13: The CRM effectiveness of transaction quality will have a positive effect on increased customer satisfaction.

H14: The CRM effectiveness of transaction quality will have a positive effect on increased customer retention.

2.8.1.5 Relations between the Quality of Relationships, Customer Satisfaction and Customer Retention

One of the core goals identified for CRM has been the improvement of relationships between customers and the organization. This is achieved through the management of knowledge on the consumer and the use of this analyzed and actionable knowledge to enhance future interactions with the consumer. As in the previous section, the quality of the relationships between an organization and its customers is of greatest concern. Bhakane (2015) brings some justification to this point, indicating that customer relationship management is the recipe for improved levels of customer satisfaction and customer loyalty in organizations. In his research, Bhakane (2015), following the opinions and notions of most of the researchers in this field, indicates that, through CRM, organizations are able to carefully manage and build long-term relationships with their clients. These relationships are built for the purposes of increasing future business prospects, establishing a firm as the best supplier of customer needs and seeking further business through recommendations and referrals. The research evidence adds that relationship quality is the basis for any aspect of customer satisfaction (Makanyeza & Chikhaze, 2017; Saari, 2018; Petzer & van Tonder, 2019). Researchers note that relationship quality is the antecedent of

customer satisfaction, which is the antecedent of future customer loyalty and results in retention. The above justifications can be validated against earlier research on the cognitive constructs of customer satisfaction by Oliver (1980) which mentions that customers think about their relationship at the points of contact with a business before deciding whether they are satisfied or otherwise. If they are satisfied, these customers will probably continue to visit the organization and the sustained high quality relationships will justify their satisfaction and foster their unquestioned retention. Deductively, in today's business environment, it can be noted that customers are likely to judge the quality of their relationship according to their interactions at all the points of contact with a business; all these points, therefore, whether human or technological, should be tailored to deliver the best experience. This would be likely to result in satisfaction and later retention. The following are the hypotheses derived from this discussion:

H15: The CRM effectiveness of the relationship quality will have a positive effect on customer satisfaction.

H16: The CRM effectiveness of the relationship quality will have a positive effect on customer retention.

2.8.1.6 Relations between Customer Satisfaction and Customer Retention

This relationship is the most certain of all the relationships considered for this research. By now the study has stated, revealed and reiterated that a satisfied customer is likely to become a loyal customer, according to the most recently referred to scholars (Makanyeza & Chikhaze, 2017; Saari, 2018; Petzer & van Tonder, 2019). However, in-depth evidence indicates that organizations should not consider this relationship automatic but should instead focus on improving and maintaining the quality of

transactions and relationships in order to ensure that customers who are satisfied will remain so. The purpose of this focus is to trigger customers' future loyalty and concentrate on those who are not satisfied to find ways of meeting their needs; then the same intention of maintaining their satisfaction should be pursued (Gammeri & Breschi, 2017; Clarke & Kinghorn, 2018). Gammeri and Breschi (2017), relaying the statistical facts of a survey by McKinssey in the Americas reported that 32% of customers would leave a brand they had enjoyed doing business with after only one bad business experience. The remaining 68% would hang on but many would not hesitate to leave after the second or third bad experience. Meanwhile, Clarke and Kinghorn (2018) present a similar statistical report on customer experience in the Americas from PWC (2019), according to which good customer experiences should be maintained at all costs and times because they help to minimize friction, improve efficiency and speed and root human importance in the CRM and the automated business environment. In addition, the research by PwC (Clarke & Kinghorn, 2018) adds that customers are willing to pay a premium for good experiences alone and that 70% of respondents term customer experience an important component against which to peg their levels of satisfaction.

The above statistics and insights give room to argue that excellence in customer satisfaction and experience permits no cutting of corners. The evidence of research shows clearly that customer satisfaction is related to customer loyalty, especially in view of the statistics on the readiness of customers to pay much more for good experiences. If customers get good experiences, they become satisfied and when this is maintained the organization benefits from customer retention. The percentage of customers ready to walk out of the relationship on the first bad experience should be treated as very weighty. The following single hypothesis is derived from the above:

H17: Customer satisfaction will have a positive effect on customer retention

2.8.2 Proposed Conceptual Model

With the hypotheses of the research set out on a deductive and experiential basis and supported by evidence from research, the present study developed the following model as the figurative representation of the conceptual framework of the enquiry (see Figure 2.1). The model displays the interactions discussed above and their interconnectivity, dependence and independence.

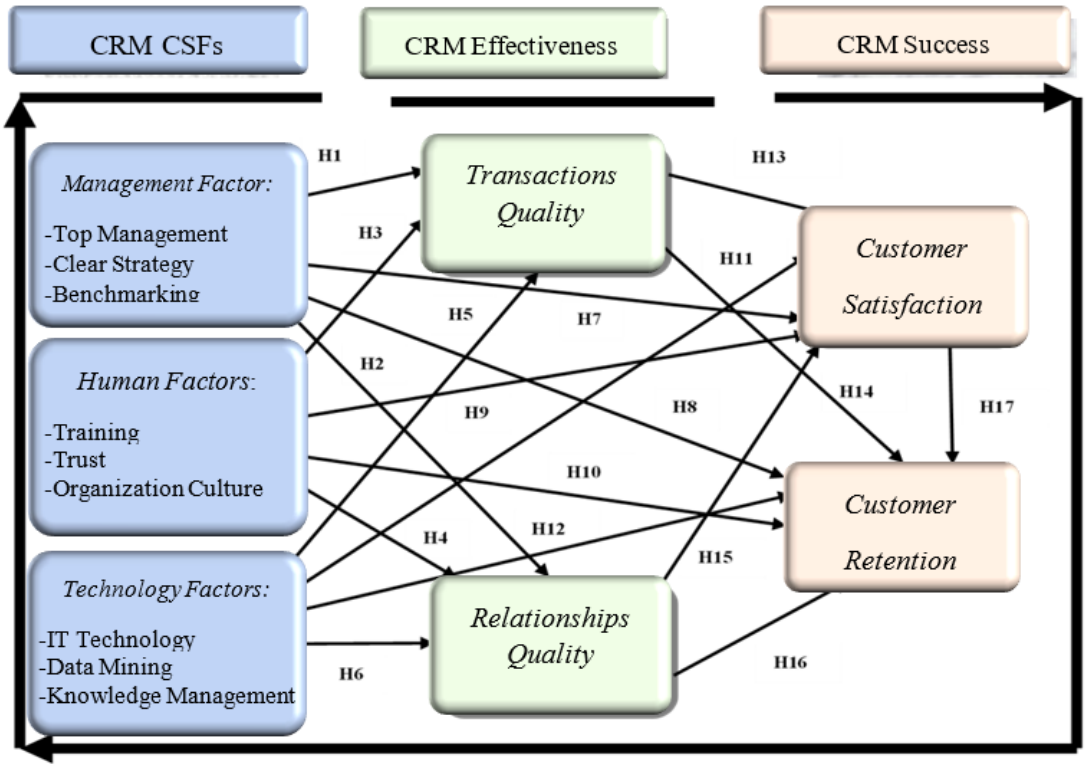

Figure 2.1: Framework of the CRM Success Model

The research relies on the above model to provide a quick reference to the relationships hypothesized and their points of interaction in the next phases of the research. Additionally, the model will help to guide the remaining steps of the research,

as it seeks to test the validity of the hypotheses in the case of the Abu Dhabi National Oil Company.

2.9 Conclusion

The literature review has been instrumental in developing the knowledge base with regard to CRM as a construct of the research. Intensive, comprehensive and sustained research was attempted, in order to interact with critical evidence in the literature that has provided critical foundational knowledge of CRM. This knowledge, it is believed, can now be applied in this study of the implementation of CRM and the critical success factors involved in attaining CRM success – customer satisfaction and retention in the case of ADNOC – information and relevant background knowledge about which formed the initial chapter of the research. In the literature review, the present study achieved the following: successfully introduced CRM, explained what it is and reviewed its history, evolution and practice. The study then proceeded to further discuss the multi-faceted term and provided a number of different definitions of CRM, all accurate, and underpinning its multifaceted nature, but it admitted that scholars cannot agree on a unified definition of the term. The reasons behind this lack of unity in the definition were to be found in the experiences and the different bases of the schools of thought on the question. The study presented the most suitable definition for its own goals and objectives that will be referred to in all the other stages of the research as required. To support knowledge on the subject and better prepare for the fieldwork, the study reviewed the importance and benefits of CRM, the components of CRM and their applications.

Next, the study moved to what can be termed its ‘key literature point’ where is started to investigate the critical success factors (CSFs) of CRM. These were identified

after a broadly-based intensive investigation of all the evidence and reached an understanding of the major critical success factors of CRM across industries. The study was able to find homogeneity in this course and set out the main critical success factors of CRM implementation. These success factors could be divided into categories and the presence of CRM enablers which were all related. Next, CRM effectiveness and CRM success were examined and the research focused on the quality of transactions and relationships in the creation of customer satisfaction and customer retention, respectively. The research then went on to development a conceptual framework which was explained as a synthesis of the deductions from research for the objective study of the case in hand. The research developed some relationships, each of which generated a number of related hypotheses. This culminated in the development of a working model for the hypotheses that had been developed. This model will be what the research relies on in the work of validating or abandoning the hypotheses. The following chapter describes the research methodology and sets out a clear plan for the remainder of the study.

Chapter 3: Research Methodology

3.1 Introduction

The methodology and research design are highly critical to a thesis; they form the background of the research work and detail what direction the research should take in order to address the research questions raised and the objectives outlined apart from justifying or invalidating the hypotheses.

Palinkas et al. (2015), in their in-depth empirical research on research methods and their importance especially in high level research, recommend that research should develop a clear approach to its task, because it is what determines the ability of the study to contribute to knowledge. This section operationalizes the variables and briefly reviews the literature on surrounding research by approaches and principles to methodology in order to be sure that its final choice is made with full knowledge of the other options. The methods of data collection, the sampling procedure, and the challenges encountered are reviewed, among other related elements. The decisions and choices of this chapter will guide the research into the actual study whose results will be presented in the next chapter and discussed in detail in the following one. By definition, therefore, research methodology involves the delineation and implementation of delineated standard techniques and procedures so as to choose a strategy for conducting a study (Rajasekar, Pitchai, & Veerapadran, 2013). Rajeskar et al. (2013) are in agreement with Palinkas et al. (2015) that the development of the research methodology through standard steps and procedures is essential. These researchers also jointly note that the methodology section of research helps to identify the systematic steps that guide researchers towards the methods of research that suit particular objectives, question and hypotheses.

Similarly, the evidence indicates that the role of research is to use available knowledge or insight to add new knowledge, theories or contributions to the current body of knowledge (Sekaran, 1984; Nachmias & Nachmias, 1996). According to these researchers, any research that seeks to contribute to knowledge must do so in a way that can be validated and followed so as to enhance the understanding of its findings. This is why purely descriptive pieces of research are discouraged and even when one starts out without a single piece of related knowledge, history has repeatedly shown that a logically verifiable model has to be provided. For instance, ancient discoveries have in theory formed the bedrock of knowledge that has underlain the development of all new knowledge. This is exemplified by the mathematical equation for population modeling, which the scholar and philosopher Malthus produced. In order for the piece of knowledge to be accepted as a binding development in academia, he made sure that this equation could be validated and proved. Newton, Galileo and endless others have done the same.

With this in mind, it was decided to adopt a Positivist, Deductive, Quantitative research philosophy for the methods of data collection and analysis in the present study. This is because the research seeks to contribute to the body of knowledge by testing the validity of its previous hypotheses in the subject area of concern. Therefore, as noted above, a critical element of the present study will be to review the literature behind different philosophies, approaches and methods of research so as to justify its own philosophy, approach and methods.

3.2 Research Philosophy

There are a number of philosophies that inform different types of research depending on the research objectives and the type of evidence that the research is

looking for. In a recent development that clearly paved the way to understanding the entire process of research, Saunders et al. (2007) developed what they referred to as the research onion, as represented by Figure 3.1.

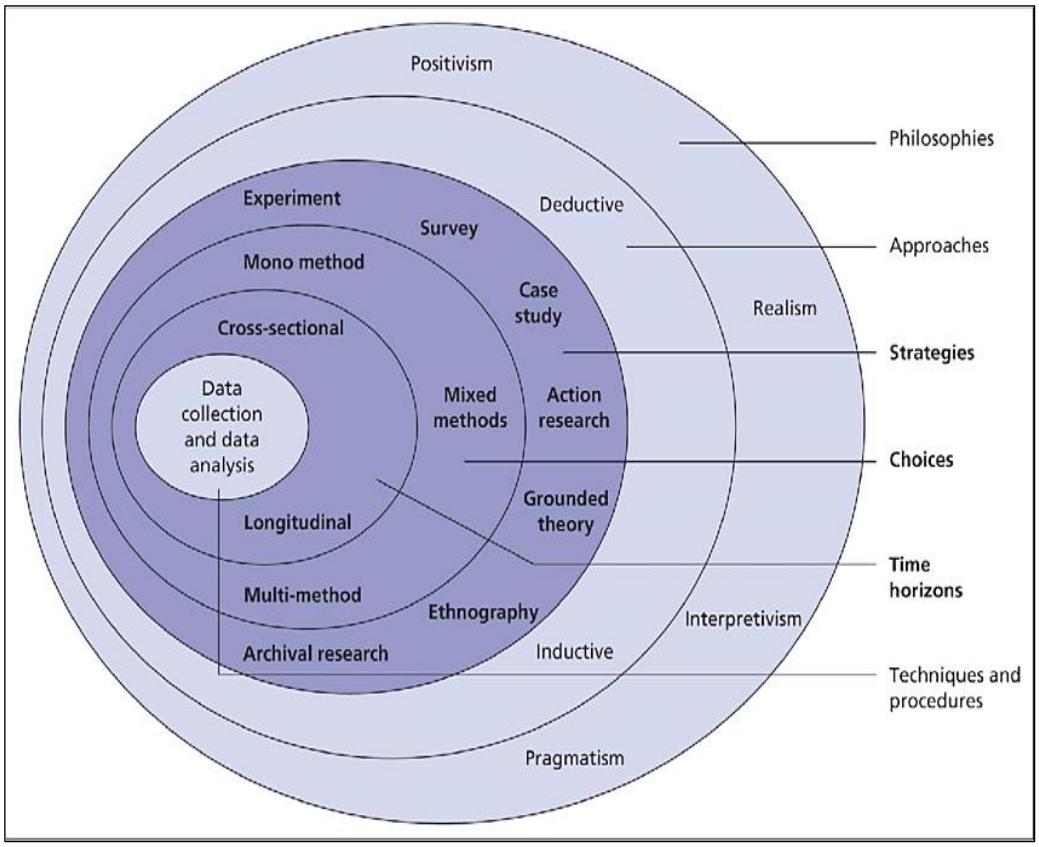

Figure 3.1: Research Onion

According to Saunders et al. (2007), the research onion is a systematic description of the research process in its different stages, which may be considered important for guiding the development of this chapter. The purpose of introducing the research onion at this point is that it shows how the philosophy of the research is the outer or first part of the development of the research strategy and overall methodology. In pursuit of rigor in scientific research, therefore, the structure of an onion acts as a guideline to the step by step development of the research methodology.

Antwi and Hamza (2015), in agreement with Queiros, Faria, and Almeida (2017), report that the research philosophy defines the epistemology of the research. This is to say, the research philosophy accounts for the way of knowing or the way to the truth of a research study. Specifically, this relates to the way in which data are conceived, gathered and relayed as part of the collective effort of answering research questions and fulfilling the research objectives. Further evidence indicates that the research philosophy is instrumental in guiding the development of all the other stages of research and sets the definition of the paradigm of the research (Johnstone, 2014; Palinkas et al., 2015). Through establishing the research philosophy, a study can systematically proceed to the appropriate approach, strategies, choice and techniques. The following reviews some of the prominent research philosophies before justifying the positivist research philosophy as the most suitable for the present study.

3.2.1 Pragmatism

Pragmatists believe in the practicality of truth which they hold can never be defined once and for all, but may be multi-faceted in nature. Quinlan, Babin, Carr, and Griffin (2019) elaborate on this point, arguing that pragmatists support any concepts or notions of knowledge as long as these concepts and notions support action. That is to say, any reasonable, logical and actionable definition of a matter, whether numerical or descriptive, has every right to stand as truth and, so far as it supports action, to be accepted as truth. This philosophy is accused of opening a Pandora's Box whereby truth has multiple definitions. Scholars who accept this philosophy render themselves liable to the possibility of investigating different interpretations of a matter and making decisions based on these interpretations. Lebow and Jenkins (2018) indicate that, even though truth for pragmatists is bound to take on different perspectives, it is perfectly

in line with the logic of truth itself, so long as it is seen as perspective-centered and subjective in nature. Lebow and Jenkins (2018), Quinlan et al. (2019) agree also that pragmatism is a solid philosophy of knowledge, especially for scholars who may want to use a mixed technique in their work and investigate different perspectives on their subject.

3.2.2 Positivism

Positivists put their trust in numerical facts and statistical determinations of truth. According to the evidence, positivism is widely used in scientific research, but scholars still disagree about an ideal and/or unified definition of the positivist philosophical approach to research (Khanna, 2018). Crowther and Lancaster (2008) and Wilson (2010) justify this position, mentioning that it is the differences in applying the positivist approach that form the main reason for the lack of proper definition of the positivist philosophy. These researchers note that the philosophy is applied differently depending on the purpose and setting of research, but they agree that all applications of it focus on using the scientific method and numbers to reach the truth. Under this philosophy, truth can be determined only through facts and numbers derived from the effective application of scientific and mathematical processes to the constructs of the research that are being tested. The role of the researcher therefore is to collect numerical data and conduct statistical analysis of the data based on standard statistical and scientific approaches and interpret the realized results in a sound, unbiased and objective manner. According to Khanna (2018), the typical approach of this philosophy is deductive – which implies the investigation of a phenomenon for the sake of testing hypotheses. However, axiology highlights the need for the researcher to maintain an unbiased stance throughout the research. Finally, positivism

allows only the use of quantitative techniques of data collection and analysis, part of its exclusive focus on the quanta of facts in studying phenomena.

3.2.3 Realism

Realists tend to believe that truth is independent of the human mind and exists in the world by its very nature. Khanna (2018) divide the realist approach into two kinds: direct realism and critical realism. The distinction between them is the ability of the mind to perceive deeper truths as well as surface truth. Khanna (2018) tries to clarify this duality by saying that in realism the relationship to either perception depends on the amount of truth that one's mind is open to. For instance, direct realists believe in a mono-level reality while critical realists believe in the multiplicity and multi-faceted reality. Wilson (2010) reports that realism is applied in research when one wants to use a multi-layered stratified approach, comparing various dimensions and levels of truth, and reach a conclusion on this basis. As with pragmatism, realism also opens up a Pandora's Box and renders itself liable to the use of many techniques for delivering knowledge.

3.2.4 Interpretivism

The interpretivist researcher, according to research evidence, is totally opposed to realism and strictly positivist philosophies of research (Klenke, 2016). This is essentially because interpretivists find it impossible to exclude the human element from any pursuit of knowledge. Especially in the case of realism, interpretivists assert that it is impossible for knowledge to exist by itself, independent of human consciousness, because it could not then be knowledge. Who would know it as knowledge, anyway? Klenke (2016) notes that even in positivism, which holds staunchly to numbers, some human element must be there to interpret the numbers,

otherwise the research would not make sense. The involvement of human beings in the pursuit of knowledge is the basis for the interpretivist conviction that interpretation is the essence of research. Bell and Bryman (2018) support the above position, adding that interpretivism relies on theories of the social construction of knowledge through consciousness, language and shared knowledge. The approach related to interpretivism, researchers continue, is inductive in nature, owing to the need to include the human mind and interpretation in the process, as the only guidance to the subject that the evidence (whatever its nature) provides. The data collection and analytical techniques derived from the interpretivist research philosophy include observations, interviews and case studies. Researchers agree that the fact that interpretivism is so closely linked to human interpretation makes it highly susceptible to bias and therefore its basic ontology is subjective rather than objective.

3.2.5 Selected Philosophy and Overall Strategy

The purpose of this research – to investigate an area of knowledge and validate or falsify hypotheses in an effort to contribute to the area of knowledge – compels it to select positivism as the guiding philosophy of this research. Accordingly, the present research approach is deductive and based on objective interpretation of the discovered facts. The methods of data collection which will be further detailed below are quantitative. The strategy that will be applied to gather the quantitative data is a survey based on a five point Likert scale. The research uses a mono method as described above to collect and investigate data from a sample population at one time; therefore, it will be cross-sectional. As research evidence indicates, the chosen philosophy is important for the present study mainly because it minimizes the chances of subjective interpretation and therefore combats research bias (Crowther & Lancaster, 2008;

Wilson, 2010; Saunders et al., 2007; Bell & Bryman, 2018). Since the researcher is aiming for an objective study that is supported by facts and numbers and is positively liable to validation, the identified philosophy and overall strategy, as stated above in this subsection, are suitable.

3.3 Research Process

The research process, also identified as the research strategy, is the blueprint for the conduct of the study and essentially chooses the direction for it; it guides the researcher away from confusion and deviation and ensures sanity in the research procedures (Lebow & Jenkins, 2018; Quinlan et al., 2019). According to Lebow and Jenkins (2018), the research strategy or process is an action plan that the researcher must develop to outline the conception of the research, define its problems and questions of concern, from the legwork of collecting information to the development of research techniques, selection of methods and overall conduct. Quinlan et al. (2019) indicate that senior researchers would never think of research without developing a solid framework in which to characterize it. Figure 3.2 is the framework developed by the present study to guide its step by step systematic development.

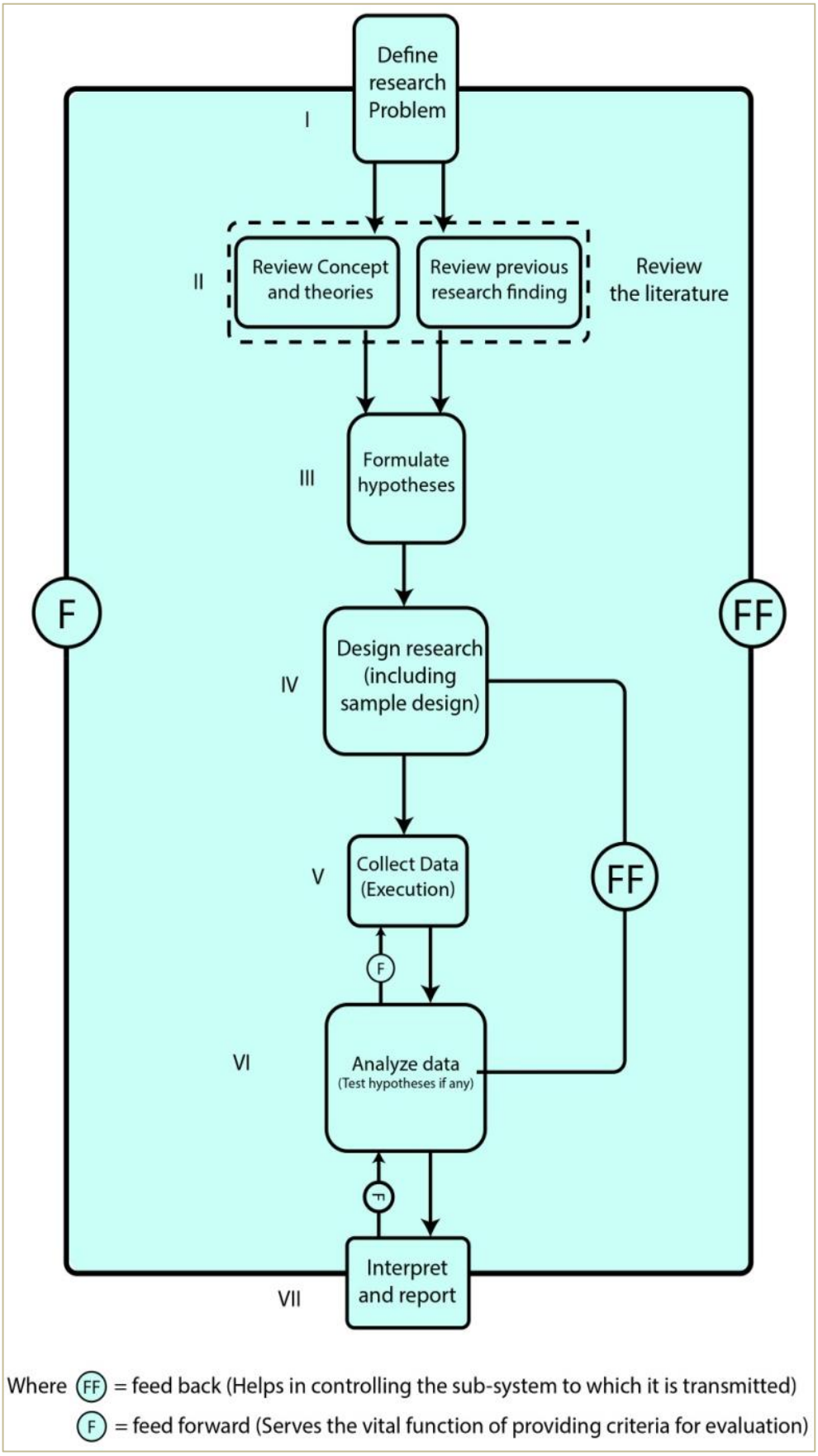

Figure 3.2: Research Process Flow Chart

The research is divided into two parts, one theoretical and one empirical. As the framework suggests, the research entailed seven non-linear steps, flowing but frequently overlapping at certain points between theoretical and empirical elements. The important steps of the research process are elucidated below, as senior research work requires.

Step i: The first step for the research was to define the problem and contextualize it for ease of understanding. This step was grounded on experiential notions of a problem or a gap of knowledge in the area of customer relationship management in the oil and gas industry for international B2B customers. The role of the research at this juncture was to convincingly contextualize the problem and make sure in the first place that a number of antecedents supported the existence of a problem. One of the primary antecedents to the proposition of a looming problem in the oil and gas industry was the case of ADNOC UAE. According to this research, its intention to embark on a robust capital-intensive downstream strategy of vertically integrating the process and manufacture of its own range of petrochemical products (among other factors including sustainability concerns and supply chain operations) meant that it was time to study CRM and the critical success factors for international B2B customers in the oil and gas industry.

Step ii: Next, the research reviewed the theory surrounding the concept and the process of making sense of the concept as found in theoretical evidence. Evidence supports this practice from the doctrine of knowledge development. Scholars need to follow knowledge-oriented back-channels for the problems or concepts that they investigate (Saunders et al., 2007). According to Saunders et al. (2007), only an extensive literature review gives sufficient background knowledge of the research

subject under study– it conveys more about the concept being studied and helps to make it fit the body of knowledge of the field in question and able to contribute to it. In the present case, the concept was ADNOC's implementation of CRM regarding B2B international customers and therefore the research had to review all that had been written about CRM implementation in different industries and the critical success factors in doing so. In the process, it was soon discovered that little or no research had looked at implementing the CRM of B2B international customers in the oil and gas industry, nor at the critical success factors for doing so. This therefore gave augmented impetus to the study to pursue the topic in depth.

Step iii: The discoveries of the second step led to the formulation of hypotheses based on a holistic cross-industry synthesis of the related literature and on experiential knowledge of the oil and gas industry. These hypotheses related to the context of the research and emanated from experiential knowledge backed by solid research evidence. Palinkas et al. (2015) reports that, in advanced research, developing the hypotheses marks a highly critical stage, requiring researchers to fully think through the research problem, context, questions, objectives and aims, and work out what the research variables are, their apparent relationships and their potential for measurement. This stage of the research concluded its theoretical part and let the empirical part begin.

Step iv: At this juncture, then, the research shifted from theory to developing the empirical strategies, methods and approaches for studying the identified problems and testing the research hypotheses. Statistical tools for measuring and analysing data were chosen at this point. A survey questionnaire using a five point Likert scale to measure aspects of the subject under study was identified as the data collection tool.

The data collected was to be analyzed using structural equation modeling (SEM) and statistical methods for data analysis. The scope of these elements is detailed below.

Step v: With the strategies chosen in the previous step, based on the nature of the research, the type of data being sought, the instrument for collecting the data and the participants being targeted, primary data for the study began to be collected.

Step vi: The collected data were subjected to rigorous empirical analysis, using methods and measures that had been identified and chosen in the fourth step.

Step vii: The analyzed data were then interpreted and related to the scope of the problem(s) identified at first and the hypotheses were developed to guide the testing and measurement of the relationships between the variables, as developed on the basis of experience and reading.

According to evidence, having a plan saves the research time by properly and clearly outlining the expectations and the purposes to be pursued at each stage of the research (Bell & Bryman, 2018). This research relied upon a shared research plan and the explanations of it to conduct an in-depth study of the question at hand in pursuit of the objectives of the research.

3.4 Research Design and Operationalization of Scale

Sekaran and Bougie (2012) and Palinkas et al. (2015) report in concordance that, supplementing the research plan and framework, the methodology section of a thesis has to explicate the research design. Palinkas et al. (2015) add that the research design brings in the elements of the fourth phase of the research process (see above) which form the bedrock of the empirical part of the research. This sub-section describes in some detail the development and design of the survey collection

instrument, its distribution and re-collection, the derivation of data from the tool and the analytical approaches, measures and methods that were adopted. Sekaran and Bougie (2012) indicate that the research design at this level is the most significant part of the research process, serving as the recipe for carrying out the project. These researchers indicate that the research implements the research design both as a guideline of what steps to take and as an explanation to others of the exact steps taken in the research (Sekaran & Bougie, 2012; Palinkas et al., 2015).

As stated earlier, the present study adopted a positivist philosophy using quantitative methods for an objective study of phenomena in the social sciences. According to evidence, quantitative design, attached to positivism and deductive approaches to research, is very effective in the study of such phenomena, which are not otherwise measurable in essence and/or comparable (Sekaran & Bougie, 2012). To this extent, therefore, the fact that the research seeks to study phenomena that cannot be measured by mere comparison implied that a different method was needed. The quantitative methods used on primary data which bring in numbers and values to evoke the relationships of phenomena are thus the appropriate methods for the study, which would be inconceivable without a measuring approach. Quieros et al. (2017) and Quinlan et al. (2019) indicate that the introduction of quantitative measures into the study of phenomena in the social sciences is better referred to as operationalization. This is because, as stated above, the phenomena in social sciences are observable; but, while one can, through experience, postulate a relationship between one phenomenon and another, it is impossible to measure this phenomenon without bringing in systematic, empirical and statistical techniques (Palinkas et al., 2015). Researchers agree that the first step in operationalizing the scale of the research is to dissect the subject into proximate relatable and observable phenomena that can be used to explore

the subject more deeply. This is done through the development of hypotheses which are further broken down during the development of the data collection instrument. This research used a five point Likert scale survey questionnaire to operationalize the research and study the components of the subject in detail. The following discusses the design of the questionnaire.

3.4.1 Questionnaire Design

Using evidence from a wide range of literature, the study discovered the dimensions on which the subject can be studied. A structured questionnaire was designed to systematically measure the causal relationships, whether dependent, independent or mediating, between several variables. In the literature, this phase in the research when directional or causal relationships between dependent, independent and mediator variables are studied is referred to as correlation research (Shreejesh et al., 2014). Shreejesh et al. (2014) add that correlation research is instrumental in the study of cause and effect relationships between variables and is helpful especially in cross-sectional studies. The present study research had already been identified as a quantitative and cross-sectional report on phenomena among a section of a population at a particular time; with this in mind, it proceeded to the design of a questionnaire. According to Bell and Bryman (2018), the design of the data collection instruments should be in line with the purposes of the research and can greatly benefit from the literature and the way that this reported the general structure of data gathering. This justified the choice of a five point Likert scale for the identified research problem.

The questionnaire was divided into four sections, the first gathering the demographics of the participants and each of the others focusing on one of the main constructs of the research, i.e. CRM’s critical success factors, CRM’s effectiveness

and CRM's success. The first section of the questionnaire was divided further into part a and part b. In part a, useful demographic information on the participants was gathered – information such as age, gender and educational qualifications; time of service with ADNOC, length of experience of and/or around CRM, company name, position, tenure and department of the organization that the participant occupied. Part b sought information on, for instance, the participants' perception of the importance of CRM, the channels of CRM being used for CRM in the participants' organizations that the participants were aware of, the CRM software in use, and what the participants believed to be the degree of success from the CRM efforts of their company.

The second section of the questionnaire focused on the first and primary construct of the research – the critical success factors of CRM. This construct was further developed and divided in the questionnaire into the 9 sub-constructs that fall under the 3 different categories of critical success factors of CRM, namely, management factors, human factors and technological factors. The sub-constructs were measured using four precise and proximate questions to be answered on a scale of 1-5 to elicit as much crystallized information as possible for measuring the postulated causal relationships.

The third section of the questionnaire focused on the second construct of the research, 'CRM effectiveness'. This part was further divided into two sub-constructs, as identified in the theoretical framework, to investigate more closely the elemental nature of the constructs with regard to a causal relationship to any other construct in the framework. The sub-constructs under scrutiny here were transactional quality and relationship quality and were both measured using four crystallized questions to be answered on a five point Likert scale.

The final section of the questionnaire represented the third construct of the research, ‘CRM successes’. As shown in the conceptual framework, this section of the questionnaire was split into two sub-constructs, ‘customer satisfaction’ and ‘customer retention’. These two constructs were weighted, with four questions each using the five point Likert scale in order to gather the clearest feedback on them from the participants.

Table 3.1 presents the constructs and the measurements adopted, the codes of the questions in the questionnaire and the references informing the development of the measurement queries based on the scale that they used.

Table 3.1: Operationalization of Variables for Questionnaire

Construct	Sub-construct	Item code	Items	References
CRM CSFs and Enablers	Top management support	A0.1 A0.2 A0.3 A0.4	Allocation of adequate efforts to CRM efforts Relative importance given by top management to CRM versus costs Management being customer focused Relative importance given by top management to CRM as a strategic issue	(Bohling et al. (2006); Chang (2007); Eid & El-Gohary, 2014; Farhan et al., 2017)
	Clear CRM strategy	B0.1 B0.2 B0.3 B0.4	Development of a clear CRM strategy Clarity of CRM goals for the company Clear project vision/scope Change required to implement CRM	(Osarenkoi & Benjamin, 2007; Ranjan & Bhatnangar, 2011; Gholami & Rahman, 2012; Eid & El-Gohary, 2014; Farhan et al., 2017)

Table 3.1: Operationalization of variables for questionnaire (Cont'd)

Construct	Sub-construct	Item code	Items	References
	CRM benchmarking	C0.1 C0.2 C0.3 C0.4	Emphasis on benchmarking competitors' projects and processes Emphasis on benchmarking non-competitor's projects and processes Effectiveness of benchmarking in customer services improvement Effectiveness of benchmarking in service costs reduction	(Ocker & Mudambi, 2003; Mack et al., 2005; Mishra & Mishra, 2009; Eid & El-Gohary, 2014)
	Trust	D0.1 D0.2 D0.3 D0.4	Fulfillment of customer expectations Ensuring privacy and security for the customer Freedom from doubt/risk during the service delivery process Reliability in keeping promises and rules	(Zablah et al., 2004; Roberts et al., 2005; Chow & Chan, 2008)
	CRM Training	E0.1 E0.2 E0.3 E0.4	Availability of resources for CRM training Frequency of training The existence of training programs designed to help employees improve their skills Satisfaction of employees with overall training	(Chang, 2007; Fredrick & Christofer, 2019; Rafiki et al., 2019; Eid & El-Gohary, 2014; Farhan et al., 2017)

Table 3.1: Operationalization of variables for questionnaire (Cont'd)

Construct	Sub-construct	Item code	Items	References
	Organizational culture	F0.1 F0.2 F0.3 F0.4	Business objectives oriented to customer satisfaction Business strategies driven by the objective of increasing value for customers Great attention to after-sales services Organizational customer-centered culture that supports CRM implementation	(Rahimin & Gunlu, 2016; Farhan et al., 2017; Rafiki et al., 2019)
	IT platform	G0.1 G0.2 G0.3 G0.4	Good infrastructure for information systems Adequate software selection Integration with other software Using CRM software to respond to customers	(Pushmann & Alt, 2001; Umanshakar, 2001; Kale, 2004; Nguyen et al., 2007; Keramati et al., 2009; Eid & El-Gohary, 2014; Farhan et al., 2017)
	Data mining	H0.1 H0.2 H0.3 H0.4	Information about the availability of products/services marketed Effective management of information and knowledge Using CRM to respond to customer complaints Availability of the customer data to managers	(Winer, 2001; Speier & Venkatash, 2002; Lam et al., 2014; Eid & El-Gohary, 2014; Farhan et al., 2017; He et al., 2019)

Table 3.1: Operationalization of variables for questionnaire (Cont'd)

Construct	Sub-construct	Item code	Items	References
	Knowledge management	I0.1 I0.2 I0.3 I0.4	Integrated customer knowledge across several functional areas Availability of customer knowledge allowing fast decision-making Knowledge about competitors Application of knowledge to resolve new problems	(Tseng, 2016; Kargaran et al., 2017; Farhan et al., 2017; He et al., 2019; Srivatsava et al., 2019)
CRM Effectiveness	Transaction quality	J0.1 J0.2 J0.3 J0.4	Personalized transaction and service offerings to each customer Supporting efficient and speedy transactions with less processing time Refining the billing system and credit control Identifying effectively the patterns and trends of customers' needs	(Storbacka, Strandvik & Gronroos, 1994; Eid, 2007; Kumar & Reinartz, 2012; Buttle & Maklan, 2015; Farhan et al., 2017)
	Relationship quality	K0.1 K0.2 K0.3 K0.4	Personalized quality services at every customer touch point Improving customer services Increasing knowledge of customer needs Developing continuous relationships with customers	(Crosby et al., 1990; Hennig-Thurau and Klee 1997; Eid, 2007; Havlicek et al., 2013; Buttle & Maklan, 2015; Farhan et al., 2017)

Table 3.1: Operationalization of variables for questionnaire (Cont'd)

Construct	Sub-construct	Item code	Items	References
CRM Success	Customer satisfaction	L0.1	CRM implementation increasing customer satisfaction	(Farhan et al., 2017; Kim et al., 2012; Hollar, 2015; Yaghoubi et al. 2017)
		L0.2	CRM implementation improving satisfaction with the transaction	
		L0.3	CRM implementation decreasing customer complaints	
		L0.4	CRM implementation improving responses to customer queries	
	Customer retention	M0.1	CRM implementation helping to retain existing customers	(Dorsch et al., 1998; Reichheld et al., 2000; Hollar, 2015; Eid, 2007; Farhan et al., 2017)
		M0.2	CRM implementation providing a competitive advantage	
		M0.3	CRM implementation increasing customer loyalty	
		M0.4	CRM implementation helping to achieve long-term relationships with customers	

3.4.2 Variables of the Study

The study considered three sets of variables, as diagrammatically confirmed by the research framework set out above. However, it may be helpful to elucidate the different variables here, for the sake of clarity.

3.4.2.1 Independent Variables

The independent variables of the research, according to the model adopted, were identified as the three categories and nine sub-construct categories of the CRM critical success factors. Flannelly et al. (2014) identify the independent variables as

those which remain stable and unaffected during the research but have different levels which the researcher uses to measure change in other variables. According to Flannelly and his colleagues, the independent variable refers to the variables which the researcher systematically manipulates in order to realize and/or measure the different effects of the manipulation on other variables. With this in mind, the independent variables of the present study can be summed up as the CRM's CSFs which are further dissected as shown in Figure 2.1.

3.4.2.2 Dependent Variables

Previous research identifies the dependent variables as those variables in a research model that are expected to change depending on the changes in the measurement of other factors in the model. This is according to Skiera et al. (2017), who imply that the dependent variables represent the 'presumed effect' of the systematized manipulation of the independent variables by the researcher. In the present study the dependent variables are CRM successes (i.e. signs of success) which are customer satisfaction and customer retention. Through the systematized manipulation of the independent variables, the research expects to arrive at different measurements of customer satisfaction and customer retention which will in this case be based on the statistical relationships of the results of the research processes.

3.4.2.3 Mediating Variables

Flannelly et al. (2014) and Skiera et al. (2017) identify moderating/mediating variables as variables included to ease the statistical investigation of the relationship between the independent and the dependent variables of the research. These researchers indicate that this type of variable is usually hypothesized by the research as associated with the underlying mechanism and/or process through which the

independent variable affects the dependent variable or through which the relationship between the independent variable and the dependent variable can be measured and/or said to exist. The researchers agree that mediating variables are very common in high level research in social science because most of the variables and relationships hypothesized exist through primal interrelationships. For the present study, the CRM effectiveness constructs of transaction quality and relationship quality serve as the media through which the effect of CRM's critical success factors on CRM success through customer retention and customer satisfaction can be studied. According to the model, therefore, they serve as the mediating variables of the research.

3.4.3 Sampling of the Research

Research suggests that there are different ways of assembling a sample for a research study. According to Myers (2009), the research sampling procedure is an important part of the research since it provides the research with the required sources of data for completing the study. Myers adds that the sampling procedure and design are determined by the nature of the research and the purpose of the research. According to her, there are a number of sampling methods and approaches which all serve a different purpose and it is up to researchers to identify the ideal sampling method for the nature of the research and the type of data that the research seeks to gather. Bajpai (2011) goes on to divide sampling procedures into two broad categories, namely, probability and non-probability sampling.

Bajpai (2011) adds that in probability sampling the general strategy of sampling is randomized. This involves such sampling methods as clustered sampling, systematic sampling, stratified sampling and simple random sampling. These methods have a huge risk of bias in the results that can be derived from them; they are not

specified and are content to involve more or less anyone as a respondent in a rather random manner. They were therefore deemed unsuitable for the present study. In contrast, Bajpai (2011) identifies non-probability sampling as a genre of methodological sampling approaches that use a subset of a population to represent the whole population by asking specific individuals who are held to represent a particular population to contribute as respondents. In agreement with the above, further research indicates that non-probability sampling approaches seek to gather data from particular members of a population who are supposed the most likely to deliver the information required (Crowther & Lancaster, 2008; Wilson, 2008). In this case, therefore, researchers admit that all individuals do not have the same chance of participating.in non-probability sampling,

Digging deeper into the non-probability sampling methods brings up such forms as snowball sampling, purposive sampling, convenience sampling and quota sampling among others. Following a review of these approaches, the research finds that purposive sampling also referred to as judgment sampling, is the appropriate sampling approach for this study. According to Crowther and Lancaster (2008), purposive sampling is applied to research where the purpose is to collect a specific type of information from a specific group of people in the sample population. The researchers further note that the people selected should represent the wider population and have the knowledge sought by the research.

In the present study, information was sought through the questionnaire from all members of four ADNOC organizations who had a contact point or interaction with client or the products and services in a supply chain to an international B2B client. The participants of the research therefore included most members of the international B2B

products and services supply chain in 4 different ADNOC companies, namely, ADNOC Marketing and Distribution, Brouge, Fertil, and ADNOC LNG. All the members of the chain from marketing personnel, administrative personnel, sales and market research teams, CRM technology teams, and logistics, to the loading and delivery teams, shipping, payment and customer credit teams were included as part of the sample. To ensure the accurate aim of this sampling approach, all other segments of the organization that did not have a contact point with the international B2B customer were excluded from the sample.

Previous research supports the purposive sampling approach, describing it as an instrumental approach to obtaining accurate results from specific data that can be generalized to an entire population (Shively, 2011). According to researchers, the purposive sampling approach helps them to conduct objective studies through including only suitable participants, thereby ensuring that the study benefits from the rich knowledge of the participants, a pivotal point for gaining valid findings.

3.4.3.1 Sample Population and Sample Size

The research initially wanted to consider only people working in the marketing department and/or in marketing activities related to international B2B clients. However, this choice was later revised once it was discovered that the four targeted organizations employed too few people in the marketing department or working on marketing activities to constitute a generalizable sample. To include enough people, the study widened its scope with regard to the same chain of B2B international clients to include all the participants in the B2B supply chain who had a contact point with a consumer. This was still considered to serve the purpose, for these participants were best suited to help investigate the topic of customer relationship management. The

initial scope extended to only 60 participants but the revision enabled the sample to include 250 participants who all had a contact point in the B2B international customer supply chain. The research distributed 250 questionnaires to these participants and benefited from a response rate of 67.6%, garnering 169 returned responses during the data collection period. Considering the rigidity of the company, the response rate was sufficient to proceed with the research and confirm its generalizability. According to Fincham (2008), in high level research, response rates of at least 60% are expected and considered acceptable as representative of a wider population.

3.4.4 Research Execution

In lieu of a pilot study, before the questionnaire was used to collect data from the designated participants, the questionnaire was reviewed and evaluated by two independent academic experts and the researcher's main supervisor. Together with this, two senior officials (marketing executives) with advanced CRM experience in ADNOC marketing and distribution reviewed and evaluated the questionnaire and its relevance. The purpose of this preliminary stage was to ensure the relevance of the questionnaire to the study and its capacity to elicit the expected results. It was critiqued and ratified if it fell short of its task or was otherwise referred for revision. After due consultation, the academic experts and the professional experts found that the questionnaire was fit to pursue the objectives of the research and would make maximum use of the purposive sampling criteria to ensure that it mined as much specific information as possible. This confirmed that the questionnaire could be deployed to collect data.

The process of distributing the questionnaire to collect data was three-fold, with a view to enhancing its rigor and maximizing the response rates. The researcher

first distributed the questionnaire online via both google survey and survey monkey software. The software was found useful when it became evident that the ICT security systems in some of the companies did not accept one of these platforms, so the survey had to make the questionnaire available to the participants through the other. To begin with, the researcher, needing to populate the list of respondents, especially of organizations where she had not worked (3 of these organizations, but not Fertiglobe), appealed to the top management of the companies, having previously told them about the upcoming survey and the need of their support to distribute it to every employee who had a contact point with a client or with products and services in their channel to clients in the international B2B supply chain.

After distributing the questionnaires, the researcher then talked to the key executives and top management officials who were among the sample and who had helped to distribute the surveys to other participants. One-to-one sessions were asked with these officials to further convince them of the importance of the study and solicit their unwavering support in gathering data through the survey questionnaire. At this juncture, the researcher also sought access to the contacts of the targeted participants especially the participants to whom the top managers had already distributed the survey. With this information, the researcher mounted a weekly follow-up via email and phone in order to seek more responses, regularly explaining to the participants how important the survey was to ADNOC as an organization and how much more it was to them as members of it.

The third way of improving the response rate was for the researcher to drop off and pick up the data, which involved printing hard copies of the questionnaire and requesting participants to complete them and having them collected. Research

indicates that this method of data collection is sometimes very effective: it gives the research seriousness and increases the number of responses (Sekaran & Bougie, 2012). Previous writers also imply that this method would probably be very effective since it is commonly used in the UAE, among other Arab countries, especially in senior level research (Elbanna, 2012).

With the three-fold approach to gathering data, entailing online distribution, weekly email and telephone follow-ups and a rigorous drop off and pick up exercise, the research was able to generate a response rate that enhanced its validity. The research execution as elaborated above took 6 months and the data were collected using the above methods between August 1st, 2018 and February 1st, 2019.

3.4.5 Data Analysis

Statistical methods of analysis were employed to analyze the numeric data collected through the structured questionnaire and as a result of the work described above. Multivariate statistical analysis measurement was adopted to measure the relationships between the constructs through regression analysis. Hypothesis testing, which was the main activity of data analysis in the research, was carried out using SPSS/AMOS version 25. In order to enhance the rigor of the dissection and analysis of the data, the research measured each construct against the responses received for it and used confirmatory factor analysis to determine the dimensions of the variables and ascertain the non-existence of overlaps as far as the dimensions of each variable was concerned. A detailed analysis of the data, explaining all the other methods used in the data analysis processes, including the cleaning and data validation methods deployed, is contained in the next chapter.

3.5 Ethical Considerations

Since the research investigated a critical area of organizational strategy in the organizational context, certain ethical issues arose and the research had to take certain measures to ensure that these issues were addressed sufficiently to allow the process of data collection to take place.

The first of such ethical issues was gaining official ethical approval from the United Arab Emirates University ethics department. As a doctoral student of the institution for the stipulated time and having complied with all the parameters for submitting the thesis, the researcher applied for and received an ethics approval confirmation which permitted an approach to the chosen organizations so as to get their permission to proceed with the fieldwork.

The second ethical issue was the need to lobby for compliance approval from ADNOC in order to approach the other organizations involved in the research. In order to resolve this issue, the researcher presented a formal request for support through her organization to ADNOC Head office top management to take the survey to all the four designated organizations. The request made it clear that her organization would be included in the data collection exercise and would naturally be the first. The request enclosed a letter from her University stating that she was a doctoral student who was conducting a study of the subject specified, together with her detailed description of the project and the necessary reminder of its importance to the organizations. The request carried a guarantee of the confidentiality of any organizational information provided to her and a promise to provide the organizations with the outcomes of the research.

The third ethical issue that arose was the confidentiality of the participants and their participation in the research. Since the research had solicited the help of the top management to get access to the participants, this group no doubt knew who had participated in the research. However, the research was still able to guarantee the anonymity of the participants by:

- Collecting data on anonymous forms.
- Assuring the sample that their participation was voluntary and that they could abandon the research at any point without further question.
- Guaranteeing to respondents that their participation would not be to their personal detriment through providing sufficient explanation of the purpose and importance of the research.
- Offering respondents, a copy of the results of the study in order to solicit their participation through emphasizing their sense of the importance of the research and its sample.

Having successfully gained approval from the organizations and developed a participant cover letter and consent form, the researcher collected the necessary data for the study. This documentation detailing the trail of consents to cover ethical requirements is attached in the appendix of this study. The following chapter presents the results and analysis of data from the results collected in the fieldwork.

Chapter 4: Findings and Analysis

4.1 Introduction

This chapter covers the data cleaning and assessment that guarantee the quality of the responses and their consequent use in the statistical analysis. First, the data assessment included testing for missing data, the presence of outliers, accuracy, verification of the distribution assumptions, and checking for the presence of common method bias to guarantee that the data were precise, comprehensive and appropriate for a multivariate statistical analysis. Second, the descriptive analysis of the data presents some qualitative intuitions to examine, define and discuss in terms of the value of the data and their contribution to the aims of the research. Third, it emphasises the purification and calculation processes of the measuring tools. For this purpose, Cronbach alpha was used to indicate the reliability of the construct measurement. Finally, the validity of the constructs was assessed and checked by factor analysis. Outcomes of the statistical analysis were used for further analysis through hypothesis testing and to understand the results in the context of the study aims. It should be noted that this chapter of the thesis is devoted entirely to setting out the findings from the research and analyzing the statistical measurements obtained from the collected primary data. The correlation of the findings with the objectives of research and the literature is discussed in another chapter. In other words, this chapter of the research is confined to the presentation and analysis of the collected data, without drawing general conclusions or comparing the current study outcomes to those of other studies.

4.2 Descriptive Analysis and Purification of Measures

4.2.1 Data Screening

The data once collected needed to be cleaned before initiating the analysis process (Tabachnick & Fidell, 2007). The first procedure in preparing the inputs for analysis entailed editing, coding and entering the data in the SPSS software. The data were checked for any errors and oversights, to make sure that they met the desired quality standards. Second, the research constructs and items were coded into a format appropriate for the Statistical Package for the Social Sciences (SPSS), version 25. Every item was allocated a distinctive symbol. This procedure helped to prepare the statistical analysis software to analyze the collected data. Finally, the SPSS software was used to enter the data as they were exported from the online survey platforms – survey monkey and google survey.

4.2.1.1 Missing Data

If there are many missing values, the quality of statistical analysis may be affected and the results of analysis may be biased and unreliable. Hence, the present study analysed the missing data following the recommendations of both Hair et al. (2013) and Tabachnick and Fidell (2007). Furthermore, the existence of such missing data may not allow the use of some statistical analysis techniques, but the missing data may still be treated in many alternative ways. First, the data may not be corrected but left alone, particularly if the missing data are few and non-random. Second, the missing values may be replaced. A third option is to remove the replies or constructs affected. This is the ideal option if the sample is big and/or if the participants have omitted some answers. The deletion of items with missing data is also suggested if these constructs are not crucial to the research (Tabachnick & Fidell, 2007).

Therefore, the missing data were carefully assessed. The outcome showed no cases of missing data, because enough completed questionnaires were obtained for research purposes. In the present case, the data of 169 collected surveys were examined and cleaned. There were 5 questionnaires with many imperfect scale answers, while 4 questionnaires had complete answers but missing demographic responses. Our data set finally comprised 160 questionnaires, which provided clean data for statistical analysis.

4.2.1.2 Outliers

Outliners are defined as values which are extreme in relation to the rest of the research data. They affect data normality and, because normality is a crucial assumption in many statistical tests, outliers have to be defined and treated (Tabachnick & Fidell, 2007). According to Tabachnick and Fidell (2007), outliers are replies that have remarkably high or low values that make them distinctively different from other replies for the same item (univariate outliers). Outliers may also be a distinctive mixture of different replies that deviate from other replies across several constructs, as in the case of multivariate analysis (multivariate outliers). Outliers may change the outputs of a statistical analysis by rising error variance, weakening the statistical results and biasing the assessments of substantive variables (Osborne & Overbay, 2004).

Undoubtedly, there are two forms of outlier, "univariate" and "multivariate". Univariate outliers reflect replies with an extreme reading in one variable, while multivariate outliers are replies with odd mixtures of scores on two or more constructs (Tabachnick & Fidell, 2007). When the outliers are determined, they may be treated in several ways. The first is omission. If there are few outliers, these readings may

simply be deleted. Moreover, the item may be removed if the question is not well built or many outliers are found in this construct. The second possibility is to change the odd values to the next highest/lowest non-outlier number. Finally, the transformation of the entire construct is also a feasible option for treating outliers (Tabachnick & Fidell, 2007).

First, the univariate outliers in the data set were checked using Kolmogorov-Smirnov and Shapiro-Wilk's tests of normality. The statistical assessments were used to assess the normality of the data, with further attention to the values of the Kolmogorov-Smirnov test. This was because the values of the Shapiro-Wilk test are better when the replies number less than 50, unlike the current study. The outputs of the Kolmogorov-Smirnov test (see Table 4.1) showed that our data significantly deviated from the normal distribution (the low significance value of the test was below 0.05).

Table 4.1: Kolmogorov-Smirnov Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Top Management Support	0.185	158	0.000	0.870	158	0.000
CRM strategy	0.219	158	0.000	0.883	158	0.000
CRM Benchmarking	0.179	158	0.000	0.913	158	0.000
Trust	0.265	158	0.000	0.819	158	0.000
CRM Training	0.243	158	0.000	0.878	158	0.000
Organization Culture	0.193	158	0.000	0.890	158	0.000
IT platform	0.270	158	0.000	0.844	158	0.000
Data Mining	0.212	158	0.000	0.855	158	0.000
Knowledge Management	0.195	158	0.000	0.870	158	0.000
Transaction Quality	0.247	158	0.000	0.872	158	0.000
Relationship Quality	0.215	158	0.000	0.850	158	0.000
Customer Satisfaction	0.204	158	0.000	0.861	158	0.000
Customer Retention	0.245	158	0.000	0.799	158	0.000

However, the values of the skewness for all the constructs were in the range of +1.5 to -1.5 (see Table 4.3). Skewness is a test of symmetry, or, more accurately, the absence of symmetry, where the distribution of a data set is called symmetric if it presents the same to the left and the right of the mid point (O'Brien, 2007). Kurtosis can therefore be used to assess whether the acquired data are heavy-tailed or light-tailed in relation to a normal distribution. That is, data inputs with high kurtosis tend to have heavy tails, or outliers, while data inputs with low kurtosis tend to have light tails, or a lack of outliers (O'Brien, 2007). Skewness between -1.5 and +1.5 is considered quasi normal (Hair et al., 2010). Furthermore, although the previous tests show results that significantly differ from the normal distribution, it is mentioned in the previous literature that for large samples normality tests may give significant results even in cases of a small deviation from normality (Field, 2013; Oztuna, Elhan, & Tuccar, 2006).

To examine the presence of multivariate outliers, an analysis of Mahalanobis distance was conducted using AMOS to define any multivariate outliers within the data. Mahalanobis distance is a metric for estimating how far each reply is from the center of all the constructs' distributions (i.e. the centroid in multivariate space) (Mahalanobis, 1927). The Mahalanobis distance test identified 2 cases that had an outlier (Table 4.2).

Table 4.2: Multivariate Outliers Test Results (Mahalanobis Distance Method)

Observation number	Mahalanobis d-squared	p1
108	23.780	0.001
147	23.780	0.001
89	18.830	0.009
128	18.830	0.009
9	17.934	0.012
58	16.350	0.022
69	15.678	0.028
99	14.470	0.043
138	14.470	0.043
113	14.460	0.044
152	14.460	0.044

The Mahalanobis Distance was compared with the Chi-Square distribution with degrees of freedom equal to the number of independent variables at a significance level of $p<0.001$. In total, 2 cases were found to exhibit the presence of multivariate outliers (see Table 4.1). To forestall any bias in the succeeding statistical analysis, these two cases were eliminated.

4.2.1.3 Normality

The normality assumption takes the graph of the data distribution for each construct to be bell-shaped. A skewness-kurtosis approach was adopted to test univariate normality for each construct (Byrne, 2016; Kline, 2010). Using SPSS 25.0, the statistical values of skewness and kurtosis were tested and found to be within their respective levels. As reported in Table 4.3, all the values shown support the normality of univariate distribution because all the values of skewness were recognized to be below their cut-off point of 3 and all values of kurtosis were found to be not more than 8 (Kline, 2010; West, Finch & Curran, 1995).

Table 4.3: Partial Display Normality Test Results for all Items

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Top Management Support	158	2.00	5.00	4.1978	0.75453	-0.610	0.193	-0.468	0.384
CRM strategy	158	2.00	5.00	4.0981	0.73082	-0.627	0.193	0.132	0.384
CRM Benchmarking	158	1.00	5.00	3.6725	0.84457	-0.328	0.193	0.109	0.384
Trust	158	2.00	5.00	4.3165	0.76154	-0.840	0.193	-0.187	0.384
CRM Training	158	1.00	5.00	3.7737	0.76122	-0.729	0.193	0.407	0.384
Organization Culture	158	2.00	5.00	3.9715	0.72434	-0.154	0.193	-0.621	0.384
IT platform	158	1.00	5.00	3.8307	0.67500	-0.834	0.193	0.584	0.384
Data Mining	158	2.00	5.00	4.2089	0.75811	-0.729	0.193	0.112	0.384
Knowledge Management	158	2.75	5.00	3.9367	0.68360	0.110	0.193	-0.918	0.384
Transaction Quality	158	1.00	5.00	3.9161	0.75535	-0.841	0.193	0.906	0.384
Relationship Quality	158	2.00	5.00	4.2041	0.71597	-0.517	0.193	-0.249	0.384
Customer Satisfaction	158	2.00	5.00	4.1741	0.69042	-0.651	0.193	0.463	0.384
Customer Retention	158	1.00	5.00	4.1851	0.75617	-0.209	0.193	0.063	0.384
Valid N (listwise)	158								

4.2.1.4 Common Method Bias

The common method bias refers to the contention that the obtained variance in an endogenous construct is due not to the relationship between the model variables but rather to the variance presented by the measurement approach. This may result from respondents who wish to make their replies provide socially desired images of themselves, or from a bias due to the simultaneous collection of data concerning both the independent and dependent variables or the ambiguity of the survey items (Podsakoff et al., 2003). Non-bias response arises from the fact that some participants of the target population may refuse to take part in the survey and may hold very

different views, opinions or perceptions from those who did take part (Malhotra & Birks, 2006; Rogelberg & Stanton, 2007).

4.2.1.4.1 Harman's Single Factor

To examine for potential common method variance, Harman's Single-Factor Test was carried out. This test proceeds by subjecting all the items from all the variables to study factor analysis in order to assess whether most of the variance can be accounted for by one general factor (Podskoff et al., 2003). The program extracted one factor to check whether a single factor could account for more than 50% of the variance. The output displayed in Table 4.4 shows that a single factor could account for only 45.42% of the variance, which is far lower than the accepted threshold of 50% (Malhorta, Kim & Patil, 2006). This demonstrates that the questionnaire replies are free from significant common method bias and that it was acceptable to proceed with the model analysis.

Table 4.4: Results of Herman's Single-Factor Test for Common Method Bias

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	23.619	45.422	45.422	23.619	45.422	45.422
2	3.991	7.675	53.097			
3	3.189	6.133	59.230			
4	2.858	5.495	64.725			
5	2.459	4.729	69.454			
6	2.285	4.395	73.849			
7	2.017	3.879	77.728			
8	1.935	3.721	81.449			
9	1.611	3.098	84.547			
10	1.466	2.820	87.367			
11	1.196	2.299	89.666			
12	1.102	2.119	91.785			
Extraction Method: Principal Component Analysis.						

4.2.1.4.2 Common Latent Factor

Finally, common latent factor analysis in CFA using AMOS 23 was conducted to check the percentage of variance explained by a common latent factor. The assessment used the CFA model of the present study, which included all the constructs and introduced a common latent factor (CFA is further explained in the next step). Accordingly, this examination was conducted after CFA, for the purpose of examining data readiness. The study linked all the observed variables in the model with the common latent factor and constrained the paths to be equal. The results of AMOS show that this common latent factor explained only 32% of the shared variance in all the observed variables. Hence, the common latent factor analysis also confirmed that common method bias was not a critical problem in the data used for the present research.

4.3 Descriptive Analysis

This section presents background information about the participants. The goal is to present a brief account of the profile of the research sample. Frequency analysis was used to distribute the respondents according to the following characteristics:

- Age.
- Gender.
- Qualifications.
- Nationality.
- Oil and Gas Industry Experience.
- CRM Experience.
- Company Experience.

- Department.
- CRM importance.
- CRM Software.

4.3.1 Age

The first descriptive analysis dealt with age. Table 4.5 shows that approximately half of the participants were between 36 and 45 years old [47.5%], 28.5% of the participants were between 45 and 55 years old, 19.6% were 25-35 years old, 2.5% were 25 years old or younger and a very few respondents [approximately 2 %] were 56 years old or older.

Table 4.5: Age of Respondents

		Frequency	Percent %	Valid Percent %	Cumulative Percent %
Valid	25 and younger	4	2.5	2.5	2.5
	25-35 years	31	19.6	19.6	22.2
	36-45 years	75	47.5	47.5	69.6
	45-55 years	45	28.5	28.5	98.1
	56 years or older	3	1.9	1.9	100.0
	Total	158	100.0	100.0	

4.3.2 Gender

The second descriptive analysis dealt with the gender of the participants Table 4.6 shows that 65% of the respondents (103) were males and nearly 35% were females. This indicates that there was an imbalance between the males and females within the sample and reflects the nature of the work in the oil and gas sector. Most of the work in this sector is offshore and more suitable for males. It is very hard for females to cope with the working environment in this sector.

Table 4.6: Gender of Participants

		Frequency	Percent %	Valid Percent %	Cumulative Percent %
Valid	Male	103	65.2	65.2	65.2
	Female	55	34.8	34.8	100.0
	Total	158	100.0	100.0	

4.3.3 Qualifications

Table 4.7 shows that more than half of the respondents (53.8%) had earned a bachelor's degree. 51 participants (32.3%) had a master's degree. Approximately 6.3% of the survey participants (10) held a high-school diploma, 4.4% of the respondents had received a doctoral degree (7 participants), while 5 participants claimed secondary education (3.2%).

Table 4.7: Respondents by Qualifications

		Frequency	Percent %	Valid Percent %	Cumulative Percent %
Valid	Secondary	5	3.2	3.2	3.2
	Diploma	10	6.3	6.3	9.5
	Bachelor	85	53.8	53.8	63.3
	Master	51	32.3	32.3	95.6
	Doctoral Degree	7	4.4	4.4	100.0
	Total	158	100.0	100.0	

4.3.4 Respondents by Nationality

Table 4.8 reveals that most of the respondents (78.5%) in this survey were local. This could be because the UAE government started a few years ago what is called Emiratization specifically within governmental organizations. Only 34 of the respondents were expatriates; they came from France, Indonesia, India, Palestine, Pakistan, Ireland, the UK, Lebanon, Kuwait and Jordan (21.5%).

Table 4.8: Respondents by Nationality

		Frequency	Percent %	Valid Percent %	Cumulative Percent %
Valid	France	1	0.6	0.6	0.6
	UAE	124	78.5	78.5	79.1
	Indonesia	5	3.2	3.2	82.3
	India	13	8.2	8.2	90.5
	Palestine	1	0.6	0.6	91.1
	Pakistan	2	1.3	1.3	92.4
	Ireland	1	0.6	0.6	93.0
	Britain	3	1.9	1.9	94.9
	Lebanon	1	0.6	0.6	95.6
	Kuwait	5	3.2	3.2	98.7
	Jordan	2	1.3	1.3	100.0
	Total	158	100.0	100.0	

4.3.5 Experience in Oil and Gas Sector

Table 4.9 shows that 64 of the respondents (40.5%) had more than 15 years of experience in the oil and gas sector. 37 respondents had between 2 and 5 years' work experience in it (23.4%). 22.8% of the respondents had between 6 and 10 years' work experience in it (36 respondents). 12% of the respondents had between 11 and 15 years' work experience in it (19 respondents). Finally, only 2 respondents had less than 2 years' work experience in it.

Table 4.9: Respondents by Nationality

		Frequency	Percent %	Valid Percent %	Cumulative Percent %
Valid	Less than 2 years	2	1.3	1.3	1.3
	2- 5 years	37	23.4	23.4	24.7
	6 –10 years	36	22.8	22.8	47.5
	11 –15 years	19	12.0	12.0	59.5
	More than 15 years	64	40.5	40.5	100.0
	Total	158	100.0	100.0	

4.3.6 CRM Experience

In terms of CRM experience, Table 4.10 shows that 37 of the respondents (23.4%) had 6-10 years of CRM experience. 34 respondents had between 2 and 5 years CRM experience within the oil and gas sector (21.5%). 20.9% of the respondents had more than 15 years' CRM experience (33 respondents). 19% of the respondents had less than 2 years' CRM experience (30 respondents). Finally, 24 respondents had 11-15 years' CRM experience.

Table 4.10: CRM Experience

		Frequency	Percent %	Valid Percent %	Cumulative Percent %
Valid	Less than 2 years	30	19.0	19.0	19.0
	2- 5 years	34	21.5	21.5	40.5
	6 –10 years	37	23.4	23.4	63.9
	11 –15 years	24	15.2	15.2	79.1
	More than 15 years	33	20.9	20.9	100.0
	Total	158	100.0	100.0	

4.3.7 Experience in the Current Organization

In terms of experience in the current organization, Table 4.11 shows that 43 of the respondents (27.2%) had 6-10 years of experience with the same company. 42 respondents had between 2 and 5 years of working with the same company (26.6%). 24.7% of the respondents had more than 15 years of working with the same company (39 respondents). 11.4% of the respondents had 11-15 years experience with the same company (18 respondents). Finally, only 16 respondents had less than 2 years of working experience in the same company.

Table 4.11: Experience in the Current Organization

		Frequency	Percent %	Valid Percent %	Cumulative Percent %
Valid	Less than 2 years	16	10.1	10.1	10.1
	2- 5 years	42	26.6	26.6	36.7
	6 –10 years	43	27.2	27.2	63.9
	11 –15 years	18	11.4	11.4	75.3
	More than 15 years	39	24.7	24.7	100.0
	Total	158	100.0	100.0	

4.3.8 Respondents by Department

In terms of respondents' department, Table 4.12 shows that the largest group of participants were working in the marketing, sales and marketing research departments (58.3%), 33 were working in the shipping and loading department (20.9%). 12 respondents were working in the payment and credit department (7.6%). Finally, only four participants were working in the operation department (2.5%).

Table 4.12: Respondents by Job Title

		Frequency	Percent %	Valid Percent %	Cumulative Percent %
Valid	Marketing	37	23.4	10.8	10.8
	Sales	35	22.2	22.2	32.9
	Marketing Research	20	12.7	12.7	45.6
	Finance	17	10.8	23.4	69.0
	Shipping & Loading	33	20.9	20.9	89.9
	Payment & Credit Process	12	7.6	7.6	97.5
	Operations	4	2.5	2.5	100.0
	Total	158	100.0	100.0	

4.3.9 CRM Importance

With respect to the CRM importance, Table 4.13 shows that nearly all the respondents (99.4%) saw CRM implementation as a very important tool (157 respondents). Only one respondent disagreed (0.6%).

Table 4.13: CRM Importance

		Frequency	Percent %	Valid Percent %	Cumulative Percent %
Valid	Yes	157	99.4	99.4	99.4
	No	1	0.6	0.6	100.0
	Total	158	100.0	100.0	

4.3.10 CRM Software

In terms of the CRM software, Table 4.14 shows that 63 of the respondents used Oracle software (39.9%). 54 respondents used SAP software (34.2%). Finally, 41 respondents used Maximo software (25.9%).

Table 4.14: CRM Software

		Frequency	Percent %	Valid Percent %	Cumulative Percent %
Valid	Oracle	63	39.9	39.9	39.9
	Maximo	41	25.9	25.9	65.8
	SAP	54	34.2	34.2	100.0
	Total	158	100.0	100.0	

4.4 Reliability Analysis

After the entry process and the cleaning and checking for normality and outliers had been completed, all the constructs were checked for reliability and validity. There are a number of reasons for checking the reliability and validity of the variables. First, a reliable and valid variable enhances the methodological rigidity of the research;

second, it allows co-operative research and gives support for the triangulation of results; and third, it gives a fuller description of the issues that are being investigated (Hair et al., 2012).

To measure reliability, the present study used item-to-total correlation. The aim was to eliminate items if they had low correlation unless they made a further domain of interest. This approach is considered the most common technique used by researchers for ensuring the reliability of a multi-item scale (DeVellis, 1991). The aim of the item-to-total correlation measure is to find the relationship of a specific item to the rest of the items in the same construct. The technique helps to guarantee that the items making up the construct share a common core (Zijlmans, Tijmstra, Ark, & Sijtsma, 2017). In this purification process, each item to be kept for extra investigation should have an item-to-total correlation score of 0.30 or above and would then be considered highly reliable (Cooper & Emory, 1995).

Reliability was also assessed on the basis of the average correlation among items within a construct, which is a matter of "internal consistency" (Nunnally, 1978). The basic formula for assessing reliability on the basis of this internal consistency is called the coefficient alpha (Cronbach's alpha). In most studies this approach has proved to be a strong way of estimating reliability. Nunnally (1978) proposes that a reliability of 0.60 is sufficient.

The following part presents the outputs of the reliability analyses which were conducted for all the measuring variables in the survey, namely, Top Management Support, Developing & Communicating a clear CRM strategy, CRM Benchmarking, Trust, CRM Training, Organization Culture, IT platform, Data Mining, Knowledge Management, Transaction Quality, Relationship Quality, Customer Satisfaction and

Customer Retention. Computing the item-to-total correlation and examining it with coefficient alpha establishes the process of analysing reliability. Item-to-total correlation and the Cronbach Alpha coefficient are found very often in the area of social science study (Price & Mueller, 1986).

All the items were found to have a high item-to-total correlation, above the acceptable level of 0.30. As shown in the last column of Table 4.15, the reliability coefficients ranged from 0.905 to 0.987, significantly higher than the acceptable level of 0.60 (Nunnally, 1978). These results show that reliable constructs were used. This research estimated the reliability for every construct. Table 4.15 shows the reliability coefficient and item-total correlations for all the research variables.

Table 4.15: Reliability Analysis for the Research Constructs

Item Code	Item	Item-total correlation	Cronbach's Alpha
	CRM CRITICAL SUCCESS FACTORS		
A	Top Management Support		0.966
A0.1	Allocation of adequate resources to CRM efforts	0.874	
A0.2	Relative importance given by the top management to CRM versus cost	0.934	
A0.3	Customer focused management	0.905	
A0.4	Relative importance given by top management to CRM as a strategic issue	0.951	
	Developing &Communicating a clear CRM strategy		0.969
B0.1	Developing a clear CRM Strategy	0.922	
B0.2	Clarity of CRM goals for the company	0.930	
B0.3	Clear project vision/scope	0.936	
B0.4	Change required to implement CRM	0.899	
	CRM Benchmarking		0.905
C0.1	Emphasis on benchmarking competitors' products and processes	0.871	
C0.2	Emphasis on benchmarking non-competitors' products and processes	0.898	
C0.3	Effectiveness of benchmarking in customer service improvement	0.914	
C0.4	Effectiveness of benchmarking in service cost reduction	0.878	
	Trust		0.935
D0.1	Fulfilment of customer expectations	0.827	
D0.2	Maintaining the privacy & security of the customer	0.842	
D0.3	Freedom from doubt/risk during the service delivery process	0.857	
D0.4	Reliability in keeping promises and rules	0.859	
	CRM Training		0.980

Table 4.15: Reliability Analysis for the Research Constructs (Cont'd)

Item Code	Item	Item-total correlation	Cronbach's Alpha
E0.1	Availability of resources for CRM training	0.956	
E0.2	Frequency of training	0.928	
E0.3	Training programs designed to help employees to develop their skills	0.955	
E0.4	Satisfaction of employees with overall training	0.954	
	Organization Culture		0.974
F0.1	Business objectives oriented to customer satisfaction	0.944	
F0.2	Strategies driven by the objective of increasing value for customers	0.931	
F0.3	Paying great attention to after-sales service	0.929	
F0.4	Customer-centered culture that supports CRM implementation	0.932	
	IT platform		0.972
G0.1	Good infrastructure for information systems	0.908	
G0.2	Adequate software selection	0.963	
G0.3	Integration with other software	0.923	
G0.4	Using CRM software to respond to customers	0.923	
	Data Mining		0.975
H0.1	Information about the availability of products/services being marketed	0.938	
H0.2	Effective management of information and knowledge	0.948	
H0.3	Using CRM to respond to customer complaints	0.939	
H0.4	Availability of customer data to managers	0.918	
	Knowledge Management		0.971
I0.1	Integrated customer knowledge across several functional areas	0.925	
I0.2	Customer knowledge availability enabling fast decision-making	0.919	
I0.3	Knowledge about competitors	0.924	
I0.4	Applying knowledge to resolve new problems	0.937	
	CRM EFFECTIVENESS		
	Transaction Quality		0.975
J0.1	Personalized transactions & services offered to each customer	0.922	
J0.2	Support for efficient and speedy transactions with less processing time	0.943	
J0.3	Refining the billing system & credit control	0.936	
J0.4	Identifying effectively the patterns and trends in customers' needs	0.941	
	Relationship Quality		0.979
K0.1	Personalized quality services at every customer contact point	0.919	
K0.2	Improving customer services	0.952	
K0.3	Increasing knowledge of customer needs	0.948	
K0.4	Developing a continuous relationship with customers	0.969	
	CRM SUCCESS		0.973
	Customer Satisfaction		
M0.1	CRM implementation increasing customer's satisfaction	0.916	
M0.2	CRM implementation improving satisfaction with transactions	0.952	
M0.3	CRM implementation decreasing customer complaints	0.904	
M0.4	CRM implementation improving the response to customers' queries	0.953	
	Customer Retention		0.987
N0.1	CRM implementation helping to retaining existing customers	0.969	
N0.2	CRM implementation providing a competitive advantage	0.960	
N0.3	CRM implementation increasing customer loyalty	0.962	
N0.4	CRM helping to achieve long-term relationships with customers	0.974	

4.5 Validity Analysis

This part covers the test of measure validity for the constructs included in this research. A structure of steps was implemented through the scale development process. It included the use of exploratory factor analysis. This approach was implemented to satisfy the reliability and validity of the data. This section reports the item scale development based on the findings of the questionnaire.

4.5.1 CRM Critical Success Factors

Factor analysis was applied to reduce the data and elicit the critical success factors (CSFs) for CRM implementation. Based on the literature review, nine variables were recognized as CRM critical success factors, namely, Management Support, Developing &Communicating a clear CRM strategy, CRM Benchmarking, Trust, CRM Training, Organization Culture, IT platform, Data Mining and Knowledge Management. To demonstrate the validity of the variables, the items in question were submitted to confirmatory factor analysis. The outputs of the factor analysis are introduced below.

Before using the factor analysis technique, specific conditions must be met. First, the variables should be assessed by using interval scales. The five point Likert scale in the field study fulfilled this requirement. A number of reasons explain the use of Likert scales. First, they transfer interval properties to the participant, and therefore give data that can be expected to be interval scaled (Cooper & Emory, 1995). Second, in the previous marketing literature Likert scales are usually dealt with as interval scales.

However, the sample must be greater than 100 since studies generally cannot use factor analysis with fewer than 50 replies (Hair et al., 2012). This condition also has been fulfilled in the present study because 158 valid replies supplied the data. The outputs of the factor analysis technique are summarized below.

4.5.1.1 Bartlett's Test of Sphericity

The 36 items representing the nine critical success factors (Enablers) of customer relationship management were submitted to factor analysis. The results of Exploratory Factor Analysis (EFA) yielded an eight-factor solution that accounted for 93.25% of the variance extracted. The result for Bartlett's Test of Sphericity (BTS) was large, at 10047.50, and the associated significance value was very small (p=0.00). This suggests that the data were suitable for factor analysis (Snedecor & Cochran, 1989).

4.5.1.2 Kaiser-Meyer-Olkin Measure of Sampling Adequacy

The Kaiser-Meyer-Olkin (KMO) test for the measurement of sample adequacy (MSA) gives the computed KMO as 0.804, which is adequate, and above the acceptable level (Snedecor & Cochran, 1989) (see Table 4.16).

Table 4.16: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.804
Bartlett's Test of Sphericity	Approx. Chi-Square	10047.503
	Df	630
	Sig.	0.000

Since the above conditions were achieved, the researcher decided that factor analysis was suitable for this data set and that the steps required for factor analysis could be performed.

4.5.1.3 Results of Principal Component Analysis Extraction Process

The factor extraction results using Principal Component Analysis (PCA) are given in Table 4.17. It is worth mentioning that an eigenvalue of 1.0 was used as the threshold in deciding the number of variables (Hair et al., 2012).

Table 4.17: Principal Component Analysis Extraction Results

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	16.692	46.367	46.367	16.692	46.367	46.367	3.993	11.091	11.091
2	3.815	10.597	56.964	3.815	10.597	56.964	3.854	10.705	21.796
3	2.580	7.166	64.129	2.580	7.166	64.129	3.848	10.689	32.485
4	2.353	6.537	70.666	2.353	6.537	70.666	3.827	10.631	43.116
5	2.310	6.417	77.083	2.310	6.417	77.083	3.826	10.627	53.743
6	1.877	5.215	82.298	1.877	5.215	82.298	3.692	10.254	63.997
7	1.447	4.019	86.317	1.447	4.019	86.317	3.597	9.991	73.988
8	1.257	3.491	89.808	1.257	3.491	89.808	3.504	9.733	83.721
9	1.241	3.447	93.255	1.241	3.447	93.255	3.432	9.534	93.255
Extraction Method: Principal Component Analysis.									

4.5.1.4 Extraction Method: Principal Component Analysis

An initial (un-rotated) solution identified 36 items and nine variables with eigenvalues of more than one, accounting for 93.255 % of the variance (see Table 4.17). Table 4.18 shows all 36 items scored communalities that range from 0.964 to

0.864. Therefore, it could be concluded that a degree of confidence in the factor solution was achieved.

Table 4.18: Communalities

Communalities		
	Initial	Extraction
A1	1.000	0.864
A2	1.000	0.940
A3	1.000	0.908
A4	1.000	0.955
B1	1.000	0.918
B2	1.000	0.928
B3	1.000	0.937
B4	1.000	0.895
C1	1.000	0.956
C2	1.000	0.925
C3	1.000	0.958
C4	1.000	0.955
D1	1.000	0.948
D2	1.000	0.923
D3	1.000	0.945
D4	1.000	0.942
G1	1.000	0.907
G2	1.000	0.959
G3	1.000	0.954
G4	1.000	0.964
H1	1.000	0.944
H2	1.000	0.929
H3	1.000	0.922
H4	1.000	0.929
K1	1.000	0.913
K2	1.000	0.960
K3	1.000	0.926
K4	1.000	0.926
L1	1.000	0.936
L2	1.000	0.947
L3	1.000	0.933
L4	1.000	0.918
M1	1.000	0.928
M2	1.000	0.921
M3	1.000	0.924
M4	1.000	0.937
Extraction Method: Principal Component Analysis.		

4.5.1.5 Factor Rotation and Factor Loading

Given the satisfactory nature of the nine variables, the loading of all the questions within the nine variables was tested. The Varimax technique for rotated component analysis was used with the cut-off point for interpreting the factors at 0.50 or higher (Snedecor & Cochran, 1989). The results are presented in Table 4.19.

Table 4.19: Rotated Component Matrix

	Component								
	1	2	3	4	5	6	7	8	9
A1				0.825					
A2				0.889					
A3				0.881					
A4				0.895					
B1						0.829			
B2						0.828			
B3						0.854			
B4						0.816			
C1	0.907								
C2	0.891								
C3	0.921								
C4	0.927								
D1									0.799
D2									0.789
D3									0.808
D4									0.807
G1								0.786	
G2								0.829	
G3								0.828	
G4								0.842	
H1							0.830		
H2							0.819		
H3							0.799		
H4							0.838		
K1			0.897						
K2			0.904						
K3			0.876						
K4			0.865						
L1					0.855				
L2					0.862				
L3					0.856				
L4					0.861				
M1		0.909							
M2		0.899							
M3		0.891							
M4		0.902							
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 7 iterations.									

All the questions were loaded on the variable to which they had been allocated. The factor loadings were all higher than 0.50, so that each item loaded higher on its associated variable than on any other variable. As recommended by Hair et al. (2012), a factor loading higher than 0.35 is considered statistically significant at an alpha level of 0.05. This is supported by the discriminant validity of the measurement.

4.5.1.6 Factor Naming and Interpretation Process

The interpretation of the nine-factor result was complemented by relating it to the theoretical concepts of marketing. The nine factors can be defined as follows:

Factor 1 consists of four items and fits very well with ‘CRM Benchmarking’. This factor comprises the following items:

(1) Emphasis on benchmarking competitors' products and processes.

(2) Emphasis on benchmarking non-competitors' products and processes.

(3) Effectiveness of benchmarking in customer service improvement.

(4) Effectiveness of benchmarking in service cost reduction.

The values are closely grouped, the highest loading being ‘Effectiveness of benchmarking in service cost reduction’ (0.927) and the lowest loading, “Emphasis on benchmarking non-competitors' products and processes” (0.891).

The second factor/variable comprises four items. This variable represents the respondents’ opinions regarding ‘Knowledge Management’. It covers the following variables:

(1) Integrated customer knowledge across several functional areas,

(2) Customer knowledge availability enabling fast decision-making,

(3) Knowledge about competitors, and

(4) Applying knowledge to resolve new problems.

The values are closely grouped, the highest loading being “Integrated customer knowledge across several functional areas” (0.909) and the lowest loading “Knowledge about competitors” (0.891).

The third variable consists of four items. This factor represents the respondents’ opinions regarding ‘IT platform’. It covers the following items:

(1) Good infrastructure for information systems.

(2) Adequate software selection.

(3) Integration with other software.

(4) Using CRM Software to respond to customers.

The values are closely grouped, the highest loading being “Adequate software selection” (0.904) and the lowest loading, “Using CRM Software to respond to customers” (0.865).

The fourth variable comprises four items. This factor represents the respondents’ opinions regarding ‘Top Management Support’. It covers the following items:

(1) Allocation of adequate resources to CRM efforts.

(2) Relative importance given by the top management to CRM versus cost.

(3) Management being customer focused.

(4) Relative importance given by top management to CRM as a strategic issue.

The values are closely grouped, the highest loading being “Relative importance given by top management to CRM as a strategic issue” (0.895) and the lowest, “Allocation of adequate resources to CRM efforts” (0.825).

The fifth variable consists of four items. This factor represents the respondents’ opinions regarding “Data Mining”. It covers the following items:

(1) Information about the availability of products/services being marketed.

(2) Effective management of information and knowledge.

(3) Using CRM to respond to customer complaints.

(4) Availability of customer data to managers.

The values are closely grouped, the highest loading being “Effective management of information and knowledge” (0.862) and the lowest, “Information about the availability of products/services being marketed” (0.855).

The sixth variable comprises four items. This factor represents the respondents’ opinions regarding ‘Developing &Communicating a clear CRM strategy’. It covers the following variables:

(1) Developing a Clear CRM Strategy.

(2) Clarity of CRM goals for the company.

(3) Clear project vision/scope.

(4) Change required to implement CRM.

The values are closely grouped, the highest loading being “Developing a Clear CRM Strategy” (0.829) and the lowest, “Change required to implement CRM” (0.816).

The seventh variable has four items. This factor represents the respondents’ opinions regarding ‘Organization Culture’. It covers the following variables:

(1) Business objectives oriented to customer satisfaction.

(2) Strategies driven by an objective of increasing value for customers.

(3) Paying great attention to after-sales service.

(4) Customer-centered culture that supports CRM implementation.

The values are closely grouped, the highest loading being “Customer-centered culture that supports CRM implementation” (0.838) and the lowest, “Paying great attention to after-sales service” (0.799).

The eighth variable consists of four items and fits very well with ‘CRM Training’. This factor comprises the following variables:

(1) Availability of resources for CRM training.

(2) Receiving sufficient information on the results of my work.

(3) Training programs designed to help employees to develop their skills.

(4) Satisfaction of employees with overall training.

The values are closely grouped, the highest loading being “Receiving sufficient information on the results of my work” (0.829) and the lowest, “Availability of resources for CRM training” (0.786).

Finally, the ninth variable comprises four items and fits very well with “Trust”. This factor comprises the following variables:

(1) Fulfillment of customer expectations.

(2) Maintaining privacy & security for customers.

(3) Freedom from doubt/risk during the service delivery process.

(4) Reliability in keeping promises and rules.

The values are closely grouped, the highest loading being “Freedom from doubt/risk during the service delivery process” (0.808) and the lowest, “Maintaining privacy & security for customers” (0.789).

4.5.2 CRM Effectiveness and Success

Based on the literature, four factors were identified to represent CRM effectiveness and CRM success, namely: Transaction Quality, Relationship Quality, Customer Satisfaction and Customer Retention. To validate the constructs, the items included were submitted to factor analysis. The results of this factor analysis are reported below.

4.5.2.1 Bartlett's Test of Sphericity

The 16 questions representing Transaction Quality, Relationship Quality, Customer Satisfaction and Customer Retention were submitted to factor analysis. The

results of Exploratory Factor Analysis (EFA) produced a four factor solution that accounted for 94.134% of the variance extracted. The output for Bartlett's Test of Sphericity (BTS) was large at 4450.933, and the associated significance value was very small (p=0.00). This shows that the data were appropriate for factor analysis (Snedecor & Cochran, 1989).

4.5.2.2 Kaiser-Meyer-Olkin Measure of Sampling Adequacy

The Kaiser-Meyer-Olkin (KMO) for measuring sample adequacy (MSA) gives the computed KMO as 0.943, which is adequate, and above the acceptable level (Snedecor & Cochran, 1989) (see Table 4.20).

Table 4.20: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.876
Bartlett's Test of Sphericity	Approx. Chi-Square	4450.933
	Df	120
	Sig.	0.000

Since the previous conditions were met, it was concluded that factor analysis was suitable for this data set, so the procedures for factor analysis were completed.

4.5.2.3 Results of the Principal Component Analysis Extraction Process

The factor extraction outputs using Principal Component Analysis (PCA) are provided in Table 4.21. It should be mentioned that an eigenvalue of 1.0 was used as the cut-off point in deciding the number of factors (Hair et al., 2012).

Table 4.21: Principal Component Analysis Extraction Results

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.799	61.242	61.242	9.799	61.242	61.242	3.863	24.142	24.142
2	2.083	13.017	74.259	2.083	13.017	74.259	3.785	23.655	47.797
3	1.919	11.993	86.253	1.919	11.993	86.253	3.746	23.415	71.212
4	1.261	7.882	94.134	1.261	7.882	94.134	3.668	22.923	94.134
Extraction Method: Principal Component Analysis.									

4.5.2.4 Extraction Method: Principal Component Analysis

An initial (un-rotated) solution identified 16 items and four variables with eigenvalues of more than one, accounting for 94.134% of the variance (see Table 4.21). Table 4.22 confirms all 16 items score communalities that range from 0.971 to 0.895. Therefore, it can be concluded that a degree of confidence in the factor solution was achieved.

Table 4.22: Communalities

	Initial	Extraction
O1	1.000	0.910
O2	1.000	0.948
O3	1.000	0.947
O4	1.000	0.968
P1	1.000	0.912
P2	1.000	0.949
P3	1.000	0.895
P4	1.000	0.950
N1	1.000	0.919
N2	1.000	0.938
N3	1.000	0.935
N4	1.000	0.938
Q1	1.000	0.965
Q2	1.000	0.958
Q3	1.000	0.959
Q4	1.000	0.971
Extraction Method: Principal Component Analysis.		

4.5.2.5 Factor Rotation and Factor Loading

Since the four chosen variables were found satisfactory, a loading of all the questions within the four variables was checked. The Varimax technique for rotated component analysis was used, with a cut-off point for interpreting the factors at 0.50 or greater (Snedecor & Cochran, 1989). The results are summarized in Table 4.23.

Table 4.23: Rotated Component Matrix

	Component			
	1	2	3	4
O1	0.875			
O2	0.910			
O3	0.921			
O4	0.925			
P1		0.896		
P2		0.900		
P3		0.871		
P4		0.912		
N1				0.865
N2				0.863
N3				0.849
N4				0.867
Q1			0.871	
Q2			0.873	
Q3			0.866	
Q4			0.874	
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.[a]				
a. Rotation converged in 5 iterations.				

All questions were loaded onto the variables for which they were designed. Factor loadings were all higher than 0.60 so that each item loaded higher on its associated construct than on any other variable. According to Hair et al. (2012), a factor loading higher than 0.35 is considered statistically significant at an alpha level of 0.05. This is supported by the discriminant validity of the measurement.

4.5.2.6 Factor Naming and Interpretation Process

The interpretation of the four factor solution was accomplished by relating it to the theoretical concepts of marketing. The four variables can be described as follows.

Factor 1 consists of four items and fits very well with ‘Transaction Quality’. This factor comprises the following items

(1) Personalized transactions & services offered to each customer.

(2) Supporting efficient and speedy transactions with less processing time.

(3) Refining the billing system & credit control.

(4) Identifying effectively the patterns and trends of customers' needs.

The values are closely grouped, the highest loading being ‘Identifying effectively the patterns and trends of customers' needs’ (0.925) and the lowest, “Personalized transactions & services offered to each customer” (0.875).

The second variable consists of four items. This factor represents the participants’ opinions regarding ‘Relationship Quality’. It covers the following items:

(1) Personalized quality services at every customer contact point.

(2) Improving customer services.

(3) Increasing knowledge of customer needs.

(4) Developing a continuous relationship with customers.

The values are closely grouped, the highest loading being “Developing a continuous relationship with customers” (0.912) and the lowest, “Increasing knowledge of customer needs” (0.871).

The third variable contains four items. This factor represents the participants’ opinions regarding ‘Customer Retention’. It covers the following items:

(1) CRM implementation helping to retain existing customers.

(2) CRM implementation providing a competitive advantage.

(3) CRM implementation increasing customer loyalty.

(4) CRM helping to achieving a long-term relationship with customers.

The values are closely grouped, the highest loading being “CRM helping to achieve a long-term relationship with customers” (0.874) and the lowest, “CRM implementation increases customer loyalty” (0.866).

The fourth variable contains four items. This factor represents the participants’ opinions regarding ‘Customer Satisfaction’. It covers the following items:

(1) CRM implementation increasing customer satisfaction.

(2) CRM implementation improving satisfaction with the transaction.

(3) CRM implementation decreasing customer complaints.

(4) CRM implementation improving responses to customer queries.

The values are closely grouped, the highest loading being “CRM implementation improving responses to customer queries” (0.867) and the lowest, “CRM implementation decreasing customer complaints” (0.849).

Table 4.24 summarizes the reliability analysis of the four items of each of the constructs under study, showing their reliability and statistical appropriateness for the next phase of the analysis – the hypotheses and model testing.

Table 4.24: Reliability Analysis of the Main Constructs in the Study

Basic Variable	Total Number of Items	Cronbach Alpha
Top Management Support	4	0.966
Clear CRM strategy	4	0.969
CRM Benchmarking	4	0.905
Trust	4	0.935
CRM Training	4	0.980
Organization Culture	4	0.974
IT Platform	4	0.972
Data Mining	4	0.975
Knowledge Management	4	0.971
Transaction Quality	4	0.975
Relationship Quality	4	0.979
Customer Satisfaction	4	0.973
Customer Retention	4	0.987

4.6 Hypotheses and Model Testing

4.6.1 Introduction

Once the fitness of the data had passed the various tests reported above, it generated enough confidence to proceed to hypotheses and model testing to determine the ultimate results of the research. Research filtered and validated the data that were obtained from the field study and also introduced an exploratory analysis of the Critical Success Factors (CSFs) of the CRM implementation and CRM consequences at ADNOC. This section goes on to describe the next and main step of the data analysis, namely, hypothesis testing. SPSS/AMOS version 25 was used to analyze the collected data. As declared in the first chapter, the main aims of the thesis were to identify the critical success factors of CRM implementation, to identify the marketing activities

that are affected by CRM use and to develop and clarify a conceptual model integrating CRM's CSF constructs, and their consequences for customer retention and customer satisfaction. This being the case, as discussed in Chapter 1, the present study had to address three main questions. First, what are the critical success factors (CSFs) for a successful CRM implementation in the case of the UAE Oil and Gas industry (ADNOC)? Second, what are the effects of CRM CSFs on CRM effectiveness? Third, what are the effects of CRM implementation on customer retention and customer satisfaction? The testing of the hypotheses developed from these initial questions; considerable input from the literature helped to answer these questions through determining the validity or otherwise of the research hypotheses.

4.6.1.1 Measurement Models

It will be recalled that, as a precursor to examining the full model, an exploratory factor analysis (EFA) was carried out in the first section of this chapter using principal components analysis with Varimax rotation, as recommended by Anderson and Gerbing (1988). For the CRM critical success factors, the outputs of Exploratory Factor Analysis (EFA) produced a nine-factor solution that accounted for 93.25% of the variance extracted (see above in Chapter 4). For the CRM consequences, the results of Exploratory Factor Analysis (EFA) yielded a four factor solution that accounted for 94.13% of the variance initially extracted. All the questions loaded heavily on their allocated constructs.

4.6.1.1.1 Confirmatory Factor Analysis (CFA)

Before testing the model that included all the variables together, from a methodological point of view it should be mentioned that separate examinations of all the variables were conducted (the measurement model), in order to assess the elements

used in their measurement. After setting up the different measures, a confirmatory factor analysis (CFA) was carried out. This study uses both a structural model and a measurement model (Hair et al., 2017).

4.6.1.1.1.1 Confirmatory Factor Analysis for the CRM Critical Success Factors

First, as recommended by Bollen (1989), a null model was tested against a series of models. In these models no variables were assigned to underlie the measured constructs, the correlations between the observed elements were zero and the variances of the measured variables were not restricted.

First, a one factor model was used, suggesting that the observed variables represented a single value dimension. Figure 4.1 shows the one factor model.

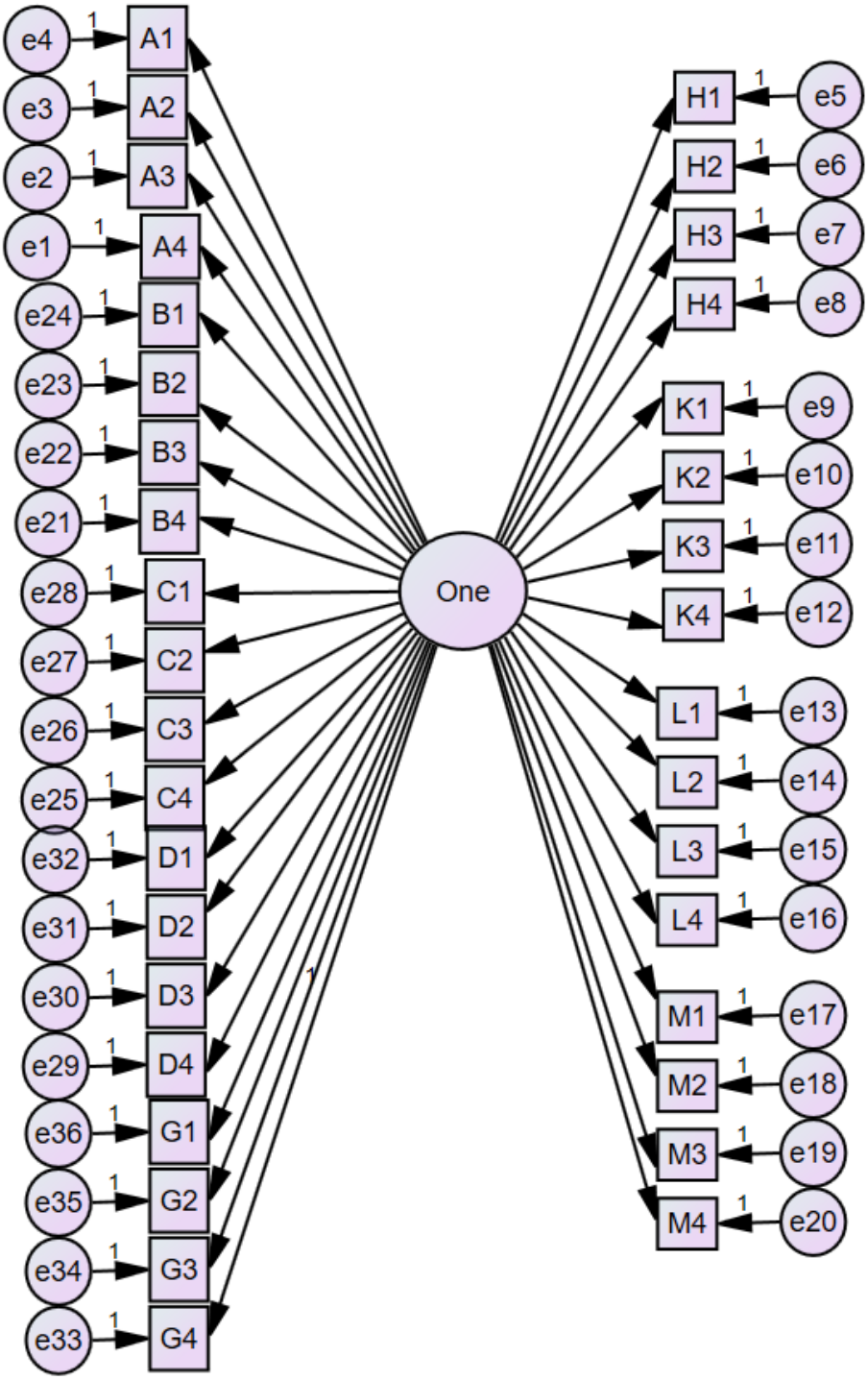

Figure 4.1: One Factor Model

Second, a nine factor model whose dimensions were as proposed in an earlier discussion was deployed; it is depicted in Figure 4.2.

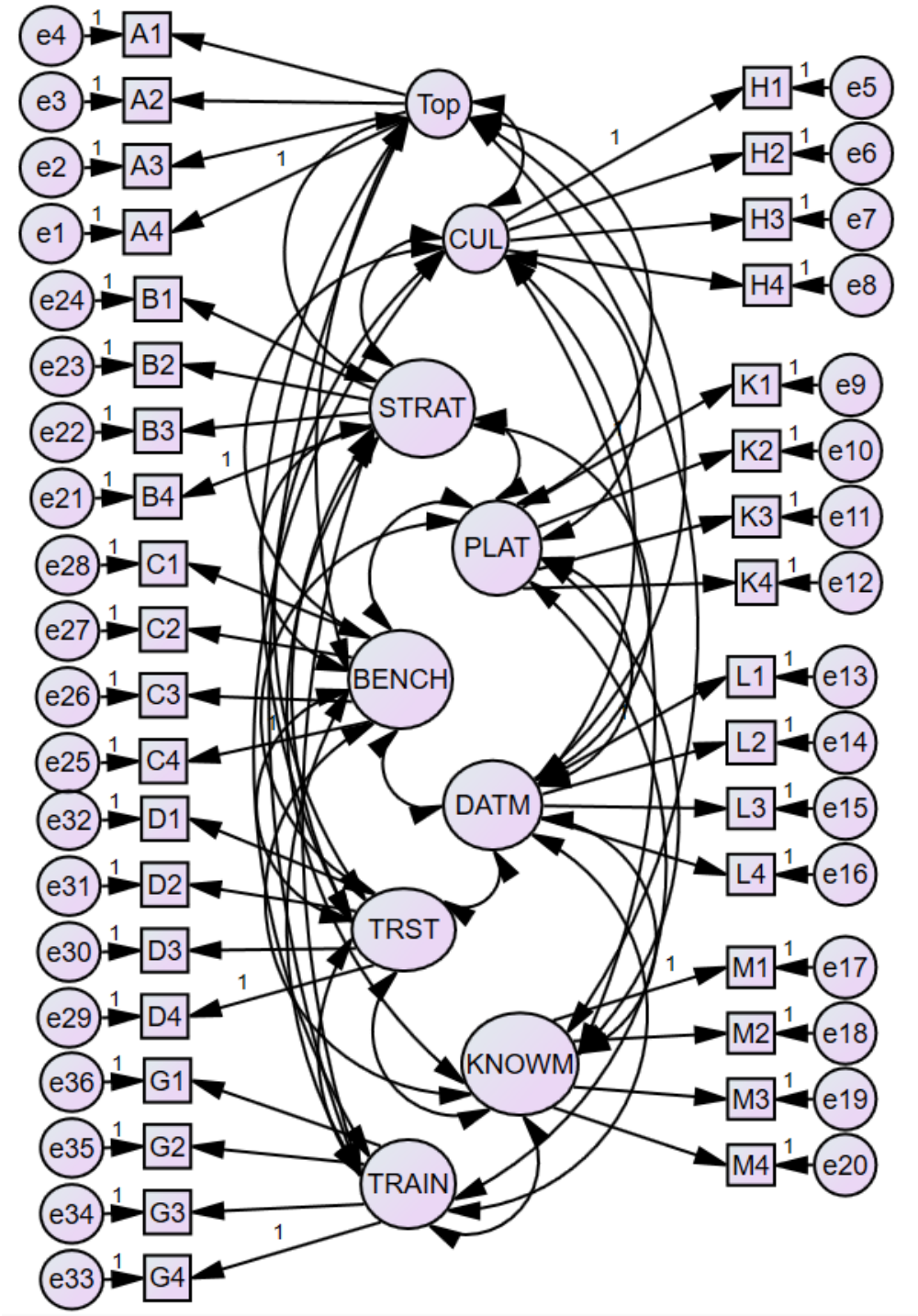

Figure 4.2: Nine Factor Model

Finally, a three factor model, featuring Top Management Support, Developing & Communicating a Clear CRM strategy and CRM Benchmarking, was suggested to represent a single dimension (Management Factors) (Figure 4.3), rather than the three

dimensions above. Trust, CRM Training and Organization Culture were suggested to represent a single dimension (Human factors) rather than three dimensions and an IT platform, Data Mining and Knowledge Management were suggested to represent a single dimension (Technology Factors) rather than three dimensions.

The results, shown in Table 4.25, support the suggested three factor solution, comprising the Management Factors, Human Factors and Technology Factors. Not only did this model have the lowest x^2 and highest adjusted goodness of fit index, but also the highest CFI and the lowest RMSEA.

Table 4.25: Comparative Analysis of Models of Various Dimensionalities

Model	X^2	DF	GFI	AGFI	CFI	RMSEA
Null	10941.90	630	0.113	0.062	0.000	0.323
One Factor	8007.69	594	0.274	0.185	0.281	0.282
Three Factors	96.736	857	0.917	0.820	0.980	0.09
Nine Factors	2098.76	558	0.614	0.539	0.851	0.133
Statistic			Suggested			
Goodness-of- fit index (GFI)			≥0.90			
Adjusted goodness-of- fit index (AGFI)			≥0.80			
Comparative fit index (CFI)			≥0.90			
Root mean square residual (RMSEA)			≤0.10			

Therefore, in conceptualizing the management factors, the model was treated as a second-order construct that consisted of three first-order components: Top Management Support, clear CRM strategy and CRM Benchmarking, were each measured by four items. Similarly, in conceptualizing the Human Factors construct, it was treated as a second-order construct that consisted of three first-order components: Trust, CRM Training and Organizational Culture were each measured by four items. Finally, the Technology factors construct was treated as a second-order construct that consisted of three first-order components – IT platform, Data Mining and Knowledge Management – each measured by four items.

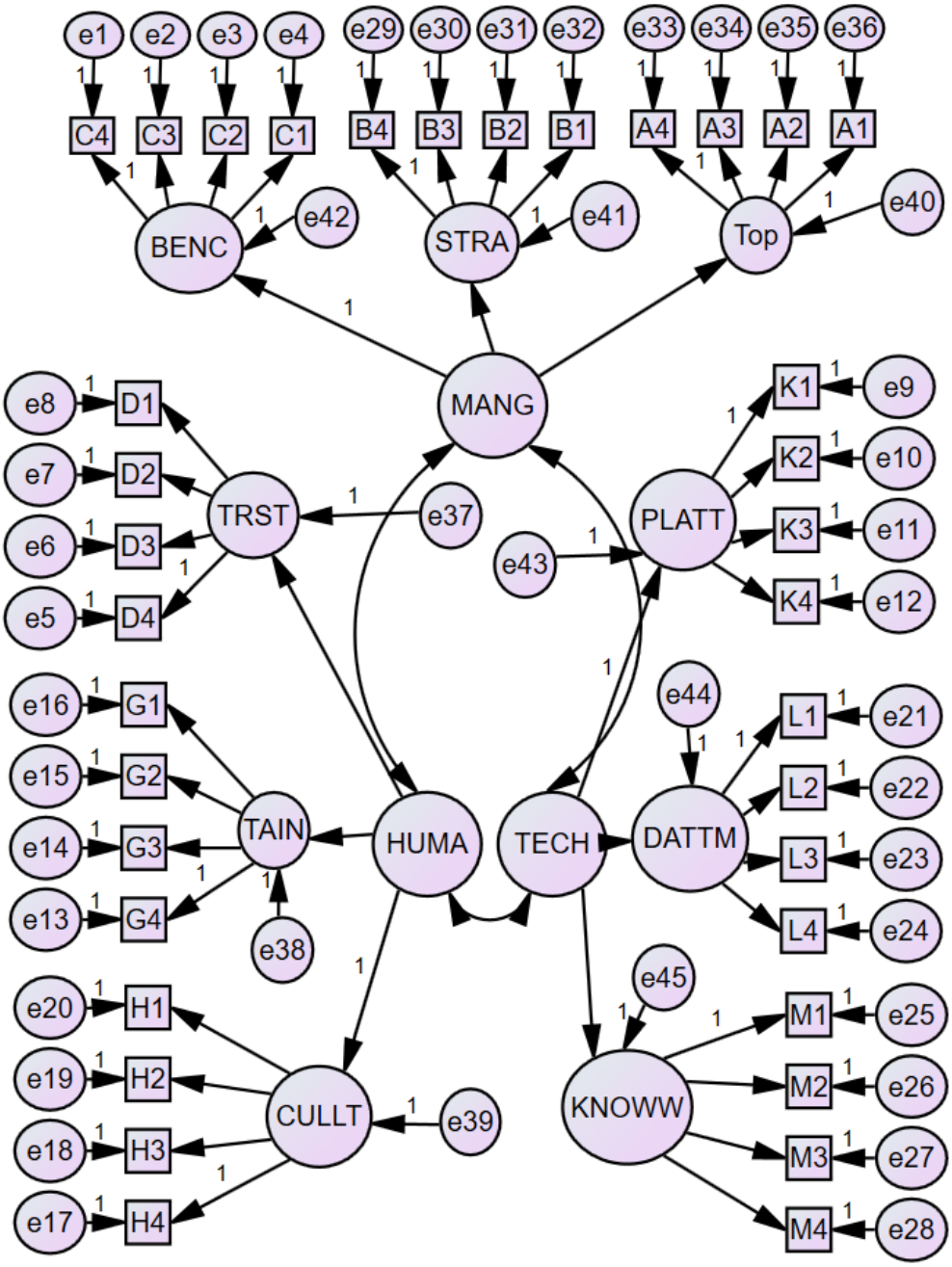

Figure 4.3: Three Factor Model

Both Cronbach's Alpha and the Composite Reliability Index can take any value between 0 and 1, with values between 0.7 and 0.9 considered as acceptable (Hair et al., 2012). Table 4.26 provides a summary of values for Cronbach's Alpha, the Composite Reliability Index and Average Variance calculated for all the measurement

model constructs. The values confirm that all the measurement constructs are both valid and reliable and can be used for path analysis.

Table 4.26: CRM Critical Success Factors Confirmatory Factor Analysis Results

Construct	Scale	First Level	Second Level	Cronbach's Alpha	CR	AVE
Management Factors				0.917	0.711	0.671
	Top Management Support	0.652		0.966	0.932	0.877
		A0.1	0.781			
		A0.2	0.935			
		A0.3	0.824			
		A0.4	0.968			
	CRM strategy	0.677		0.969	0.936	0.886
		B0.1	0.904			
		B0.2	0.891			
		B0.3	0.919			
		B0.4	0.831			
	CRM Benchmarking	0.684		0.905	0.959	0.924
		C0.1	0.929			
		C0.2	0.891			
		C0.3	0.968			
		C0.4	0.910			
Human Factors				0.948	0.779	0.730
	Trust	0.847		0.935	0.953	0.913
		E0.1	0.925			
		E0.2	0.887			
		E0.3	0.919			
		E0.4	0.923			
	Training	0.570		0.980	0.959	0.932
		F0.1	0.855			
		F0.2	0.931			

Table 4.26: CRM Critical Success Factors Confirmatory Factor Analysis Results (Cont'd)

Construct	Scale	First Level	Second Level	Cronbach's Alpha	CR	AVE
		F0.3	0.942			
		F0.4	0.964			
	Org Culture	0.774		0.974	0.947	0.903
		G0.1	0.921			
		G0.2	0.902			
		G0.3	0.896			
		G0.4	0.896			
IT Factors				0.919	0.715	0.674
	IT Platform	0.701		0.972	0.944	0.897
		H0.1	0.835			
		H0.2	0.976			
		H0.3	0.896			
		H0.4	0.883			
	Data Mining	0.620		0.975	0.948	0.905
		I0.1	0.912			
		I0.2	0.933			
		I0.3	0.910			
		I0.4	0.868			
	Knowledge Management	0.702		0.971	0.941	0.894
		J0.1	0.881			
		J0.2	0.885			
		J0.3	0.894			
		J0.4	0.917			

4.6.1.1.1.2 Confirmatory Factor Analysis for CRM Effectiveness and Success

Similarly, confirmatory factor analysis (CFA) was conducted to verify the theorized construct of the observed variables of the CRM effectiveness constructs (relationship quality and transaction quality) and CRM success constructs (Customer

satisfaction and customer retention). Figure 4.4 shows the main constructs. The results, shown in Table 4.26, support the two proposed constructs, comprising the CRM effectiveness and CRM success constructs (customer satisfaction and customer retention).

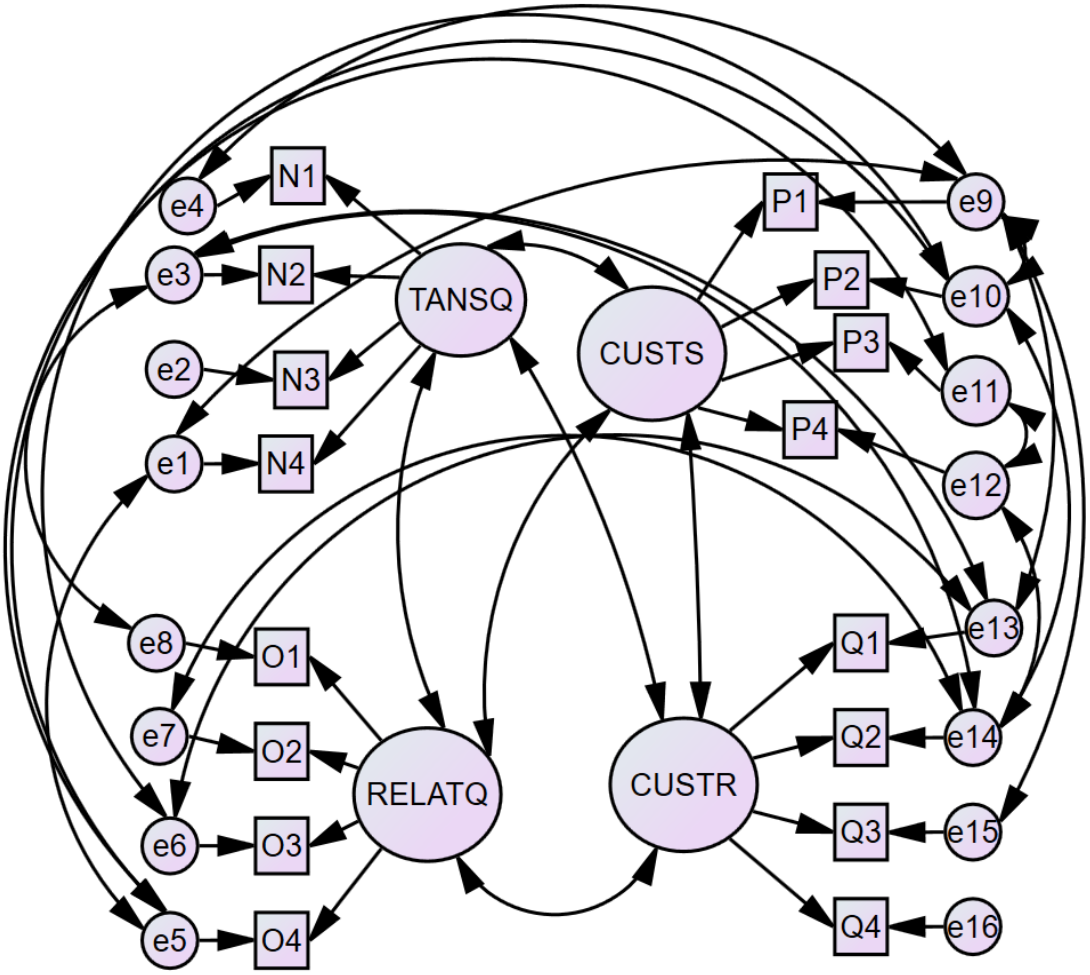

Figure 4.4: CRM Effectiveness and Success

As was the case with the CRM Critical Success Factors, it was decided that any item with factor loading and R^2 of less than 0.5 would be removed. All the items loadings on the main constructs were high. All the item loadings and R^2 were sound and high. The outputs of the measurement model, which are the indicators of the latent variable (Bian, 2011) of Figure 4.4, are displayed in Tables 4.25 and 4.28. All the item

loadings were adequately high and the high values of Cronbach's Alpha, Composite Reliability (CR) and Average Variance Extracted (AVE) reflected the high internal consistency and reliability of the main construct.

Table 4.27: The Fitness Indices for CRM Effectiveness and Success

Statistic	Index value Obtained	Suggested Acceptable Level
Chi-square significance	0.001	>0.01
CMIN/DF	1.598	<3
GFI	0.913	>0.90
AGFI	0.855	>0.80
NFI	0.972	>0.90
TLI	0.84	>0.95
CFI	0.989	>0.90
RMSEA	0.062	<0.10

The fitness indices are displayed in Table 4.27. Although Chi-square significance = 0.001, the other indices show that the model has a good fit and can be associated with the cut off points suggested by Bentler (1990), Hu and Bentler (1995) and Joreskog and Sorbom (1982). For example, the Adjusted goodness-of-fit index (AGFI) = 0.805 (≥0.80), the Comparative fit index (CFI) = 0.974 (≥0.90), the CMIN/DF = 2.191 (<3), NFI = 0.954 (>0.95) and TLI=0.970 (>0.95).

Table 4.28: Results of CRM Effectiveness and Success Confirmatory Factor Analysis Results

Construct	Scale	Factor Loading	Cronbach's Alpha	CR	AVE
Transaction Quality	N0.1	0.874	0.975	0.975	0.907
	N0.2	0.919			
	N0.3	0.917			
	N0.4	0.915			
Relationship Quality	O0.1	0.872	0.979	0.980	0.925
	O0.2	0.921			
	O0.3	0.935			
	O0.4	0.970			
Customer Satisfaction	P0.1	0.861	0.973	0.970	0.890
	P0.2	0.952			
	P0.3	0.822			
	P0.4	0.925			
Customer Retention	Q0.1	0.952	0.987	0.987	0.949
	Q2	0.933			
	Q0.3	0.944			
	Q0.4	0.966			

4.6.1.1.2 Convergent Validity Analysis

Convergent validity refers to the extent to which the indicators of a specific variable congregate or share a high level of variance (Hair et al., 2017). Convergent validity should meet three criteria (Fornell & Larcker 1981; Liang & Wang 2004; Hair et al., 2017; Hooper et al., 2008). First, factor loading for an item should be at least 0.6 and significant. Second, construct reliability should be a minimum of 0.60 (See Tables 4.26 and 4.28). Finally, average variance extracted (AVE) for a construct should be greater than 0.5. Table 4.29 summarizes the outputs of the convergent validity analysis. Note that all of the scales had an acceptable convergent validity.

Table 4.29: Convergent Validity Results

Constructs	Composite Reliability	AVE
Management Factors	0.711	0.671
Human Factors	0.779	0.730
Technology Factors	0.715	0.674
Transaction Quality	0.975	0.907
Relationship Quality	0.980	0.925
Customer Satisfaction	0.970	0.890
Customer Retention	0.987	0.949

4.6.1.1.3 Discriminant Validity Analysis

Discriminant validity is the uniqueness of two theoretically related constructs (Hair et al., 2017). This means that each variable should share more variance with its indicators than it shares with other variables. Discriminant validity is achieved when the variances extracted by the variables (AVE) from each construct are greater than the correlations. As seen in Table 4.30, all the latent variables had the squared root of AVE higher than their inter-correlation estimates with other corresponding variables (the factor scores as single item indicators were used to calculate the correlations between constructs). This implied that the constructs were empirically distinct (Fornell & Larcker, 1981). For example, management factors' squared root of AVE is 0.819, greater than any squared correlation in the other constructs, i.e. 0.702, 0.568, 0.490, 0.445, 0.445 and 0.440 This means that management factors as a construct is empirically distinct.

Table 4.30: Discriminant Validity Results

	1	2	3	4	5	6	7
1- Management Factors	0.819						
2- Humam Factors	0.702**	0.854					
3- Technology Factors	0.568**	0.726**	0.820				
4- Transaction Quality	0.490**	0.615**	0.565**	0.952			
5- Relationship Quality	0.445**	0.604**	0.585**	0.485**	0.961		
6-Customer Satisfaction	0.445**	0.577**	0.604**	0.540**	0.459**	0.943	
7- Customer Retention	0.440**	0.543**	0.546**	0.661**	0.537**	0.517**	0.974
** Correlation is significant at the 0.01 level (2-tailed). Note: Diagonal values are the squared roots of AVE; off-diagonal values are the estimates of inter-correlation between the latent constructs.							

4.6.1.2 Hypotheses Testing

Path analysis was used to test the model and the research hypotheses. It is a multivariate analytical approach for practically examining sets of relationships in the form of linear causal models (Myers, 1990; Pallant, 2013). The purpose of path analysis is to examine the direct and indirect relationships of each hypothesis on the basis of knowledge and theoretical concepts (Menard, 1995). Path analysis does not set up causal relations with certainty, but is used for quantitative interpretations of potential causal relationships (Kline, 2010). A path diagram shows the proposed causes and effects among the constructs in the model. Arrows are used to represent the hypothesized relationships and the directions of influence in the model. When specifying a path model, a distinction is drawn between exogenous variables and endogenous variables. The influence of exogenous variables is outside the model,

while endogenous variables have influence within the model. In this case, CRM critical success factors are treated as the only exogenous variables, and CRM effectiveness and success are the endogenous variables (see Figure 4.5).

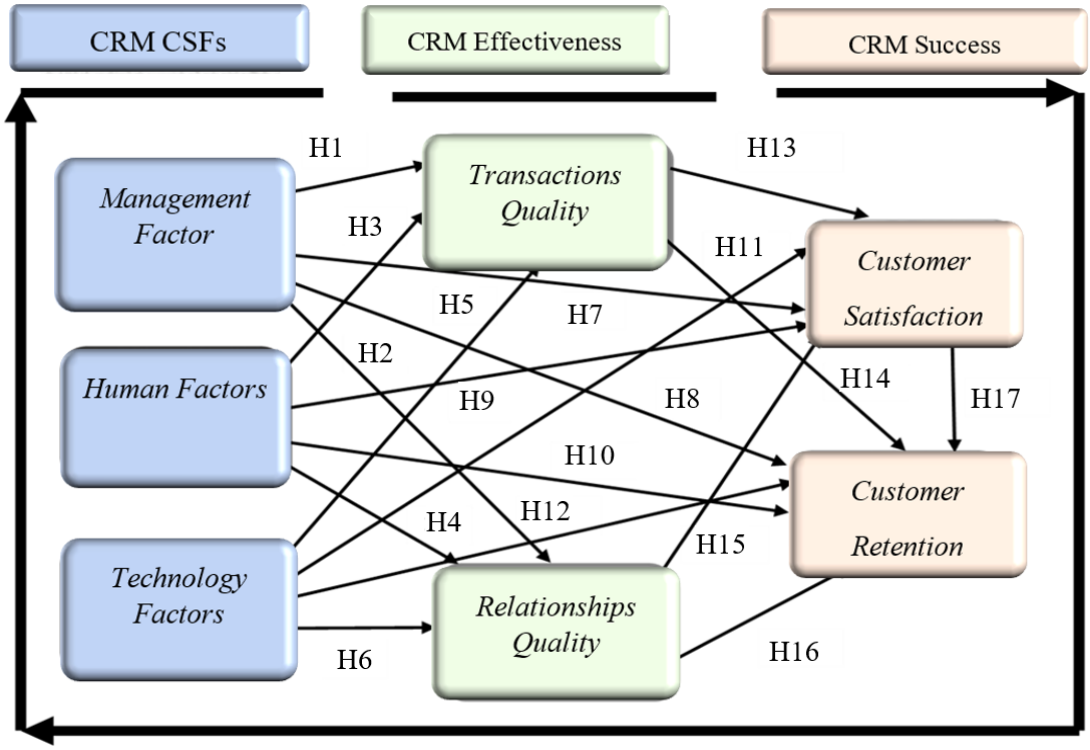

Figure 4.5: Conceptual Model

Figure 4.5 presents the suggested structural model that reflects the relationships between the constructs. The value of the path coefficient associated with each path denotes the strength of each linear effect. The structural equation-modelling package, AMOS, was used to examine the hypotheses presented in the model. As noted above, the study used the factor scores as single item indicators and performed a path analysis, applying the maximum likelihood estimates (MLE) method, following the guidelines suggested by Kline (2010).

4.6.1.2.1 Structural-model testing

Finally, given that the aim of the current research was to examine the hypothesized causal relationships among the variables of the model, the structural equation-modeling package, AMOS 25 was used (see Figure 4.6). The factor means were employed as single item indicators to perform path analysis, applying the maximum likelihood estimates (MLE) method, following the guidelines suggested by Kline (2010). A more detailed analysis of the results and measures for model fit is reported in Table 4.32.

To use the MLE method for assessing the model, the variables must meet the condition of multivariate normality (Leung, 2015). Therefore, tests of normality, i.e. skewness and kurtosis, were conducted for all the variables. Table 4.31 showed no deviation from normality since most of the outputs were close to one (i.e. +/- 1) (Kline, 2010; Leung, 2015). Thus, once normality was confirmed for all the variables, it was decided to carry on with the use of the maximum likelihood estimation (MLE) method to estimate the model. The reliability of the constructs was assessed by item-to-total correlations and Cronbach's alpha reliability coefficient (see the reliability analysis presented initially) (Nunnally, 1978).

Furthermore, as discussed earlier in this chapter, to assess the presence of multivariate outliers, the Mahalanobis distance was analyzed using AMOS to define any multivariate outliers within the data. The Mahalanobis distance is a metric for estimating how far each reply is from the center of all the variables' distributions (i.e. the centroid in multivariate space) (Mahalanobis, 1927). The Mahalanobis distance test identified two cases as outliers (Table 4.2).

The Mahalanobis distance was compared with Chi-Square distribution with degrees of freedom equal to the number of independent variables at a significance level of $p<0.001$. Two cases in total were found to exhibit the presence of multivariate outliers (see Table 4.2) and this avoided any bias in the subsequent statistical analysis.

Table 4.31: Assessment of Normality

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Management	158	4.0981	0.73082	-0.627	0.193	0.132	0.384
Human	158	4.0206	0.61853	-0.856	0.193	0.172	0.384
Technology	158	3.9921	0.53420	-0.256	0.193	-0.350	0.384
Transaction Quality	158	3.9161	0.75535	-0.841	0.193	0.906	0.384
Relationship Quality	158	4.2041	0.71597	-0.517	0.193	-0.249	0.384
Customer Satisfaction	158	4.1741	0.69042	-0.651	0.193	0.463	0.384
Customer Retention	158	4.1851	0.75617	-0.209	0.193	0.063	0.384
Valid N (listwise)	158						

The current study model explains 61.3% of customer retention, 53.9% of customer satisfaction, 51.2% of transaction quality and 51.1% of relationship quality, showing that it has a significant prediction capacity. The results of testing the hypotheses from H1 to H17 using the MLE-SEM approach are illustrated in Figure 4.6.

Since there are no complete indicators of fit, a diversity of standards is provided together with proposed recommendations. The X^2 test was not statistically significant at the 5% level (probability level= 0.102), which reflected a suitable fit. The other fit

indicators, along with the squared multiple correlations, indicated a good overall fit with the data (GFI = 0.995, CFI = 0.997, AGFI=0.886, TLI = 0.939, RMSEA = 0.093, RMR=0.009). Since these indices support the strength of the general fit of the model to the data, it was decided that the structural model was a suitable ground for hypothesis testing.

Table 4.32: Standardized Regression Weights

Predictor variables	Criterion Variables	Hypothesized relationship	Standardized coefficient	R^{2a}
Management Factors Human Factors Technology Factors	Transaction Quality Transaction Quality Transaction Quality	H1 H3 H5	0.087^{ns} 0.380 *** 0.240 ***	0.809
Management Factors	Relationship Quality	H2	0.004 ^{ns}	0.631
Human Factors	Relationship Quality	H4	0.377***	
Technology Factors	Relationship Quality	H6	0.309***	
Management Factors	Customer Satisfaction	H7	0.013 ^{ns}	
Human Factors	Customer Satisfaction	H9	0.165**	
Technology Factors	Customer Satisfaction	H11	0.314***	
Transaction Quality	Customer Satisfaction	H13	0.226 ***	
Relationship Quality	Customer Satisfaction	H15	0.061 ^{ns}	
Management Factors	Customer Retention	H8	0.038 ^{ns}	
Human Factors	Customer Retention	H10	-0.015 ^{ns}	
Technology Factors	Customer Retention	H12	0.097 ^{ns}	
Transaction Quality	Customer Retention	H14	0.433***	
Relationship Quality	Customer Retention	H16	0.209 ***	
Customer Satisfaction	Customer Retention	H17	0.123 ***	
Statistics			Suggested	Obtained
Chi-Square Significance			≥0.01	0.102
Goodness-of-fit index (GFI)			≥0.90	0.995
Adjusted Goodness-of-fit index (AGFI)			≥0.80	0.866
Comparative fit index (CFI)			≥0.90	0.997
The Tucker-Lewis coefficient (TLI)			≥0.90	0.939
Root Mean Square Residual (RMR)			≤0.05	0.009
Root mean square residual (RMSEA)			≤0.10	0.093

**P<0.05, ***P<0.01

To test the 17 hypotheses, a structural model was used. The results give support to most of the hypotheses. Table 4.32 shows the estimated standardized parameters for the causal paths. First, apart from the management factors (H1) (Standardized Estimate=-0.087, P>0.05), both human factors (H3) (Standardized Estimate=-0.380, P<0.01) and Technology factors (H5) (Standardized Estimate=-0.240, P<0.01) positively affect the *transaction quality*. Therefore, Hypotheses 3 and 5 were supported but Hypothesis 1 was rejected.

Similarly, Table 4.32 shows that, apart from the management factors (H2) (Standardized Estimate=-0.004, P>0.05), both human factors (H4) (Standardized Estimate=-0.377, P<0.01) and Technology factors (H6) (Standardized Estimate=-0.309, P<0.01) positively affect the *Relationship Quality*. Therefore, Hypotheses 4 and 6 were supported whereas Hypothesis 2 was rejected.

Regarding Customer Satisfaction, both Management Factors (H7) (Standardized Estimate=0.013, P>0.05) and Relationship Quality (H15) (Standardized Estimate=0.061, P>0.05), were suggested to have no significant effect on it. However, Human Factors (H9) (Standardized Estimate=0.165, P<0.05), Technology Factors (H11) (Standardized Estimate=0.314, P<0.01) and Transaction Quality (H13) (Standardized Estimate=0.226, P<0.01) were found to have a positive impact on customer satisfaction. Therefore, Hypotheses 9, 11 and 13 were supported though Hypotheses 7 and 15 were rejected.

Finally, with respect to Customer Retention, it was found to be significantly and positively affected by three of the six suggested variables, namely Transaction Quality (H14) (Standardized Estimate=0.433, P<0.01), Relationship Quality (H16) (Standardized Estimate=0.209, P<0.01) and Customer Satisfaction (H17)

(Standardized Estimate=0.123, P<0.01), supporting Hypotheses H14, H16 and H17. However, the results did not give support to the positive effect on Customer Retention of the Management Factors (H8) (Standardized Estimate=0.038, P>0.05), the Human Factors (H10) (Standardized Estimate=-0.015, P>0.05) or the Technology Factors (H12) (Standardized Estimate=0.097, P>0.05) (Figure 4.6). Therefore, Hypotheses H8, H10 and H12 were rejected.

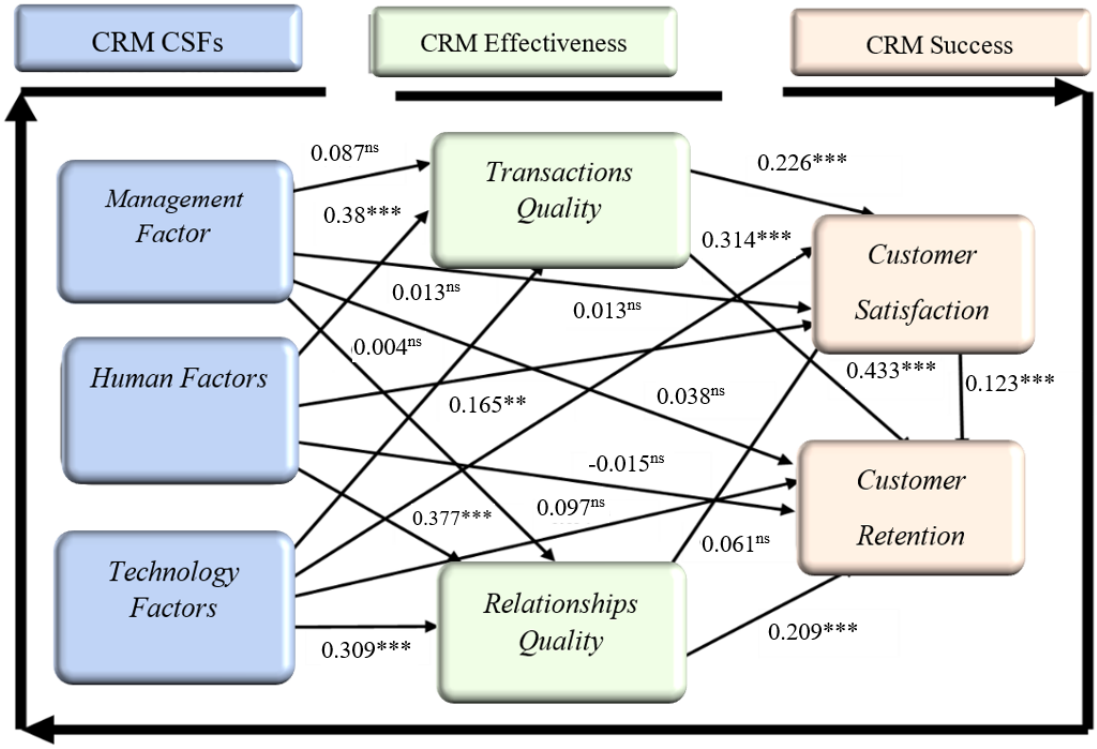

Figure 4.6: Tested Model

The results from the path analysis show that, of all the independent variables, Human Factors were the key driver in the formation of both Transaction Quality and Relationship Quality. The Human Factors have the strongest effect on Transaction Quality (β = 0.380) and Relationship Quality (β = 0.377). This supports Eid's view that the intention for CRM is to help businesses use technology and human resources to gain insight into the behavior of customers and the value of these customers (Eid, 2007).

Bearing in mind that the causal effects of the CRM critical success factors on CRM success may be either direct or indirect, i.e, mediated via the effects of the CRM effectiveness dimensions, or both, the total causal effects were calculated. The total effects are the sum of the direct effect and all the indirect effects. Table 4.33 shows the direct, indirect and total effects of the Customer Relationship Management CSFs.

Table 4.33: Direct, Indirect and Total Effect

Criterion Variable	Predictor variables	Direct Effect	Indirect Effect	Total Effect
Transactions Quality	Management Factors	0.087	0.000	0.087
	Human Factors	0.380	0.000	0.380
	Technology Factors	0.240	0.000	0.240
Relationships Quality	Management Factors	0.004	0.000	0.004
	Human Factors	0.377	0.000	0.377
	Technology Factors	0.309	0.000	0.309
Customer Satisfaction	Management Factors	0.013	0.020	0.033
	Human Factors	0.165	0.109	0.274
	Technology Factors	0.314	0.073	0.387
	Transaction Quality	0.226	0.000	0.226
	Relationship Quality	0.061	0.000	0.061
Customer Retention	Management Factors	0.038	0.043	0.081
	Human Factors	-0.015	0.277	0.262
	Technology Factors	0.097	0.217	0.314
	Transaction Quality	0.433	0.000	0.433
	Relationship Quality	0.209	0.000	0.209
	Customer Satisfaction	0.123	0.000	0.123

Following suggestions by Hair et al (2017), and Zhao et al. (2010), this study tested the mediating role of CRM effectiveness in the relationship between the proposed Customer Relationship Management CSFs and CRM success. As shown in Table 4.33, our findings confirmed that CRM Effectiveness mediates the relationship between Management Factors (Direct Effect= 0.013, Total Effect= 0.033, $P<0.05$), Human factors (Direct Effect= 0.165, Total Effect= 0.274, $P<0.01$), Technology

Factors (Direct Effect= 0.314, Total Effect= 0.387, P<0.01) and Customer Satisfaction. Similarly, CRM Effectiveness mediates the relationship between Management Factors (Direct Effect= 0.038, Total Effect = 0.081, P<0.05), Human Factors (Direct Effect = -0.015, Total Effect = 0.262, P<0.01), Technology Factors (Direct Effect = 0.097, Total Effect = 0.314, P<0.01) and Customer Retention. Therefore, Hypotheses 7, 8, 10 and 12 were partially supported.

4.7 Conclusion

Chapter 4 of the present study, following the research process and the collection of data, presents an in-depth and extensive analysis of the data through a number of methods chosen to ensure rigor and the validity and reliability of the research. The chapter commences with an informed data screening process that was able to distinguish clean from unclean data and isolate the outliers in the clean data. This process started out with 169 responses and implemented robust research-backed cleaning measures to retain 158 of these. In line with guidance from Nunally (1978), an item-to-total computation was conducted for each of the variables, which returned a highly reliable result confirming the strong validity of the data set. The research next instituted a descriptive analysis of the data which enabled the research to demonstrate the key demographical elements of the research sample, useful in discussions based on the findings from the statistical analysis. The research examined the reliability of the constructs using analytical methods based on Cronbach's Alpha coefficient, which also returned coefficients much higher than the suggested Cronbach coefficient for reliability.

Having provided for the cleanness, reliability and validity of the data, the research next tested the model and the hypotheses. It was deemed necessary to

transcend descriptive and exploratory analysis and go more deeply into the inferential evidence of the data that would later allow the research to venture into a discussion of the findings with knowledge of the relationships of the variables as statistically demonstrated by the data. To this end, in an effort to determine the reliability of the model and the appropriate model on which to base further path analysis research, the research conducted a confirmatory factor test for the effects and successes of the CRM's CSFs.

This CFA for all variables was conducted, first, to validate the constructs at every stage and, second, to reduce the specific factors tested to a more general classification that could enrich the theoretical development of Customer Relationship Management. Regarding the CRM Critical Success factors, confirmatory factor analysis shows that there were three second-order variables. First Management Factors is a second-order construct that consists of three first-order components: Top Management Support, Developing & Communicating a clear CRM strategy and CRM Benchmarking, each measured by four items. Second, Human Factors is a second-order construct that consists of three first-order components: Trust, CRM Training and Organization Culture, each measured by four items. Finally, Technology Factors is a second-order construct that consists of three first-order components: the IT platform, Data Mining and Knowledge Management, each measured by four items.

Regarding CRM Effectiveness, confirmatory factor analysis shows that it includes two first-order constructs, namely, Transaction Quality and Relationship Quality, each measured by four items. Finally, with regard to CRM Success, confirmatory factor analysis shows that it includes two first-order constructs, Customer Satisfaction and Customer Retention, each measured by four items.

After obtaining the results of confirmatory factor analysis of each of the variables, the hypotheses of each stage were tested. A summary of the results of these tests is presented in Table 4.34.

Table 4.34: Results of Hypothesis Testing

Hypotheses	Results
H1. Management factors will have a positive effect on the Transaction quality.	Rejected
H2. Management factors will have a positive effect on the Relationship quality	Rejected
H3. Human factors will have a positive effect on the Transaction quality.	Supported
H4. Human factors will have a positive effect on the Relationship quality.	Supported
H5. Technology factors will have a positive effect on Transaction quality.	Supported
H6. Technology factors will have a positive effect on Relationship quality.	Supported
H7. Management factors will have a positive effect on Customer Satisfaction.	Partially Supported
H8. Management factors will have a positive effect on Customer Retention.	Partially Supported
H9. Human factors will have a positive impact on Customer Satisfaction.	Supported
H10. Human factors will have a positive impact on Customer Retention.	Partially Supported
H11. Technology factors will have a positive effect on Customer Satisfaction	Supported
H12. Technology factors will have a positive effect on Customer Retention.	Partially Supported
H13. CRM effectiveness Transaction Quality will have a positive effect on Customer Satisfaction.	Supported
H14. CRM effectiveness Transaction Quality will have a positive effect on Customer Retention.	Supported
H15. CRM effectiveness Relationship Quality will have a positive effect on Customer Satisfaction.	Rejected
H16. CRM effectiveness Relationship Quality will have a positive effect on Customer Retention.	Supported
H17. Customer Satisfaction will have a positive effect on Customer Retention.	Supported

Source: Analysis of Survey Data.

Chapter 5: Discussion of Findings

5.1 Introduction

This chapter of the research focuses on an in-depth elucidation of the statistical findings of the research and the meaning in context or in correlation with the literature and practice. This discussion of findings banks mainly on two things: first, the rigor of the process of developing and deploying the methodology in the study. This involved the informed development of a working methodology and robust data collection to support the methodology, together with the work done to ensure that sufficient data were gathered to satisfy the purpose of the research. Second, this discussion section depends heavily on the rigor of the statistical measures and approaches deployed to support the analysis of the data collected. The measures used various means to demonstrate the cleanness, validity and reliability of the set of data for the research before using the data for path analysis in measuring the strengths of the different relationships as hypothesized. Therefore, it can be confidently put forward that the statements in the study are factually justified and the findings may be correlated and triangulated with findings from previous research in pursuing divergence or convergence. Consequently, the study will rely on the findings and the ensuing discussion when it comes to draw factual conclusions. The discussion will cover each of the 17 hypotheses in light of the findings of the research and be related to evidence from the literature, as noted above.

5.2 Summary of the Key Research Findings

A number of findings became apparent on the successful deployment of the model and analysis of the data from it. These are presented for generic discussion. Among the statistical findings from the research, it was surprising to find that some of

the hypothesized relationships which seemed robust on the surface were not very strong and some were actually rejected. In this regard, one of the instantaneous hypothetical relationships that did not meet the statistical values for acceptance under path analysis regression was the impact of the management factor on transactional quality hypothesized in the research. The same applies to the impact of management factors on relationship quality, customer satisfaction and customer retention, none of which was supported. The regression scores of management factors on each of the other variables stood at 0.087, 0.004, 0.013 and 0.038 respectively. The understanding from the above findings on the management factors construct was that there was little to no direct connection between the management factors of CRM implementation and the mediating variables of CRM effectiveness or the dependent variables of CRM success. Another noteworthy point in this regard is that, while management factors had little effect on CRM effectiveness or little relationship to the same, whether directly or, worse, indirectly, they had some indirect impact on CRM successes, which supported the effect overall, thereby contributing to some form of partial effect of the former on the latter.

The human factors of CRM implementation, however, were noted as having the highest path effects with relationship and transactional quality essentially agreeing with evidence from Eid (2007) and Eid and El-Gohary (2014), among a host of others. As far as transaction quality was concerned, human factors were far above management and technological factors combined, registering a direct regression path effect of 0.380. Yet for relationship quality human factors scored most, with a strong regression value for direct path effect of 0.377. For the CRM success, human factors maintained a positive regression weight of 0.165 a little behind the other constructs in play, especially technological and transactional quality constructs. Human factor CSFs

for CRM also recorded an initial negative regression against a customer retention result of -0.015. However, when considering the indirect effect of human factors on customer retention through the mediating variables, a positive regression weight of 0.277 was attained, pushing the total effect to 0.262, ostensibly implying a partially positive correlation in the presence of a mediating variable.

From the evidence of the research, it was realized that technological factors generally maintained a positive path regression with the other variables, save for one of them, customer retention. As far as transactional quality was concerned, the CSFs of technology registered a direct relationship with a regression weight of 0.240. But things looked much more positive when the effect of technology on the variable of relationship quality was investigated, with a regression weighting as one of two that registered at 0.309. Technological factors also recorded a direct relationship with customer satisfaction at 0.314. However, when customer retention was investigated, it was realized that technological factors did not have any significant effect despite recording a positive value of 0.097. The indirect effect of this, however, put technological factors of CRM CSFs on the safe side as far as fostering customer retention is concerned, through a mediating construct with the value of 0.217.

Table 4.31 presents a summary of the regression weights of the different constructs in relation to each other, the indirect effects and the total effects of the constructs. This table provides a general summary of the findings of the research. From the table, it is noted that the CRM success factors of customer satisfaction and customer retention are affected only by human factors, technological factors and transactional factors and by transaction quality, relationship quality and customer satisfaction, respectively. A key point is that the mediating variables of CRM

Effectiveness, namely, transaction quality and relationship quality, were both revealed to have a positive effect on customer satisfaction and customer retention.

To the above extent, it can be stated that human factors and technological factors appear the more important CRM CSFs to consider in the successful implementation of CRM. However, factors of CRM effectiveness including transaction quality and relationship quality, should be given due importance in the success of CRM implementation. The above summary of the study calls for further investigation of the results in terms of their hypothetical outlines, and in correlation to the evidence in the literature.

5.3 Discussion of Hypotheses

5.3.1 Hypothesis 1 – Top Management Support and Transaction Quality

Evidence from the path regression of the collected data shows that there is a minimal relationship between top management support and transaction quality in ADNOC organizations. As indicated above, the second-order construct of Management factors was divided into three first-order constructs with top management, clarity in the strategy and benchmarking as the first-order constructs. Through a confirmatory factor analysis aimed at minimizing the specific items tested in order to maintain reliability and generalizability and thus provide solid support for theory, the research amalgamated these three first-order constructs into the management factors. The research had hypothesized that management factors had an effect on transaction quality but surprisingly this hypothesis was not supported; it recorded a minimum regression value of 0.087. There were no associated indirect effects because this showed first-hand interaction between the variables with no mediating variable in between. In order to grasp the impact of this relationship, the

research dissected the second-order construct into its three-fold existence as suggested by the research model and interacts The research evidence determined whether other researchers had ever empirically recorded any positive interactions of these variables.

From research by Eid (2007) on the banking service sector it was found that strategic and operational factors, which in this case could be taken to represent or relate to management factors, all had a positive effect on transaction quality and another related measured construct, namely, transaction costs. This research is in general agreement with all other evidence on the fact that management factors are important for facilitating the successful implementation of CRM, but in the case of the mediating construct of 'transaction quality' the present study must admit that some significant divergence appears. Apart from Eid (2007), however, research finds evidence from Bohling et al. (2006) which has much to say about the findings of the present study. According to Bohling and his colleagues, the implementation of CRM in the organization is to a very significant extent contingent on the support of top management. Hence, Bohling et al. (2006) studied the implementation of CRM in many organizations and assessed the level of importance that top management accords to CRM by asking the respondents to answer this question, among others, on a five-point Likert scale. The interesting finding by Bohling et al. (2006) is that the level of importance accorded to CRM by top management was contingent on the levels of success of CRM. This means that when CRM is viewed as critical to organizational success, among other things it improved the quality of transactions between the organization's personnel and the clients. But when the organization management viewed CRM implementation as only 'important and/or useful' to the success of the organization, CRM had little to no impact and sometimes produced negative regression

correlation with aspects such as transaction improvement since employees take note that CRM is not a priority in the organization and thus do not effectively engage in it.

Since the present study had considered a sample in which over 50% had more than 5 years' experience in CRM, it can be inferred that the lack of connection between management factors (i.e. top management support, clarity in strategy and benchmarking on transaction quality) in the application of CRM in the context of the international B2B consumers in the oil and gas industry is due to sector specific differences. In the case of the international B2B customers in the oil and gas sector, it is extremely surprising to find very close relationships or detailed knowledge, especially between the top management of the producing company and clients miles away. This is the nature of the B2B environment and there is no doubt that members of the supply chain who are in contact with clients are not close to them – see Eid's study (2007) of banking as a typical service industry. If the relationship is detached by its nature and the nature of its operation, then one can only suppose that the transaction relationship will be little better. To this extent, therefore, the research posits that due to the nature of the business environment studied, it is virtually impossible for management factors to permeate the supply chain in a way that directly affects the transaction quality. But, according to Bohling et al. (2006) and Eid (2007), the regression score records a positive, showing that the relationship is not retrogressive and if, as Bohling and his team emphasize, management factors are intensified, then the relationship between management factors and transaction quality may benefit from more regression weight and finally gain significance.

5.3.2 Hypothesis 2 – Top Management Support and Relationship Quality

An even lower figure was recorded under regression path analysis when the relationship between the three primary constructs of management factors was viewed through the lens of relationship quality. The regression path analysis realized was 0.004; although this is positive, it points to a much weaker relationship between the two constructs to a point close to zero. Eid (2007) reported the positive relationship in the banking industry between strategic and operational factors with relationship quality in the implementation of CRM. However, statistical evidence based on the reliable and valid data collected for the present study, reports something completely different. Thus, the research is also at odds with research by Chang (2007) which qualitatively investigated the critical factors related to the successful implementation of CRM and the benefits realized from such implementation. Chang (2007), through an interview survey model and thematic analysis, arrived at the view that the successful implementation of CRM, coupled with a total overhaul of the business process, has the capacity to support relationship improvement.

While the present study does not seek to dispute the findings of other researchers, the point is very clear that there are some gray areas on which future researchers can shed light. As far as the present study is concerned, however, from a cross-sectional and sector-centered standpoint, management factors make no impact on relationship quality in the supply chain. The regression statistics recorded a low figure, which can be experientially explained as follows. Most of the sampled population, who largely lacked a top management background, must have communicated the truth about management's lack of involvement in CRM and in relationships with customers. With the local distanced culture of leadership, this

conclusion is understandable in light of the way in which the industry sector, as highlighted earlier, deals with B2B international clients in the oil and gas industry. It can be stated that in this context it is quite impossible to effectively measure the improvements in relations.

Al-Arafati et al. (2019) in a recent study covering operations in the public sector on the part of the Kingdom of Oman come closest to supporting the findings of the research on the unyielding relationship between top management support and the relationship quality of CRM. According to the evidence, there is a general lack of connection especially in big organizations between top management support or management strategy and the quality of the relationship with customers. The study by Al-Arafati et al. reviews in depth the almost failed implementation of CRM in the public sector of Oman and highlights the ingredients of the failure. The researchers note that when the management is so elevated in the hierarchy and hardly comes into contact with the clients, it is hard to find or even to postulate a connection between their strategy and the clients' reaction. This opinion generally speaks to logic and puts the case of ADNOC and the present study into perspective, owing first to the industry in question and second to the B2B nature of the operations. It implies that top management support will always be reported to have a small value in regression when tested against relationship quality because in a big organization, top management can never directly impact the relationship with the clients. Ideally, it is the other team members who are in touch with clients; these people will have some actual impact on the client and therefore on the relationship.

For their part, Al-Arafati et al. (2019) report that the relationship between relationship quality and top management – by extension the entire set of management

factors – can be studied only through a mediating variable. The researchers use the 'output quality' of service as the mediating variable and report that in this case management factors have a positive impact on the relationship quality. This is in agreement with other evidence including that from Eid (2007), Bohling et al. (2006) and Chang (2007), among others. For the present study, however, 'relationship quality' itself was a mediating variable in the wider model and therefore was never tested against management factors through the lens of any other variable. Therefore, it is impossible to make any determinations such as those reported by Al-Arafati and his team. However, according to the present research, management factors have a minimal impact on relationship quality for the reasons educed above: the nature of the industry, the nature of the company and its customer relationships and the detached and distanced organizational culture.

5.3.3 Hypothesis 3 – Human Factors and Transaction Quality

The second-order construct of human factors had within it three first-order constructs, namely, training, trust and the organizational culture. Through the confirmatory analysis undertaken to provide more solid grounding for theory, the first-order constructs were grouped into the human factors and input for path analysis. In order to dissect the results and discuss them in depth, the research may at times refer to individual first-order constructs. Unlike the introductory observations, the best news of the research was a finding echoed in the researcher's experience; that human factors weigh very heavily in regression towards transaction quality. The regression weight value stood at 0.380, far higher than the weights of any other predictor variable, underpinning the fact that human factors had much to do with the improvement of transaction quality in organizations that implemented CRM. The high regression value

validated the hypothesis that the introduction of training, the entrenchment of trust and a robust organizational culture would positively impact the transaction quality. According to the research, the above hypothesis and the robust findings in its support serve to increase knowledge in the field and promote the implementation of CRM, conceding the value of human effort in the process. Zablah et al. (2004) and Chow and Chang (2008) report that human factors such as trust in the CRM implementation and execution processes account for most of the transactional commitments that clients enter into. Researchers agree that clients can be offered new transaction proposals which they mistrust and reject, feeling that their information will not be safe. As a result, researchers further concur that personnel need training in the most appropriate ways to deliver new CRM solutions or processes so that the clients feel the staff are experienced as well as trustworthy. Zablah et al. (2004) and Chow and Chang (2008) note that when staff try to introduce new measures that consumers are not aware of, they should have consumers' full trust already or be trained and prepared to win it in the course of proposing a new platform or asking for a different method of payment.

This position is taken up by Rahimin and Gunlu (2016), who report that training ensures that personnel are introduced to higher responsibilities and, when CRM is implemented, it is always important to train other functional departments in the workings of the system. According to Rahimin and Gunlu (2016), when they understand the system, staff automatically develop a higher sense of responsibility for making the CRM system work which would almost always be felt from the outset through their interactions with customers. Farhan et al. (2017) investigate the case of financial institutions and find that human factors are related to improved transactional qualities, especially when the personnel are well versed in the systems, have a level of autonomy in interacting with customers and making transactions, and operate in a

supportive organizational culture. There is therefore no doubt among researchers that human factors have a positive impact on transaction quality in the application of CRM. In the case of the oil and gas industry, specifically its B2B international clients, the research also found the same consensus on the relationship between human factors and transaction quality, based on research. It can be stated therefore that human factors greatly impact on transactional quality. Moreover, because a great deal of money is involved B2B international oil clients want trusted partners to trade with and transactions depend on finding them. Besides, positive organizational cultures that provide training and support stand to boost their employees' morale which may then well be reflected in the transactional relationship with end users.

5.3.4 Hypothesis 4 – Human Factors and Relationship Quality

While very similar to the previous interaction, this construct should be individually considered and discussed because it was individually measured and the values derived from it used a five point Likert scale and were based on a 12 point item in weighting. According to the findings of the present study, human factors in CRM have a rather positive and weighty relationship with the quality of the relationship. Human factors scored a regression value of 0.377 with relationship quality, by far the highest of all the components in this regard. This validated the hypothesis that human factors such as trust, training and organizational culture had an effect on the relationship quality. Numerous pieces of research wholly justify the above relationship, including Farhan et al. (2017), Eid (2007) and Eid and El-Gohary (2014). This hypothesis is foundational to experiential knowledge and yet is surprisingly manifested in empirical research in ways thought of and believed in for many years.

Putting the results into context, King and Burgess (2008) report that the effectiveness of CRM implementation can be measured only from the clients' perspective and not from the organization's perspective as instigator. King and Burgess state that factors such as the level of satisfaction of the customer and the levels of increased interaction with clients are the only suitable measures for the effectiveness of CRM. Therefore, relationship quality is judged to be a critical identifier of CRM implementation success and, according to King and Burgess, the role of the marketing and sales department in the organization in supporting the clients and building up relationships with them is critical to this success. This view is supported further by Farhan et al. (2017), whose research finds a critical role for human factors in promoting the successful implementation of CRM through accentuating critical CRM effectiveness criteria such as relationship quality. Looking at such human factors as training and trust, logic dictates that if personnel are trained in the use and application of CRM tools in order to deliver goods and services to clients and also sustain relationships with them then they are better placed to do so. When the aspect of trust enters the picture, human psychology suggests that clients are likely to trust personnel who are dexterous in the use of CRM systems and tools to create and sustain relationships (Zablah et al., 2004; Chow & Chan, 2008; Rahimin & Gonlu, 2014). Rahimin and Gonlu (2014) indicate that the organizational culture should also be free and friendly and amenable to the existence of different professional relationships between employees and different clients. Researchers have found that the matter of trust and by extension training comes in because organizations cannot reveal this type of culture unless they themselves trust the capability of their employees to represent the best interests of the organization through CRM and through trust and skill to sustain the relationships emanating from its fruitful environment.

Research evidence of the case of ADNOC has shown more or less the same by inferring a close correlation between human factors and relationship quality. This stems from the fact that organizational activities with B2B international clients require close ties. According to the research, even without the implementation of CRM, the personnel at ADNOC, especially those charged with the responsibility of liaising with the international B2B clients, always go the extra mile to ensure that relationships are reinforced by trust and the offer of high quality services. Therefore, a close relationship between human players in the supply chain and the quality of their relationship is inevitable.

5.3.5 Hypothesis 5 – Technological Factors and Transactional Quality

Technological factors, like other CRM CSFs, are grouped as a second-order construct consisting of three first-order constructs, namely, the IT platform, data mining and knowledge management, all measured using a twelve item five point Likert scale. The scoring of the impact of technological factors on transactional quality was a positive 0.240. This supported the hypothesis that the technological factors of IT platform selection, data mining and knowledge management supported a positive improvement in the quality of transactions. Logically, then, it can be stated that this relationship was expected, since in principle CRM has to do with technology.

In support of the above finding, Kale (2004) indicates that the selection of an IT platform that is user friendly and straightforward for staff and users to understand considerably improves the transaction process in the organization. The research further indicates that the collection of knowledge and information on the consumer and the sharing of this knowledge within the organizational departments that deal with the client are important for ensuring swift services and transactions for customers. Nguyen

et al. (2007) accept these research findings, mentioning that the impact of technology on customer relationship management should be leveraged because it is the most advanced way to ensure the seamless management of the relationship with a customer. Nguyen and is colleagues indicate that the relationship is managed through setting up processes to ensure that the consumer is at ease and that the transaction is smooth. This, for Nguyen et al. (2007), calls for the effective integration of front-end and back-end processes and servers to facilitate knowledge sharing with consumers which can be used to effectively assist the consumers through the transaction process.

Additionally, Keramati et al. (2009) indicate that the CRM systems adopted and implemented by an organization can either support the quality of a transaction or make it more tedious. According to the researchers, organizations ought to consult widely to unify industry standards and norms with the appropriate CRM software and platforms. The researchers do not want different industries to have different CRM software and platform preferences that make them base their selection on the targets and objectives of different companies. But with the appropriate selection of platforms, identification of the scope of data mining and shared knowledge management, organizations can leverage these technological factors to improve the effectiveness and quality of transactions. For the international B2B clients of the oil and gas industry, technological factors have been found to have a positive influence on transaction quality. According to experiential understanding, the technological factors probably have to do with the robustness of payment methods for use by B2B international clients and the data mining of clients' information to ensure sufficient knowledge of the client to ease and expedite future transactions with them. However, as far as the appropriate IT platform is concerned, the study could not single out the effect of such, chiefly because it was not one of the itemized testing tools and also because the confirmatory

factor analysis combined the different constructs into one. Nonetheless, the present findings of the research concur with evidence from the literature that the quality of transactions is positively affected by the technological factors of implementing CRM.

5.3.6 Hypothesis 6 – Technological Factors and Relationship Quality

The relationship between technological factors and the relationship quality during the implementation of CRM cannot be underestimated. Evidence from the research justifies this statement by returning a result of 0.309 regression significance for the impact of technological factors on relationship quality. The relationship was, however, predictable and endless evidence had already hinted at the existence of a relationship between the choice of CRM technology and the relationship quality to which these CRM technologies contribute. They need only to be elucidated and compared with the cases researched in different industries.

According to Pushmann and Alt (2001), the introduction of technology, including technologically powered payment systems, in the management of human interaction in the business environment improves the relationship between the company and the client. This research by Pushmann and Alt (2001) is very important to consider in this regard because the research came just before the explosion of CRM and it was understood only as a technological improvement of the business model. The emphasis on the technological aspect of CRM and its capacity to improve the relationship quality should not be understated. Umanshakar (2001) in ‘E-CRM: Issues of semantics, domain and implementation’ goes to great pains to emphasize the value of technological improvements that can electronically help to support the experience of consumers and thereby build a very close relationship with them. In agreement with Pushmann and Alt (2001) and Umanshakar (2001) mentions the importance of

choosing appropriate CRM for improved relations between vendors and customers in many industries, including the pharmaceutical industry studied by Pushmann and Alt (2001).

The leverage that technological factors can afford CRM and the impacts of these factors on relationship quality are supported by much recent research, including Eid (2007), Eid and El-Gohary (2014) and Farhan et al. (2017). It is undeniable therefore that the choice of platform, effective data mining and knowledge management can help an organization strengthen its relationship with its clients. He et al. (2019) argue that data mining supports the effective collection, arrangement and synthesis of information to support action from the organization, while knowledge management facilitates the effective sharing of this knowledge across functional departments to ensure the accurate understanding of customers' preferences across all the functional units. Given the above in the context of the oil and gas industry, it can be stated that data mining and knowledge management are the most important technological factors that contribute to the improvement of relationships with clients. While it cannot be disputed that the choice of IT platform has an impact, the nature of the relationships between companies and B2B international clients hardly confines itself to interfaces and therefore, from an experiential perspective, the positive impact recorded is instead due to knowledge about the customers using CRM technology through data mining and the management of knowledge.

5.3.7 Hypothesis 7 – Management Factors and Customer Satisfaction

So far, the scores of the management factors against the variables tested in this study have been the most unpredictable and inconsistent with evidence from the literature. Regarding the relationship of management factors with customer

satisfaction, the study found that the relationship was insignificant, with a weak regression value of 0.013 at P>0.05. This means that the hypothesis was rejected and that management factors were not found to have any impact on the levels of customer satisfaction. The management factors in question – top management support, clarity of CRM strategy and benchmarking – remained very far from any interaction with the customer and therefore could not adequately impact on customer satisfaction.

Relating the above findings to the literature highlights a major inconsistency, based on the fact that other research has found that management factors clearly contribute to increased customer satisfaction. The most surprising fact is that most of the research on CRM tends positively to this hypothesis (Bohling et al., 2006; Chang, 2007; Eid, 2007; Al-Arafati et al., 2019; Rafiki et al., 2019). For instance, according to Eid (2007), management factors which in his research can be related to strategic factors and even by extension to the operational factors of his model, all support increased customer satisfaction with the banking services industry through a consideration of relationship and transaction quality. For their part, Bohling et al. (2006) argue that the intensity of management support is what counts when considering the impact of CRM implementation on customer satisfaction. According to these scholars, when top management considers CRM to be a critical part of the organization's strategy, then this passes down the command chain and results in better services for the customers, causing them satisfaction. Chang (2007), however, reports that the management involvement in the process of CRM implementation through re-engineering the business process and promoting organizational learning, has the effect of improving the performance of employees, which in turn results in improved customer satisfaction. Researchers agree that the role of top management in the implementation of CRM is key and that when this is achieved, CRM starts positively

to impact the relationships that it is expected to impact and registers CRM successes such as customer satisfaction.

While the present research in no way conflicts with the above findings, it is still difficult to explain why the score of the management factors on customer satisfaction was so low and was insignificant. A sense of possibility is evoked when through mediating the roles of other variables in the model, management factors in indirect relationships score 0.020, bringing the total value effect to 0.033 – but this at $P>0.05$ is still insignificant. This brings the research to the notion found in Bohling et al. (2006) that top managers perceive CRM to be important; they study the impact of the various levels of importance accorded to CRM. This notion is supported by Mittal et al. (2005), who study the impact and the long term financial impact of dual emphasis on customer satisfaction. According to Mittal et al., there is a connection between the level of emphasis that the organization's top management gives to CRM and the impact of CRM on customer satisfaction. In a study of SMEs, Mittal et al. (2005) report that it is incumbent on top management to be involved as team leaders in the implementation of CRM; this ensures that the CRM goals, through customer satisfaction, are attained.

From this point, the nature of the industry, the size of the organization, its culture and the type of relationship come into play; they all serve to justify the low score on the relationship between management factors and customer satisfaction. Judging from the results of the research process, the impact and level of interest of the top management on CRM implementation in the ADNOC organization are minimal. The background to this is that the organization is fairly big and has a high power distance culture, according to Hofestede (2011) cultural dynamics. Therefore, the

implementation of CRM is delegated to appropriate departments and top management can in theory detach itself from the process, trusting in the capacity of the teams to keep everything moving. But the type of industry and the type of relationship with the consumer is not the same as those studied by most of the researchers, who have generally recorded positive relationships between management factors and customer satisfaction. The oil and gas industry is quite different in all aspects from banking and other service industries and besides, the research concentrated on international B2B clients, thereby differentiating the type of relationship under scrutiny from normal B2C interaction in a banking hall or hotel lounge. To this extent, therefore, the findings of the research as far as management factors' relationship with customer satisfaction is concerned are quite justified. Further justification is certainly to be found in Bohling et al. (2006) and Mittal et al. (2005). Moreover, the fact that the score is not negative implies that if top management became more actively involved in CRM, managers would more readily impact on customer satisfaction.

5.3.8 Hypothesis 8 – Management Factors and Customer Retention

Primary data results indicated that management factors did not significantly affect customer retention, at least not directly. However, the evidence clearly posits a scenario whereby, having introduced a mediating variable, the management factors had significant impact on customer retention. The regression weighting for the direct effect of management factors on customer retention stood at 0.038 for $P>0.05$. This shows that the variable had an effect but one which did not meet the specified probability minimums. Consulting the literature might throw up ideas for making a connection or disconnection which would justify the present study's empirical findings.

Eid (2007), in an empirical study of the successful implementation of CRM in the Middle East banking sector, indicates that management factors which in his research model are the strategic factors are insignificant in their effect on customer retention. This is one of the major points of agreement between his study and the present one, because Eid (2007) found that strategic factors had no significant impact on customer retention in the banking industry. The above evidence is, however, challenged by Bohling et al. (2006), who mention that when top management effectively supports the implementation of CRM, their involvement helps to retain customers. Bohling et al. (2006) focus on the idea of the intensity of support by top management and Mittal et al. (2006) support the notion. This brings up the question of how to determine the level of support or involvement that the top management usually has in the implementation by the organization of CRM projects. While this may vary from organization to organization, research-based evidence of the levels of involvement of top management would at least open up this scenario and put everything into clear context. According to Eid (2019), CRM project management and implementation are much more the domain of other departments and personnel than of top management. Eid (2019) gathers data from respondents and finds the following percentages of responsibility for the management and implementation of CRM (Figure 5.1).

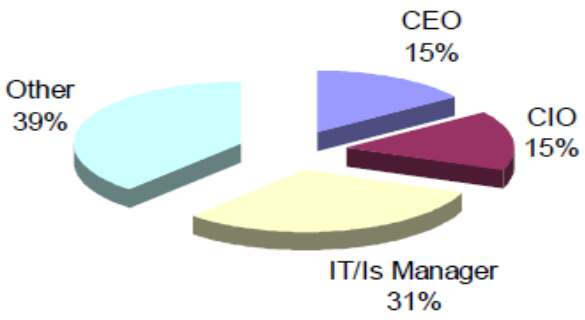

Figure 5.1: CRM Implementation Chart (Eid, 2019)

According to the above graphic representation based on authentic data, management involvement in the implementation of CRM is essentially minor. This gives some support to the notion of Mittal et al. (2005) and Bohling et al. (2006) that the impact of management factors on CRM implementation may be based on the intensity of management involvement. However, the typical CRM implementation pie chart (see above) shows the involvement of management to be limited and therefore it is in every way correct to see the impact of management factors, according to primary research, as insignificant in supporting customer retention.

In the case of the present study it was realized that management factors had little significant impact on customer retention. However, when the relationship between management factors and customer retention was investigated through the lens of mediating variables, the indirect effect was high at 0.043. The total effect of the direct and indirect effects of management factors on customer retention was significant at $P>0.05$, recording 0.081. It can therefore be stated that management factors, while having a positive effect on customer retention, are insignificant, based on the fact that the management is detached from matters of CRM. In the case of the oil and gas industry and its international B2B customers, management has become less and less involved and there is no doubt from the experiential standpoint that the percentage of involvement went far lower than 10% in the case of ADNOC. As stated by Mittal et al. (2005) and Bohling et al. (2006), it may be justifiable to find an increase in the involvement of top management in CRM activities linked to the CRM success of customer retention.

5.3.9 Hypothesis 9 – Human Factors and Customer Satisfaction

The interaction of people in the processes of business is without doubt one of the factors that contribute to satisfaction in both trading parties. Based on experience and a review of the research on the impact of human factors in the organization on customer satisfaction and the success of CRM, the research hypothesized that human factors in the organization did indeed impact positively on customer satisfaction. The human factors are divided into training, trust and organizational culture and, in line with the results from this empirical study, the correlation of the human factors and customer satisfaction was found to be significant, scoring a regression path analysis weight of 0.165. This reflects experience-based postulates that the marketing team and sales team in contact with the client are mainly responsible for fostering customer satisfaction.

The research evidence supports the above findings. Zablah et al. (2004) report that trust as a human factor should flow mutually between the two parties, i.e. the client and the organizational representative(s). According to Zablah et al. (2004), when there is mutual trust between the two parties, the organization is able to benefit from higher rates of satisfaction from the client. Chow and Chan (2008) record that consumers with typical human psychological functions want an organization and its representatives whom they can trust with their needs and their information. This trust makes the clients ready to cooperate with the organization since they are satisfied about its intentions and its ability to meet their needs. The research adds that the human factor of trust goes hand in hand with the training which in turn goes hand in hand with organizational culture (King & Burgess, 2008; Rahimin & Gunlu, 2016). According to King and Burgess (2008), organizations can set themselves to win the trust and consequent

satisfaction of clients only by ensuring that their personnel are trained to the levels expected by the clients. In fact, these researchers emphasize the need for organizational personnel skills to surpass the expectations of clients; this automatically leads to satisfaction for the clients. But Rahimin and Gunlu (2016) believe that training in the organization is supported only when there is a strong organizational learning culture that allows employees to benefit from training opportunities. These training opportunities are what enhance the employees' capacity to deliver services to clients with unwavering confidence and expertise and thereby win the clients' trust. Researchers contend that when the above nexus between the three human factors is achieved, organizations are able to raise the satisfaction of their clients (Zablah et al., 2004; Chow & Chan, 2008; King & Burgess, 2008; Rahimin & Gunlu, 2016).

Relating the above to the results arrived at in the present study leaves no doubt that a tight relationship encloses them. To discuss this in more depth, some critical demographics of the sample population should be reviewed. According to the descriptive statistics of the research sample, it was recorded that at least 59.1% of the respondents had 6 years or more of experience in CRM. These levels of experience make it clear that a huge percentage of the sample population had more experience in CRM than they needed to provide the necessary information. Considering this fact and the results of this research, it can be confidently stated that the positive scores for the impact of human factors on customer satisfaction were supported by the fact that many of the respondents who participated in the present research knew the research background and therefore could be believed when they said that the human factors of trust, training and organizational culture have an impact on customer satisfaction.

The indirect effect of human factors on customer satisfaction, as recorded in the research, cannot be ignored in a discussion of the findings. According to research, the overall effect of human factors on customer satisfaction was recorded at 0.274 with an indirect effect regression weight of 0.109. Under the present understanding of the model, the 0.109 regression weight represents the strength of the impact of human factors on customer satisfaction through the lens of the mediating variables, which in this case were relationship quality and transaction quality. To this extent, it is noted that human factors can through the mediating variables influence customer satisfaction much more significantly. This is supported by research evidence which shows that the introduction of CRM is a measure for pursuing customer satisfaction through the integration of the efforts of marketing teams and the capabilities of CRM technology (Mkawuganga, 2018).

5.3.10 Hypothesis 10 – Human Factors and Customer Retention

Despite recording a positive value on its impact on customer satisfaction, it was surprising in the present study to find that the relationship between the human factors of customer relationship management did not significantly affect customer retention. On a direct path analysis basis, the human factors of CRM actually recorded a negative regression weight of -0.015, which indicated a retrogressive relationship. This was certainly troubling for the research and raised questions about the appropriateness of its tests. Common sense suggests that if personnel are trained, trustworthy and the needs of the customer are central to the organizational culture, then they will impact on the retention of the customer. However, the empirical evidence did not confirm this and the results obtained clearly showed that the relationship between the human factors and customer retention can be anything but direct.

The findings hereby sharply contradict the findings from other researchers, including Eid (2007), who in his study of the relationship between different factors in the implementation of CRM observed that operational factors (taken here to refer to the human factors) had a positive interaction with customer retention, recording a regression weight value of 0.246 at $P<0.01$. Eid (2007) also related tactical factors to human factors, noting that tactical factors are treated as lower level management factors in direct interactions with the client, which theoretically refers in the present study to the human factors. As far as Eid's tactical factors are concerned (2007), there is significant impact on customer retention, at 0.174 when $P<0.05$. To support the foregoing, Tauni et al. (2014) conducted an in-depth empirical study of the impact of CRM in enhancing customer retention from both the company's and the customers' perspective. Correlating the evidence when collected and analyzed by statistical methods, Tauni et al. (2014) report that customer relationship management is critical for ensuring customer retention and can afford companies up to a 60% rate of customer retention.

Further evidence from Eid (2015) can be integrated to build the critique developing here. According to this evidence, Muslim tourists are hardly at all interested in tourism although they represent a rich market for tourism companies to tap into. Empirical study of the perceived customer value from Muslim tourists showed that they would more readily sign up to a tourism package and remain loyal to a tourism company if some Islamic attributes and values were included with the conventional values. This testifies to the human factors of trust, a client-centered organizational culture and the need for personnel to be trained to serve a diverse client base. The fact that Eid (2015) can correlate these with client retention implies that some correlation indeed links human factors and customer retention.

The results of the model suggest that the impact of human factors on customer retention can be strongly confirmed as an indirect effect registering a regression weight of 0.277. Added to the initial direct effect value, this resulted in a total effect value of 0.262 at P>0.05, indicating a positive relationship. This implies that in the practical case of the present study the human factors in the implementation have no direct effect on customer retention unless supported by a mediating variable such as transaction quality and relationship quality. This can be attributed to the nature of the industry and the nature of the relationship. In the oil and gas industry, the interactions are not as fluid as those elsewhere, in service industries, for instance. However, the situation of the international B2B clients of the oil and gas industry rules out a direct relationship with customer retention based on human factors such as training, trust and organizational culture, but record a positive and significant weighting when a mediating construct is interposed.

5.3.11 Hypothesis 11 – Technological Factors and Customer Satisfaction

The selection of the IT platform, data mining and knowledge management in the organization reportedly has a significant impact on customer satisfaction, registering the highest regression coefficient weight of 0.314 at P>0.01. According to the research, this was expected since CRM is a technological tool and for a good number of years has been believed to be only technology-based with no input from the marketing and sales team. Thus, the technological factors stood for themselves and registered a strong positive regression on customer satisfaction, arguably the strongest of all the variables.

Farhan et al. (2017) in an informative empirical investigation of the implementation of CRM, concur with the above findings, mentioning that technology

factors were found to play a great role in influencing customer satisfaction and the quality of relationships with customers. These views were shared by researchers Wang and Feng (2012), who studied the impact of CRM capabilities (technology-based) on the satisfaction of customers and the ability of the organization to offer customers quality client-centered services. Wang and Feng report that the technological capabilities of CRM enable an organization to serve clients quickly, which improves the levels of client satisfaction. Similar findings are reported by Kargaran et al. (2017), who mention the importance of knowledge management as a tool for encouraging customer satisfaction with CRM. The researchers conducted a holistic study on the effective application of CRM's capacity to cope with knowledge management when a firm manages the relationship between itself and the customer. According to Kargaran et al. (2017), knowledge management is critical for ensuring that the organization gathers, properly characterizes and shares knowledge about different clients across functional departments. When knowledge is shared and gathered effectively across all the functional units of the organization, especially those in contact with clients, their satisfaction is guaranteed.

The findings of the present study serve to justify previous research while the evidence from the research also endorses the findings. In the case of ADNOC with specific focus on international B2B customers, it is understood, on the basis of responses from the participants and the path relationships statistically derived, that technological factors can to a great extent directly impact on customer satisfaction. The statistical evidence gathered from the research points to an indirect effect of 0.073, which brings the total effect of the impact of technological factors on customer satisfaction to a weighted regression of 0.384. With this in mind and considering also the demographics of the participants of the research, almost 60% of whom had over

six years of experience in CRM, it can be stated confidently that in the view of the participants technology is closely related to CRM success.

5.3.12 Hypothesis 12 – Technology Factors and Customer Retention

The relationship of customer retention to all the main predictor variables remained hard to confirm, again a surprise, since technology has long been considered the core of CRM. According to statistical evidence from the study, technological factors had little significance in promoting customer retention. The results recorded the standard regression coefficient value of technology at an insignificant 0.097 when P>0.05. This led to the rejection of the hypothesis that the technological factors of the IT platform, data mining and knowledge management had an impact on customer retention.

However, the above again contradicted the common logic behind CRM with varied research evidence to show a positive relationship between the technological factors of CRM and customer retention. Reinartz et al. (2004) in an early study measuring the effectiveness of customer relationship management indicated that CRM, through the use of technological capability, had the advantage of affording organizations higher levels of customer retention. According to these researchers, the move to more personal and technologically managed relationships, including phone calls and emails, ensured that clients remained loyal to the organization. More up-to-date evidence supports Reinartz et al. (2004) and challenges the findings of the present study; it claims that, in the case of business analytics, organizations can obtain very insightful information about their consumers (Nam et al. 2019). According to Nam and his colleagues, these pieces of analytical information provide an organization's production, marketing and distribution teams with clear actionable information that

can be exploited not only to realize profits, but to manage the relationship with customers in ways that feel personal to them. The almost total knowledge that customer relationship management affords marketers and the organization CRM team allows the latter to leverage the information to make clients loyal and retainable.

Further evidence from Gil-Saura et al. (2019), focusing on data from professionals in the Spanish hospitality industry, indicates strongly that the technological capabilities of CRM are the only way in which CRM can support the retention of customers through building strong relationships and continuously connecting with clients. The research further states that CRM technological capabilities have provided the Spanish hotel industry with relational innovation. To this extent, therefore, the present study agrees with most of the other evidence from researchers that the technological factors of CRM have a positive impact on the retention of customers by organizations that implement CRM.

However, in the case of the present study, the conventional understanding has been questioned and found wrong and wanting in logic. The summary of overall effects in Table 4.31 shows that despite having an effect of insignificant value on customer retention, the technological factors of CRM had a positive value in their indirect effect. The precise value as indicated in the table stood at 0.217 which when added to the direct value brought the total effect to a significance of 0.314. This indicates a partial acceptance of the hypothesis, essentially implying that the technological factors of CRM can have a positive impact on customer retention if investigated or presented through a mediating variable, for instance, transaction quality and relationship quality. The above brings attention to the background of the research, here ADNOC, with specific focus on its B2B international market clients. The effects of the IT platform,

data mining and knowledge management, although they may be supposed to impact on retention in this industry, are essentially unimportant, as far as the best interpretation of the research findings goes.

5.3.13 Hypothesis 13 – Transaction Quality and Customer Satisfaction

The robust research process and the development of the model ensured that as many relationships as possible were tested. The relationship between transaction quality and customer satisfaction is a relationship between a suggested mediating factor and one of the dependent variables of the research. The fact that the above relationship is outlined in the research hypotheses and the conceptual model, together with the positive weight loading of the variables, supports the investigation of this relationship. According to the statistical findings of the research, transaction quality positively impacts the satisfaction of the customer. The regression weighting achieved through the path analysis of this relationship was 0.226, which showed relative strength in the relationship.

The above finding was in line with evidence from Tan (2019), who indicates that the service profit chain theory supports the connection between high quality transactional processes and customer satisfaction. According to him, the introduction of CRM to the service profit chain is a boon, especially if the CRM implemented seeks to streamline the transactional process in the organization. This view finds support from other research which mentions that consumers in the contemporary business environment want to operate easily and dislike unnecessary restriction. As a result, these consumers should be given service that supports their outlook, including ways of ordering goods or paying more easily (Singh & Kasliwal, 2019). Sing and Kasliwal (2019) add that while transaction quality is essential for customer satisfaction in

today's business environment, the implementing organizations have a duty to conduct a holistic study of their consumer base to ensure that their CRM technology does not impair transaction quality and in turn negatively impact on customer satisfaction. The researchers mention that the transaction quality of CRM will normally be facilitated through technological factors and clients may at times be helped by human personnel. However, if these new processes are very complicated, then it may not augur well for the clients and may lead to low satisfaction. These writers bring up the notion of client knowledge and education since they affect the CRM technologies intended to promote transaction quality.

In the case of the research on ADNOC, it has been found beyond question that transaction quality determines the level of customer satisfaction. This is confirmed by the fact that in international B2B customer relationships, the clients have to make payments through platforms that the firm provides and at times order goods through the same platforms. In this case, therefore, when customers find that the purchase and payment process and the process of delivery of an order to an agreed collection point is smooth, they are satisfied with the transaction quality.

5.3.14 Hypothesis 14 – Transaction Quality and Customer Retention

While customer retention had up to this point shown no sign of being positively influenced by any predictor variables among those related to the CRM CSFs, when tested against transaction quality, the result was a positive and strong regression relationship. According to the statistical findings, the impact of transaction quality on customer retention stood at a regression weighting of 0.433, the highest regression weighting recorded in the entire study.

The above finding is best supported by evidence from a study by Kaura et al. (2015) which looks at the effect on customer retention of transaction quality in the organization. According to these researchers, when the transaction process is smooth, the customers are more likely to be loyal to the organization because they save time and are not anxious about whether they are getting the best service from the organization. Singh and Kasliwal (2019), however, find that transaction quality has the effect of enhancing customers' loyalty through consolidating their satisfaction with the organization's processes. According to Singh and Kasliwal, when the process of the transaction, including payment and the delivery of goods, is smooth, then consumers who experience this seamlessness will want to maintain this assurance and as a result they will most likely retain a relationship with the organization that was able to guarantee effective services through a smooth transactional process.

Research from Al-Arafati et al. (2019) best sums up the whole situation: that CRM should promote the quality of output for only then will consumers be ready to commit their loyalty to an organization. According to Al-Arafati et al., CRM in organizations should be integrated with good output quality and robust measures of ensuring its smooth delivery to the users with minimum effort on their part. Al Arafat and his team point out that when organizations are able to integrate CRM with output quality and make the transaction process smooth and seamless, they automatically take the right path to winning the loyalty of consumers. In an earlier study, Tauni et al. (2014) correlated the relationship between transaction quality and the retention of customers, noting that the use of CRM supported the effective application of technologies to enhance the transaction process and this improved the organization's rate of retention of customers.

In the case of the present study the findings imply that the efficiency in the transaction process due to the use of CRM technologies helped to ensure that the clients would be loyal to the organization. This claim can be justified by considering the nature of the industry, the relationships involved and the volume of goods traded. With swift systems of payment and swift processes of product delivery to the consumers as empowered by CRM, ADNOC could unquestionably retain its clientele. This is why the correlation between transaction quality and customer retention is so strong. The nature of transaction quality in the model, however, should not be ignored and due consideration should be given to the fact that it is a mediating construct, implying that the independent constructs, e.g. the human factors, may be the greatest contributors to its strength, which in turn reflects its overall impact on CRM success.

5.3.15 Hypothesis 15 – Relationship Quality and Customer Satisfaction

It was very surprising to learn from the results of the present study that the relationship quality had no significant impact on customer satisfaction. According to the evidence of the statistics, the regression weight of the path analysis between relationship quality and customer satisfaction was recorded at an insignificant 0.061. All accounts, of other reviewed relationships led to the expectation that the quality of the relationship exert due impact when it came to customer satisfaction. However, the statistics make it clear that no relationship was significant enough to validate this related hypothesis.

Research from Trif et al. (2019) best helps to understand why this was so. Trif and his colleagues investigated the impact of CRM on business performance and first examined different dimensions of business operations, including capital structure, relationship structure and market structure. Having statistically investigated data from

at least 100 firms, the researchers concluded that specifically in B2B customer-seller relationships, the quality of the relationship does not directly influence the satisfaction of the customer. Relating the findings from the present study to the research by Al-Arafati et starts the flow of logic. Al-Arafati et al., state that the quality of output plays a mediating role in the relationship between the organization and the client. Therefore, if a company offers high quality output despite having low levels of interaction with the client, the low levels of interaction will in no case hinder customer satisfaction. The above is, however, challenged by further research evidence which identifies relationship quality as a core antecedent to customer satisfaction (Makanyeza & Chikhaze, 2017; Saari, 2018). According to these researchers, the purpose of CRM is to build a relationship and in businesses that have direct contact with clients, a good relationship alone can replace a bad impression and help the business to regain its integrity by serving the customer better.

In the case of ADNOC, based on the nature of its operations and the industry in which it operates, it is most unlikely that there will often be time for one-to-one interactions with clients. The B2B mode of operation implies that the seller and the buyer both assume an artificial identity independent of their individual identities and interact at the level of professional organizational representatives. In this case, therefore, the relationship levels may be low but if the products that are delivered to the clients are up to the mark and to the clients' expectations, the lack of direct impact between relationship quality and customer satisfaction is understandable.

5.3.16 Hypothesis 16 – Relationship Quality and Customer Retention

Despite the surprise caused by testing the previous hypothesis, the research was able to make a close connection between the relationship quality of CRM effectiveness

and the customer retention aspect of CRM success. Based on statistical findings, relationship quality positively impacted on customer retention with a regression weighting of 0.209 on the path analysis. This supported the hypothesis that the quality of relationship had a direct impact on the opportunities for customer retention.

The research evidence strongly supports this finding: Makanyeza and Chikhaze (2017) note that, with a good relationship, organizations can position themselves in the consumers' minds as the most appropriate organization for supplying all their needs both at present and in the future. The researchers state that when the services and/or goods that an organization offers, together with the CRM approaches used by an organization, have this effect on the users, then the organization can be sure of a secure and solid clientele base. The quality of the relationship and its impact on the retention of customers is further emphasized by Saari (2018) who claim that the quality of customer relationship management that an organization invests in and uses is directly proportionate to the opportunities of customer retention that the organization creates. According to Saari (2018), customers with their in their human psychology always think critically about the relationship between them and the contact points in the organization before deciding whether or not the organization deserves their loyalty.

In earlier research on the impact of CRM on customer retention, Verhoef et al. (2003) record that the quality of the relationship and the customer relationship management approaches invested in are directly related to the levels of retention that the organization is likely to attract. The researchers underscore the need for proper relationship management as a way to ensure that clients are loyal and averse to offers from other organizations. Gil-Saura et al. (2019) also agree on the need to use CRM technologies to build, maintain and continually nourish a strong relationship between

the organization and the clientele base in order to ensure customer loyalty and retention.

With the solid support of the connected relationship between relationship quality and customer retention, the results of the findings therefore serve to justify previous findings from the literature and as a validation of the related hypothesis. In ADNOC, the sample population has no doubt that the quality of the relationship goes hand in hand with the retention of customers. This is despite the fact that the industry is oil and gas production and the structure of the relationship is B2B.

5.3.17 Hypothesis 17 – Customer Satisfaction and Customer Retention

The causality of this relationship cannot be understated; all the evidence from the literature seems to point to it. As the last hypothesis in the present study, it was developed as a causative relationship among the CRM success items. The empirical evidence returned a positive regression value of 0.123, showing a strong relationship. Among all the variables and causality relationships identified, this one was the most easily predictable and if the results from the study pointed otherwise, they would be completely inexplicable.

The above results have support from virtually all researchers in and out of the customer relationship management field, with the general understanding that when the levels of satisfaction among customers' rise, automatically the organization benefits from a higher number of retained and loyal customers. In the case of ADNOC in the oil and gas industry, the notion remains the same: that if customers are satisfied, they will come back for services again and again and in this way the organization benefits from high levels of customer retention. Among the key sources that support the above notion and that the present study has relied on are Eid (2007) and Farhan et al. (2017).

Very many other sources also support this relationship but for the sake of brevity, the research mentions only these two.

5.4 Conclusion

The exhaustive discussion of the findings of the research hypothesis for hypothesis has been an essential part of this research and could not be ignored. The discussion of the results of the regression path analysis has served to illuminate the scores of each of the hypotheses and point out which were accepted and which were rejected. In this part, the study has juxtaposed current writers with current practice in order to explain the findings and elucidate why some hypotheses were rejected while others were not. The discussion section helps to clarify the regression numbers arrived at in Chapter 4 and make them digestible for readers. In general, the chapter was concerned with reflecting on and dissecting the findings and analyses from the previous chapter to make them more easily comprehensible. The explanations from practice were important for showcasing the differences between industries and showing how these may affect common hypothetical relationships of CRM. A case in point for this has been the lack of connection between the ‘management factor’ predictor variable and all the other ‘criterion variables’. The evidence in the literature, which mostly focuses on service industries and at times SMEs, where there is little distance between the management, the general personnel and the client and where the relationship is B2C, challenged the findings of no relationship between management factors and other criterion variables. However, as explained from an industry-specific standpoint, there is a great difference between the operations for service industry clients and oil and gas industry B2B international market clients. These differences, among others, all serve the purpose of contextualizing the figures in Chapter 4 and

making them understandable and is what this chapter has striven to achieve. The following chapter will conclude the research, presenting its implications limitations, and challenges.

Chapter 6: Conclusion and Recommendations

6.1 Introduction

This chapter presents is intended to review the whole study from the beginning, to survey what the research covered and achieved, its implications and the results arrived at, its contribution, the limitations that the research acknowledges and which its methodology or execution procedures entailed, culminating in recommendations for future research. To this end, the research should be summed up chapter by chapter to provide an understanding of its trajectory.

The research topic was ‘a critical investigation integrating the critical success factors of CRM, customer satisfaction and customer retention in the oil and gas industry in the UAE’. The research was focused on the case of the UAE’s leading national oil company – ADNOC. The research opened with an introductory chapter that mainly served the purpose of describing the industry in question. With a preliminary review of the literature on CRM, the research deemed that a strong introductory chapter that focused on raising awareness on the industry under scrutiny would be fundamental since most of the evidence of research on CRM came from service industries and therefore industry-specific differences might distort the findings. Despite embodying all aspects of business, the oil and gas industry operates in a particularly different way and the focus of the research on the B2B international client context made the difference even more significant. Indeed, as it was later found, the critical success factors were different in this industry, mostly explicable in terms of the nature of the industry, the nature of the relationships and that of its operations. With the above in mind, therefore, the introductory paragraphs of the research involved a detailed account of the oil and gas industry, globally, regionally and locally. The

chapter also contained a section on the trends in the oil and gas industry that stood the highest chance of affecting the organization's relationship with its customers. In order to underscore the importance of studying CRM in the case of ADNOC at this time, the research shared the company's current strategic plan(s), which clearly depicted the need for robust measures to secure success for ANDOC's strategies. In line with the norms, the present study after elucidating the background of the study presented the research problem, followed by the novelty of the problem, the research aim, objectives and questions, to serve as a guide to the research in later chapters.

The second chapter of the research reviewed the literature on the subject. In this section, the research moved to the operation to gather data relating to the problem identified in the research. A summary of the problem identified in the study which was aggravated by the evident lack of related literature was the fact that there was little or no evidence of literature on the implementation of the critical success factors for the implementation of CRM in the oil and gas industry. To this extent, therefore, and subject to the background of the research and the identified need for understanding of the critical success factors for the implementation of CRM in the case of ADNOC, in view of its strategic plans, the only move for the research was to consult all the diverse literature on CRM. The general finding from this endeavor was that there was a rich repository of literature on the application and implementation of CRM in the oil and gas industry and in B2C business operations. The research relied on this literature to build up knowledge of the subject in the hope of later developing a robust measure for studying the case in the oil and gas industry with specific focus on the ADNOC group. To this extent, the literature review covered the critical knowledge-building aspects, such as the history of the concept of CRM, definitions of the concept, importance, components, critical success factors for implementation and aspects of CRM

effectiveness and success. This chapter of the thesis, having provided sufficient knowledge to proceed with the study, ended with a clear outline of the research subject underpinned by the development of a robust conceptual framework and 17 hypotheses for the case of ADNOC that the research proposed to test through empirical methods.

The third chapter of the research was largely informed by other evidence of high level research which had brought in empirical measures to study critical phenomena. In reaching thus third stage, the research could be presumed to have gathered sufficient knowledge and understanding of the subject and the stakes in play as far as the need for implementation of effective CRM for international B2B clients in the case of ADNOC is concerned. This, as stated in the preceding chapter, was confirmed by the development of a hypothesis model and framework which the research was now ready to implement. In order to study the model, the research had now to develop an equally robust methodological approach that would serve as the blueprint of the actual work to be done. Initially, the research and the type of data were already adumbrated since, as the first chapter showed, part of the motivation of the researcher was an ambition to undertake the most valid research to help the organization and propel it by means of the research recommendations to a prosperous future. The type of data that the research needed was numerical, data that could be counted, challenged and validated through standard measures. Through consulting evidence from previous research, it was soon discovered that the ‘positivist’ philosophy of research was the most appropriate for conducting this study. The research followed this discovery and eventually produced a quantitative research model that entailed the collection of numerical data through a structured questionnaire on a five point Likert scale measuring different aspects of different constructs each on a four-item basis. A sample population was also determined, based on in-depth

consultation and taking account of the fact that the research was investigating a specific business segment in the ADNOC group – the international B2B customer segment. Hence non-random based purposive sampling had to be used, as the kind best suited to meet the purpose of the research. Finally, the data analysis was decided to be structural equation modeling confirmatory factor analysis using SPSS AMOS version 25. This analysis method was in line with the type of data collected and the most appropriate to study the hypotheses proposed at the end of the second chapter.

The fourth chapter entailed the presentation of the results and the deployment of statistical methods to conduct a rigorous analysis of the data. This chapter's main focus was on cleaning the data with a number of statistical methods including searching for outliers and missing data, through the Kolmogorov-Smirnov test and Mahalanobis distance test, among other methods, to check the normality of the data and the common latent factors. The next step in the data analysis process was the generation of descriptive statistics of the respondents, some of which would be needed in the discussion of the results. The research then sought, as a statistical norm, to find the reliability of the data for use in the quantitative analysis and conducted a reliability analysis using Cronbach's alpha test – all the data that had passed the cleaning and purification procedure in the first instance was found to be clean and good for use. Having achieved reliability, the research then ran a number of validation tests using Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin methods against all the three main constructs and their sub-constructs as shown in the model of the research. When these tests were passed by everything in the remaining data set, the research was ready to use the data in the model and to test the hypotheses. In order to test the variables, the research conducted a confirmatory factor analysis whereby, first, the individual factors and their sub-constructs were investigated in an effort to assess the elements of

measurements used for each of the sub-constructs. For CRM's CSFs, three confirmatory factor analyses were conducted. The first one was a single factor model, the second, a nine factor model and the third, a three factor model. All these confirmatory analyses at this point were not testing the construct against any other variables but were intended only to assess the elements of measurement in the construct. The three factor model was found to be the best fit for the analysis as far as conjoining the values of the elements of measurement was concerned, which resulted in a higher goodness of fit value among other better values, including that of the root mean square residual, than the other factors had. For CRM effectiveness and success, the two factor value for each remained intact. Just before testing the hypothesis, the research conducted further validation tests of convergent validity and discriminate validity and all seven constructs were found to satisfy the requirements. At this juncture, the research conducted the hypotheses testing which provided the research with the necessary results.

The fifth chapter of the research was concerned with elucidating the results of the research and dissecting the numbers. While the fourth chapter explicated the correlations and regression values, the fifth chapter further elaborated on these for each of the hypotheses and also put each into the context of the literature. In doing so, the research found that some of the research hypotheses were supported and some were not. Explanations were given on the basis of the company context, industry context and justified or falsified by evidence from research which as already mentioned focused on industries far different from the focal industry of the present study. Nonetheless, the results were for the most part informative and will contribute much to the development of a robust plan for the successful implementation of CRM in ADNOC and in other oil and gas industry companies.

6.2 Review of Achievements

The research at the outset listed some of the purposes and milestones that the study hoped to reach. This section of the chapter will revisit these and try objectively to assess whether the research has fulfilled them.

6.2.1 Research Aims

The aim of the present study is rooted in the research question, which concerned 'the integration of CRM CSFs, customer retention and customer satisfaction in the oil and gas industry – the case of ADNOC'. The aim was further highlighted by the background of the research and the realization of the gap in knowledge regarding CRM implementation in the oil and gas industry. In this way, the research sought to use empirical methods of research to answer the research question. It did this by following a process of data collection from participants who have had positions in the oil and gas industry close to or connected with the delivery of goods and services to the customers in the international B2B customer context, and subjecting the data collected to a rather more rigorous process of statistical analysis. It can be confidently stated that the aim of the research has been met, given the amount of data collected and analyzed and the results of doing so (see Chapter 5). It was found, in pursuit if the research aim, that human factors and technological factors were the most important critical success factors for the successful implementation of CRM in the oil and gas industry. At the same time, it should be noted that, while technological factors scored highest in terms of their effects on customer satisfaction, human factors scored highest in terms of improving the relationship quality and the transaction quality. These two qualities had the highest influence on the customer retention aspect of CRM success. The fact that these two qualities acted as mediating variables and human factors had

the highest direct impact on them can be jointly taken to confirm that human factors are the primary critical success factors for customer satisfaction and retention from implementing CRM. This was the aim of the research.

6.2.2 Research Objectives

The research had delineated a number of objectives and it is worth revisiting these to review impartially whether they were met in the present study.

- Objective 1 – Investigation and identification of the critical success factors for the implementation of CRM. This objective was related to the knowledge building aspect of the research which, as identified, was very important for the entire study since so little previous research referred to the subject in the industry of concern. This objective was sufficiently met through the intensive and extensive literature review, which had been intended to develop foundational knowledge in the area. Evidence gathered in this review was later revisited to find correlations and justifications, if any, and to form a basis for the most objective conclusions possible.
- Objective 2 – Investigate and determine the relationship between critical success factors identified and customer satisfaction. In pursuit of knowledge building, the study also built up relationships between critical success factors as identified by different researchers and the reported levels of customer satisfaction. The research after conducting the study revisited the evidence gathered in this step to find correlations, justifications or the lack of them, which provided intuition about the most objective conclusions pertinent to the case under study.

- Objective 3 – Investigate and determine the relationship between critical success factors and customer retention – Studies of different scope provided and focused upon different evidence. The research devoted time to finding the research studies that focused on the connection between CRM's CSF customer retention and included this as part of the knowledge base of the research. Evidence gathered in this review was later revisited to find correlations and justifications, if any, and to form a basis for the most objective conclusions possible.
- Objective 4 – Develop a framework for the successful implementation of CRM in the oil and gas industry in the UAE through integration of the critical success factors, customer satisfaction and customer retention. The research began this by developing a conceptual framework for its structuring. This framework helped in understanding the critical success factors that mainly affect successful CRM implementation in the oil and gas industry. Among the contributions of the present, listed below, this framework will be further discussed.
- Objective 5 – Evaluate the effectiveness of the successful implementation of CRM in promoting customer satisfaction and customer retention in the ADNOC oil and gas downstream – The results of this rigorous research offer some important insights about the usefulness of CRM implementation to the oil and gas industry, especially in the case of ADNOC. In this regard, the results themselves, as claimed in the previous chapter, fulfill one of its objectives. This claim will be discussed further among the managerial implications of the research below.

6.2.3 Research Questions

In fulfilling the objectives listed in the initial sections of the research, the present study addressed the following questions: -

- RQ1: What are the critical success factors for CRM implementation in the UAE oil and gas industry in the case of ADNOC? As asserted in the previous chapter and in parts of the present one, the findings of the research provide a sufficient response to this question. It was found that, in the case of ADNOC, that the human factors are far more critical than any others to the successful implementation of CRM. This was supported by the high regression scores that the human factors recorded under the CRM effectiveness parameters of transaction quality and relationship quality. It was also found that these CRM effectiveness factors were the ones responsible for customer retention. Moreover, human factors had a positive impact on customer satisfaction. Hence, after connecting all the effects of human factors on the different constructs and interpolating the mediating effect of human factors on customer retention and customer satisfaction, it may be said with confidence that human factors represent the most critical success factors for successful CRM implementation in the UAE oil and gas industry. It is also fair to state that technological factors exert a significant effect on success and can therefore be considered together with the human factors in the successful implementation of CRM in this industry.
- RQ2: What are the impacts of CRM's CSFs on CRM effectiveness? The empirical results of research indicated that there is a solid relationship between some of the CRM's CSFs and the CRM effectiveness parameters. To start with,

however, the research ideal deemed the CRM's CSF of management less significant in its impact on either of the two CRM effectiveness criteria studied. Nonetheless, human factors and technology were reported to be significant with human factors registering the highest weight of significance on standard regression. These results respond adequately to the second research question.

- RQ3: What are the effects of CRM implementation on customer retention and customer satisfaction? This research question was answered in two ways: first, the theoretical part of the research found much evidence to suggest the impact of CRM on the CRM success parameters of customer retention and customer satisfaction and the relationship created between them. Second, based on empirical research evidence from the case of ADNOC, it was realized that successful CRM implementation had a positive impact on customer relationships. This conclusion was derived from the strong relationship noted between CRM effectiveness and CRM success. It can be defended by the fact that the CRM effectiveness parameters of transaction quality and relationship quality served only as mediating variables which had to be affected by an exogenous construct before they could affect the criterion variables under CRM success. The fact that CRM implementation when critically supported by human factors and technological factors very strongly affected the mediating variables which later affected CRM success can be used to respond sufficiently to this question and make the case that the successful implementation of CRM in the oil and gas industry has a positive impact in customer retention and customer satisfaction.

6.3 Contribution of the Study

One of the primary objectives of the research was to develop a framework for the critical success factors in the successful implementation of CRM in the oil and gas industry and, within this framework, to showcase the integration of customer satisfaction and customer retention. This was seen as the main contribution of the study and is based on specific findings from its search for the factors which do indeed impact on CRM implementation in the oil and gas industry. Through studying the evidence from theoretical and empirical sources, it may be said that human factors, together with technological ones, through the mediating roles of transaction and relationship quality, may lead to customer satisfaction and customer retention. This evidence is based on the case of the oil and gas industry and is solid in its terms of origin, because it can claim to be valid, reliable, generalizable and transferable. Therefore, its contribution is to state that, in the case of the oil and gas industry, the critical success factors of successful CRM implementation are human factors such as training, trust and organizational culture, and technological factors such as the IT platform, data mining and knowledge management. Through these factors, an organization in this sector can successfully implement CRM to improve its transactions, relationships, customer satisfaction and customer retention. Figure 6.1 represents the developed framework for the successful implementation of CRM in the oil and gas industry.

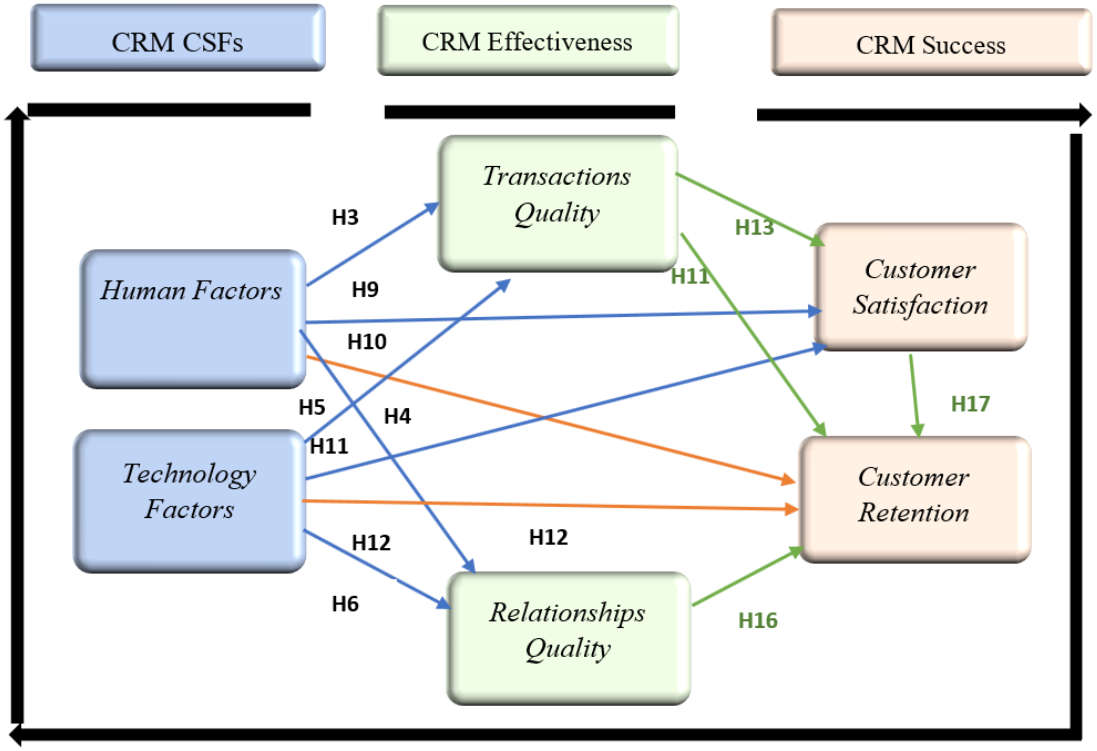

Figure 6.1: Successful CRM Implementation Framework for Oil and Gas

The above model has been identified as the best for testing the success of CRM implementation in the oil and gas industry. It is worth mentioning that, in the whole course of the research, it was impossible to find any other evidence of research on the concept of CRM implementation and its critical success factors in the case of the oil and gas industry.

6.3.1 Contribution Summary

1. The study developed is one of a kind framework for successful CRM implementation in international B2B oil and gas sector.

2. The study established that human factors together with technological factors, through the mediating roles of transaction and relationship quality will lead to customer satisfaction and customer retention.

3. The study established that management factors have minor partial effect on oil and gas successful CRM implementation.

4. The CRM effectiveness of Transaction Quality had High impact on CRM success of customer satisfaction and Retention while Relationship Quality had impact only at customer retention.

6.4 Managerial Implications

The present study is then the first of its kind. As stated above, despite much effort, no research could be found on this topic that could yield foundational information or preliminary insight on possible directions for future research, indicating a gap regarding implementation in the oil gas industry, as indicated in the problem statement and elsewhere. Most of the research held in academic repositories worldwide concentrated on CRM in the most common industries, for instance, service industries, such as banking; it also dealt with the most common vendor-client structure, B2C. The oil and gas industry is, however, unlike these and in the present study the differences are augmented by the fact that the research focuses on international B2B client relationships. To this extent therefore, the present study is unique and holds useful points for management practitioners in ADNOC and in all oil and gas producers.

The first implication of the research is that the role of management in the implementation of CRM in the oil and gas industry needs to change from being merely passive to being increasingly involved. The evidence shown in Chapter 5, hints at the difference in the impact of management on CRM made by changing the level of management involvement in the implementation of CRM and the level of importance that top management gives it. In the present study the participants indicated that 99% viewed CRM as very important; only one did not. The research did not take evidence

from the top managers in the hierarchy but concentrated on the departmental individuals who met the inclusion criteria for the research. It found from the research that CRM success and all the benefits that this brings depend on top management's showing more involvement, whatever the nature of their organization. This implication is especially urgent for ADNOC, because it must have a valid downstream strategy for 2030.

The second implication for practice is the critical success factor for the implementation of CRM in the organization. The present study has found that management factors in the oil and gas industry do not have much significance for CRM success and CRM effectiveness. However, it should be noted that, unlike other industries, in this one the finding was challenged and found tenuous. It seemed rather that the strata in the case of ADNOC and other big organizations, above all in this industry, are widely distanced in terms of Hofestede (2011) cultural dimensions. Nonetheless, the research was able to find correlation between the human factors, technological factors and CRM successes and effectiveness. The implications for management practice, especially in the industry in question, is that its members should work to improve training, organizational culture and trust, and should bring in the most robust IT platforms, data mining and knowledge management. This would put management in the oil and gas industry on the right track to ensuring the success of CRM and its associated benefits, subject to the model proposed among its contributions.

6.4.1 Managerial Implications Summary

1. The research makes the first attempt to the study of the successful implementation of CRM in the oil and gas industry.

2. The research notes that the role of management needs to change from passive to active participation in the implementation of CRM.

3. Managers in the oil and gas industry need to examine their operations and relate it to the research findings.

4. This will help in the decision-making process for the adoption of CRM as a tool for improving the sales of the organization.

5. The model developed should serve as a blueprint of some of the potential factors that when effectively cultivated will lead to successful implementation of CRM in the oil and gas industry.

6. Since human factors have been found to be very critical to the successful implementation of CRM, it is important that management support the efforts of marketing teams in implementing CRM.

6.5 Academic Implications

The pioneering nature of this study gives it implications for academia. The first is its path and the model that it provides for examining its subject. The closest previous attempts have looked at CRM through the lens of other enterprise resource planning tools. With the major impact of CRM on the business community world-wide, its application and use in the oil and gas industry should already have been studied. The present study presents perhaps the first attempt to assess the implementation of CRM in the oil and gas industry and the critical success factors in doing so. The researcher believes that academia can bring an open mind to the research evidence and build on its strengths in order to promote more academic knowledge and understanding of the critical success factors in the implementation of CRM.

Another implication worth mentioning is that the present study in a field where scholars have not effectively ventured opens the door to more studies. This means that academia should provide the necessary support for the continued study of this subject from various different perspectives in order to find the best models to rely on for improving firms' performance in this regard. As noted by Reichheld et al. (2000), great losses result from the poor implementation of CRM. Therefore, academia should feel obliged to support and add to the research in order to produce solid plans for such improvement.

6.5.1 Academic Implications Summary

1. The research as per the aim only focused on CRM implementation on the B2B international clients in the oil and gas industry.

2. This itself, points out to a lot of room for investigation of other dimensions and perspectives to the application of CRM.

3. The model presented is proposed to be used for experimental purposes in the study of different successful ways of implementing CRM in the oil and gas industry.

6.6 Limitations of the Research

The research was faced with a number of constraints, most of which related to data access and gathering. First, given the size of ADNOC and the high power distance in its organizational culture, it took at least 4 months to obtain approval from the most responsible authority in order to proceed with the distribution of surveys and collection of data from the sample. During this time, the researcher sought meetings with responsible personnel and regularly met with a compliance committee to convince its

members that data gathering would follow the most stringent ethical practices and that the confidentiality of the participants was guaranteed.

Second, in order to ensure the validity of the data gathered and an adequate response rate, the survey had to be followed up in each case, sometimes by discussions and sometimes by delivering and collecting a hard copy. This cost-intensive process was justified, but may not suit all researchers.

Third, some of the findings of the research, for instance, the lack of positive correlations between the CSFs and particular CRM effectiveness and success, may call for a different approach to assessment. This is a possible limitation of the research, although it ha not been elaborated hitherto. Arguably, the main cause of this limitation may be the broad scope of the study; research can be more objective if its scope is narrower. The breadth of scope here includes the number of organizations studied and the number of constructs considered, as discussed above. All in all, this limitation does not affect the validity, reliability, generalizability and transferability of the findings but it may encourage future researchers on this subject to consider a narrower scope.

6.6.1 Limitations of Research Summary

1. The researcher considers the multi-organizational design of the study as one of its primary limitations.
2. This extended and hardened the data collection process.
3. Apart from making data collection hard, this broad scope can be attributed to some missed correlations and rejection of hypothesis.

4. The research contends that with a narrower scope of focus, probably stronger and clearer relationships between constructs would be attained.

5. The research as it is, is one-sided and despite studying CRM, does not make an attempt to gather the consumer view.

6. In the B2B set up of oil and gas industry, the consumer view would probably help in understanding what the consumers want the relationship to be like.

6.7 Recommendations for Future Research

The framework proposed for the critical success factors in the successful implementation of CRM in the oil and gas industry is neither conclusive nor exhaustive. Its pioneering nature requires the framework to be presented to academia and practitioners as an experimental piece which academia can use to develop more dimensions and practitioners can use to propose better ways of practice. The framework is derived from research conducted on a number of constructs, as explained during the entire process. These constructs may not be the only ones to illuminate the relationships that it studied. As a result, future research may be directed to improving the framework by studying the same construct but with a different scope or other test items, and/or by considering other constructs and scopes, to support or challenge the findings of the present study. It is believed that the framework developed here is merely the beginning of continuing conversations on the same subject. Each company could use the framework to define the items and/or constructs that fit its own organizational objectives.

The research also notes that future researchers may be interested in studying the critical success factors (CSFs) for implementing CRM in the oil and gas industry

from the perspective of international B2B customers. This could validate or invalidate the current findings, but either would help to improve the model. The use of other factors including customer orientation and customer culture might also bring a new dimension to the research and strengthen knowledge on the critical success factors for the implementation of CRM, making the model implementable across GCC countries and world-wide.

Finally, the research recommends that management efforts should be increased in line with evidence from research that more involvement from the management exerts more impact on CRM effectiveness and CRM successes, for instance, the improved quality of relationships and transactions and increased levels of customer satisfaction and customer retention. While it has been shown that there is only partial support for management factors in customer retention and customer satisfaction, the research observes that these might be improved by increasing the concentration of management support in these areas to enhance the relationship between management factors and customer satisfaction as well as customer retention.

6.7.1 Recommendations for Future Research Summary

1. The research presents framework as an experimental piece which
   - Academia can use to develop more dimensions to the study.
   - Practitioners can utilize to propose better ways of practice
2. Future efforts of research can be directed to the framework by studying the same construct from different scopes or test items.

3. Each company can utilize the framework to define the items and/or constructs that are fitting to the organizational objectives.

4. To consider studying the critical success factors (CSFs) for implementation of CRM in the oil and gas industry from the perspective of international B2B customers.

5. Future research should consider the perspective of consumer especially in the B2B context of oil and gas industry. It will help in the development of a more effective CRM model.

6. The use of other factors including customer orientation or customer culture may bring a new dimension and strengthen knowledge on the CSF.

7. Strengthen knowledge on the critical success factors for the implementation of CRM oil and gas industry by making the model implementable across whole UAE, GCC countries or other regions globally.

8. Examine the CSF's for effective CRM implementation on smaller scale of UAE oil and gas company as example individual ADNOC company with marketing activities as Fertiglobe, Borouge or other UAE oil company as ENOC.

9. Future research should consider the perspective of local consumer especially in the B2C context of oil and gas industry in UAE or other Oil exporting countries.

6.8 Conclusive Summary

1. The research is not conclusive nor exhaustive, but its an experimental piece which academics can use to develop more dimensions to implementing CRM in the oil and gas industry.

2. Practitioners can use the findings of the study to develop better approaches to the actual implementation of CRM.

3. The constructs studied may not be the only ones affecting CRM in the oil and gas industry.

4. Therefore, this research recommends that future scholars consider modification of the framework based on practical experience to assist in studying different perspectives of CRM in the oil and gas industry.

5. As different companies in the oil and gas industry may have unique experiences, different capital structure and objectives which make it possible that the CRM CSFs would differ.

6. The human factors and technological factors were the most important critical success factors for successful implementation of CRM in the oil and gas industry.

7. The management efforts should be increased in line with evidence from research that with more involvement from the management there is more impact on CRM effectiveness and CRM successes.

8. There is only partial support for management factors on customer retention and customer satisfaction – the research observes that there is a potential area of improvement through increased concentration of management support.

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Appendix

Integrating CRM Customer Relationship Management Critical Success Factors, Customer Satisfaction and Customer Retention in the Oil and Gas Sector: The Case of UAE ADNOC Group

Dear Survey Participant,

We would like you to participate in this study to determine the (CSFs) Critical Successful Factors for the effective implementation of Customer Relationship Management (CRM) in the business to business (B2B) international customer context within the Oil and Gas Sector – the case of UAE's ADNOC Group: the effects of CRM critical success factors (CSF) of implementation on CRM Effectiveness, Customer Satisfaction, and Customer Retention.

This research is conducted as part of the Doctor of Business Administration (DBA) degree in the (UAEU) United Arab Emirates University. The research will determine what the critical success factors (CSFs) are in the successful CRM implementation in the UAE Oil and Gas industry (ADNOC group case). What are the effects of CRM CSFs on the CRM effectiveness of transaction and relationship quality? and what are the effects of CRM Implementation on the success of customer retention and customer satisfaction?

A summary of the report will be available to all the interested participants. Please indicate your interest by providing us with your contact and email address in the specified section.

Kindly note that participation is voluntary and you may withdraw at any time from the study. There is minimal risk in participating in this study, since all the data collected will be anonymous

If you have questions regarding this study, please do not hesitate to contact the researcher directly using the contact information below.

Thank you in advance for your valuable contribution to this important study.

General instructions to complete the survey:

- Note that if you are an employee who has a contact point with ADNOC international customer throughout its product and service Supply chain such as Marketing, Sales, Market research, CRM system, Delivery process, Loading and shipping process, Customer Payment and credit process, Administration process…etc. then you are the right candidate to complete this survey.
- Please answer all the questions, to the best of your knowledge
- Please tick the following statement if you agree to participate:

I agree to voluntarily participate in the study ☒ Agree

Sawsan Mohammed Al Khouri

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Who should complete this questionnaire?
The following questions should be answered by a person who has a point of contact with ADNOC International customers and Controls or is in charge of the sales, marketing, product delivery process, shipping & delivery process, payment & credit process, CRM system & implementation.
This will be done by asking respondents:
1. To choose an answer in an appropriate box.
2. To indicate the extent of their agreement about different issues. A five-point scale (1-5) has been designed as follows.

First: Background Information

Please put a tick in the appropriate box: ☒

A. About you:

1. Age Category

☐ 25 years and younger	☐ 25-35 years	☐ 36-45 years	☐ 45-55 years	☐ 56 years or older

2. Gender

☐ Male	☐ Female

3. Qualifications

☐ Secondary	☐ Diploma	☐ Bachelor	☐ Master	☐ Postgraduate Doctorate

4. Nationality ……

5. Your current company's name ……

6. How long have you been working in the oil and gas industry and ADNOC Group?

☐ Less than 2 years	☐ 2- 5 years	☐ 6 –10 years	☐ 11 –15 years	☐ More than 15 years

7. How long have you been working in CRM or had a contact point with ADNOC customers?

☐ Less than 2 years	☐ 2- 5 years	☐ 6 –10 years	☐ 11 –15 years	☐ More than 15 years

8. Experience in the current organization

☐ Less than 2 years	☐ 2- 5 years	☐ 6 –10 years	☐ 11 –15 years	☐ More than 15 years

9. Division or Department that you work with?

☐ Marketing	☐ Sales	☐ Marketing & Research	☐ Finance	☐ Shipping & Loading	☐ Others, please specify----------

B. About your Company

10. Do you think that CRM - Customer Relationship Management is important?

☐ Yes	☐ No	☐ I'm not sure

11. Which channels are often used for maintaining customer relations? (Check all that apply)

☐ Direct contact	☐ Mobile phone	☐ Meeting
☐ Direct mail	☐ Call center	☐ Other:----------

12. What CRM Software – which allows you access to all your customer details and transactions – are you using?

☐ Oracle	☐ Maximo	☐ SAPS	☐ Other, ----------

13. What percentage of your company's CRM efforts would you consider successful?
(Success is defined in terms of achievements of predetermined goals i.e., improved efficiency of transaction quality, customer relation quality, improved speed, improved decision making, customer retention, customer satisfaction, responsiveness in meeting customer needs and greater market access)

☐Less than 20%	☐20-40%	☐41-60%	☐61-80%	☐81-100%

Second: CRM Critical Success Factors Enablers

The following factors are expected to be key facilitators for implementing the CRM project. Please choose a number between 1 and 5 to indicate the level of criticality of each factor.

1	2	3	4	5
Not at all	Minor	Moderate	Major	Critical

A. Top Management Support	1	2	3	4	5
A0.1 Allocation of adequate resources to CRM efforts	☐	☐	☐	☐	☐
A0.2 Relative importance given by the top management to CRM versus cost	☐	☐	☐	☐	☐
A0.3 Management being customer focused	☐	☐	☐	☐	☐
A0.4 Relative importance given by top management to CRM as a strategic issue	☐	☐	☐	☐	☐
B. Developing &Communicating a clear CRM strategy:	1	2	3	4	5
B0.1 Developing a clear CRM Strategy	☐	☐	☐	☐	☐
B0.2 Clarity of CRM goals for the company	☐	☐	☐	☐	☐
B0.3 Clear project vision/scope	☐	☐	☐	☐	☐
B0.4 Change required to implement CRM	☐	☐	☐	☐	☐
C. CRM Benchmarking	1	2	3	4	5
C0.1 Emphasis on benchmarking competitors' products and processes	☐	☐	☐	☐	☐
C0.2 Emphasis on benchmarking non competitors' products and processes	☐	☐	☐	☐	☐
C0.3 Effectiveness of benchmarking in customer service improvement	☐	☐	☐	☐	☐
C0.4 Effectiveness of benchmarking in service cost reduction	☐	☐	☐	☐	☐
D. Trust	1	2	3	4	5
D0.1 Fulfilment of customer expectations	☐	☐	☐	☐	☐
D0.2 Maintaining the privacy & security of the customer	☐	☐	☐	☐	☐
D0.3 Freedom from doubt/risk during the service delivery process	☐	☐	☐	☐	☐

D0.4 Reliability in keeping promises and rules	☐	☐	☐	☐	☐
E. CRM Training	1	2	3	4	5
E0.1 Availability of resources for CRM training	☐	☐	☐	☐	☐
E0.2 Frequency of training	☐	☐	☐	☐	☐
E0.3 The existence of training programs designed to help employees to develop their skills	☐	☐	☐	☐	☐
E0.4 Satisfaction of employees with overall training	☐	☐	☐	☐	☐
F. Organization Culture	1	2	3	4	5
F1. Business objectives oriented to customer satisfaction	☐	☐	☐	☐	☐
F2. Business strategies driven by an objective of increasing value for customers	☒	☐	☐	☐	☐
F0.3 Paying great attention to after-sales service	☐	☐	☐	☐	☐
F0.4 Organizational customer-centered culture that supports CRM implementation	☐	☐	☐	☐	☐
G. IT platform	1	2	3	4	5
G0.1 Good infrastructure for information systems	☐	☐	☐	☐	☐
G0.2 Adequate software selection	☐	☐	☐	☐	☐
G0.3 Integration with other software	☐	☐	☐	☐	☐
G0.4 Using CRM Software to respond to customers	☐	☐	☐	☐	☐
H. Data Mining	1	2	3	4	5
H0.1 Information about the availability of products/services that you market	☐	☐	☐	☐	☐
H0.2 Effective management of information and knowledge	☐	☐	☐	☐	☐
H0.3 Using CRM to respond to customer complaints	☐	☐	☐	☐	☐
H0.4 Availability of the customer data to managers	☐	☐	☐	☐	☐
I- Knowledge Management	1	2	3	4	5
I0.1 Integrated customer knowledge across several functional areas	☐	☐	☐	☐	☐
I0.2 Customer knowledge availability allowing fast decision-making	☐	☐	☐	☐	☐
I0.3 Knowledge about competitors	☐	☐	☐	☐	☐
I0.4 Applying knowledge to resolve new problems	☐	☐	☐	☐	☐

Third: CRM Effectiveness

The following questions emphasise the effect of the CRM implementation on your company. Please tick the box that reflects to what extent you think that the following aspects currently do so or will do so.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

J. Transaction Quality	1	2	3	4	5
J0.1 Personalized transactions & services offered to each customer	☐	☐	☐	☐	☐
J0.2 Support for efficient and speedy transactions with less processing time	☐	☐	☐	☐	☐
J0.3 Refining the billing system & credit control	☐	☐	☐	☐	☐
J0.4 Identifying effectively the patterns and trends of customers' needs	☐	☐	☐	☐	☐
K. Relationship Quality	1	2	3	4	5
K0.1 Personalized quality services at every customer contact point	☐	☐	☐	☐	☐
K0.2 Improving customer services	☐	☐	☐	☐	☐
K0.3 Increasing knowledge of customer needs	☐	☐	☐	☐	☐
K0.4 Developing a continuous relationship with customers	☐	☐	☐	☐	☐

Fourth: CRM Successes

The following statements explore the CRM successes in your organization. Please indicate the level of agreement with each of the following statements.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

L. Customer Satisfaction	1	2	3	4	5
L0.1 CRM implementation increases customer satisfaction	☐	☐	☐	☐	☐
L0.2 CRM implementation improves satisfaction with the transaction	☐	☐	☐	☐	☐
L0.3 CRM implementation decreases customer complaints	☐	☐	☐	☐	☐
L0.4 CRM implementation improves the response to customers' queries	☐	☐	☐	☐	☐
M. Customer Retention	1	2	3	4	5
N0.1 CRM implementation helps in retaining existing customers	☐	☐	☐	☐	☐
N0.2 CRM implementation provides a competitive advantage	☐	☐	☐	☐	☐
N0.3 CRM implementation increases customer loyalty	☐	☐	☐	☐	☐
N0.4 CRM implementation helps in achieving a long-term relationship with customers	☐	☐	☐	☐	☐

Any additional comments:
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Thank you for your co-operation

If you would like a copy of the study results report, please supply the following details
Name:
……
Organisation:
……
E-mail:
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