The Effect of Mobile Customer Relationship Management Applications on Customer Knowledge Creation:
A MARKA VIP Case Study

أثر ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية على بناء معرفة العملاء: دراسة حالة في شركة ماركا في اي بي

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Authorization

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Dedication

I dedicate this work to:

My Family,

For being there to help me overcome all the difficulties in my way and make me stronger, and whose supporting me to go on.

My Wife,

Being by my side, is an added value for me and encourage me to do the best that I can, you release the best of me.

My Supervisor,

You deserve the best, and whatever I do I will not be able to pay you back, this work was very difficult until you show up and made it easy.

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TABLE OF CONTENT

No.	LIST of APPENDIX	Page
1	List of the Academic Arbitrators	80
2	Study Questionnaire : Arabic Language	81
3	Study Questionnaire : Arabic Language	87

The Effect of Mobile Customer Relationship Management Applications on Customer Knowledge Creation: A MARKA VIP Case Study.

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Abstract

This study aimed to investigate the effect of Mobile customer relationship management applications (MCRM Applications) on Customer knowledge creation (CKC). In order to achieve the study objective a self- administered questionnaire was designed based on the extant literature. The questionnaire consists of 41 statements (anchored on Likert Five Point Scale). The population of this study consists of all employees in all levels at MARKA VIP Company. Out of 200 questionnaires were circulated to the research population only 111 questionnaires were obtained and found have valid data for further analysis.

To analyses the data that has been collected and test research hypotheses, a set of statistical techniques where used, such as (arithmetic mean, standard deviation, simple regression, multiple regression, and Stepwise regression). The study arrived to some significant results among them are: There is a significant statistical effect for Mobile customer relationship management applications MCRM Applications (Operational, Analytical and Collaborative) on Knowledge from customer creation, There is a significant statistical effect for Mobile customer relationship management applications MCRM Applications (Operational, Analytical and Collaborative) on Knowledge for customer creation, and there is a significant statistical effect for mobile customer relationship management applications MCRM Applications (Operational, Analytical and Collaborative) on Kknowledge about customer creation.

The study recommends that companies in Jordan which use Mobile customer relationship management applications MCRM Applications should devote more effort to understand its benefits. They also need to integrate tightly Mobile customer relationship management applications MCRM Applications with Customer knowledge creation CKC in order to be able to gain more benefits which lead to better customer service and in return a long term relationship with their customers.

Keywords: MCRM Applications, Operational MCRM Applications, MCRM Analytical Applications, MCRM Collaborative Applications, Customer knowledge creation, Knowledge from customer, knowledge for customer, knowledge about customer.

أثر ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية على بناء معرفة العملاء:

دراسة حالة في شركة ماركا في اي بي

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اشراف

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ملخص الدراسة

هدفت هذه الدراسة الى دراسة أثر ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية على بناء معرفة العملاء في شركة ماركا في اي بي. وتكوّن مجتمع الدراسة من جميع العاملين في شركة ماركا في اي بي و من مختلف المستويات الادارية، ولتحقيق أهداف الدراسة تم تصميم استبانة خاصة لجمع البيانات من عينة الدراسة بناءً على أحدث الدراسات التي أجريت في الموضوع إذ تكونت من 41 فقرة، تم توزيع 200 استبيان وتم اختيار 111 استبيان وكانت مناسبة للتحليل الاحصائي. تم استخدام الأدوات والأساليب الإحصائية مثل (المتوسط الحسابي، الإنحراف المعياري، الإنحدار البسيط، الإنحدار المتعدد، تحليل الإنحدار المتعدد المتدرج) لتحليل البيانات واختبار فرضيات البحث. وتوصلت نتائج التحليل الإحصائي الى مجموعة من النتائج أهمها وجود علاقة لادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية على بناء معرفة العملاء في شركة ماركا في اي بي ، يوجد أثر ذو دلالة إحصائية لادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية على بناء معرفة من العملاء في شركة ماركا في اي بي ، يوجد أثر ذو دلالة إحصائية ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية على بناء معرفة من العملاء

في شركة ماركا في اي بي, و يوجد أثر ذو دلالة إحصائية ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية على بناء معرفة للعملاء في شركة ماركا في اي بي

وبناءً على النتائج التي تم التوصل إليها، تم صياغة مجموعة من التوصيات أهمها ضرورة بذل جهد أكبر لتفهم منافع ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية، وضرورة التكامل بين ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية وبناء معرفة العملاء وذلك لتعظيم الفائدة منها والتي بدورها تحسن مستوى خدمة العملاء وعليه تحقيق علاقة طويلة الامد مع العملاء.

الكلمات المفتاحية: ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية، ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية العملياتية، ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية التحليلية وادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية التشاركية، بناء معرفة العملاء، معرفة من العملاء، معرفة للعملاء ومعرفة عن العملاء.

General Introduction

(1-1) Introduction

Customer relationship management (CRM) has gained attention of many disciplines and industries. CRM is the tool to establish and maintain relationship with customer, CRM allow companies to communicate with their customers based on an individual bases as well as differentiate relationship value. The better the relationship with customer, the easier it is to gain more profit.

In CRM, the mobile medium acts like an extra communication channel that allow companies to provide same services as that have been provided by personal contact (Liljander 2007). However, the mobile medium provides a unique value added which is accessing individuals virtually anytime anywhere as it's a personal device (Balasubramanian (2002), Tsang (2004), Shankar (2010)), while all other channels are restricted in this respect as these channels are not much personal as mobile devices (Verhoef & Donkers, 2005).

The combination of mobile services and the idea of CRM are called Mobile customer relationship management (henceforth referred to as, MCRM) services. according to Sinisalo, Karjaluoto & Leppäniemi, (2007) the unique characteristics of the mobile medium are personalized communication, as mainly the mobile owned by one person, in addition to interactivity and flexibility. In order to personalize relationship with customers - in other words - serve each customer in his preferred way, companies should master the management of customer knowledge (Davenport 2001).

CRM and Customer knowledge are highly synergy and used in conjunction. CRM is the tool to gather and integrate customer knowledge (Khodakarami & Chan, 2014). While customer knowledge support the main goal of CRM which is serving customer by managing knowledge from, for and about customer , which means that CRM and customer knowledge are both interdependent (Gebert, Geib, Kolbe & Brenner, 2003).

Customer knowledge oriented CRM consisting of three types: Operational customer relationship management, Analytical customer relationship management and Collaborative customer relationship management (Xu & Walton, 2005). While CRM oriented customer knowledge consist of three types: Knowledge from customer, Knowledge for customer and Knowledge about customer, (Srisamran & Ractham, 2014).

(1-2) The Study Problem, Objective and Questions

Mobile customer relationship management provides the ability to access individual customers –personalized relationships- anywhere anytime. In order to achieve personalization, customers should be identified at first , and their preferences, needs and wants need to be understood by the company otherwise the customers are remain invisible to the company, and therefore; very hard to be managed. Personalized relationship also requires the management of customer knowledge.

It's clear that mobile customer relationship management and customer knowledge management are related and both are required to provide personalized relationship. By understanding the effect of mobile customer relationship management

applications on customer knowledge creation, the research will figure out how to produce a personalized relationship and how such relationship can be beneficial for companies.

Based on the investigation done by the researcher to deg down deep searching for the subject matter, the researcher found that there is a problem with customization and personalization of the communications and services, and this kind of problems results from a problem with customer profiling due to several causes, the researcher expects to detect the causes of the problem and give recommendations to deal with it.

There is a lack in the studies and researches on Mobile customer relationship management and Customer knowledge management and there are many studies recommended to have more researches in this regard. This study aims at filling this gap also at acting as a starting point for further researches by investigating the effect of using mobile customer relationship management applications on customer knowledge creation. This Study will be implemented in MARKA VIP Company –an online store, one of main players in Jordan Market - in Jordan as it presents a new shape of e-commerce based business which makes it suitable for this study.

Customer knowledge creation has three types (for, from and about) customer. Each class of mobile customer relationship management applications (operational, analytical, and collaboration) provides a range of applications that facilitate creating specific type of customer knowledge. In order to achieve the main objective of this study, that is; understand the effect of mobile customer relationship management

applications on customer knowledge creation, the following question should be answered.

"**What is the effect of mobile customer relationship management applications on customer knowledge creation in MARKA VIP Company in Jordan?**"

This question can be divided the following sub questions to fulfill the study main objective:

1- What is the effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation (from customer) in MARKA VIP Company in Jordan?

2- What is the effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation (for customer) in MARKA VIP Company in Jordan?

3- What is the effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation (about customer) in MARKA VIP Company in Jordan?

The questions of this study will be answered by the population of this study which represents all employees in MARKA VIP in Jordan.

(1-3) Significance of the study

This study is motivated by the new business type in Jordan, e-Commerce based business, and it takes "MARKA VIP" company in Jordan as a case example to implement the study which aims at understanding the effect of mobile customer

relationship management applications (operational, analytical and collaborative) on customer knowledge creation (from, for and about).

Moreover, the following points show the significance of this study:

1. Fill the gap in literatures related to Mobile CRM, by providing a model to link MCRM Applications with CKC.

2. Provide a solid conceptualization of Mobile CRM and customer knowledge creation which will encourage further studies, through the extensive review of the previous literature to formulate the current study model and then provide academic recommendations.

3. The majority of previous studies about this subject are conducted in developed countries. Consequently, this does not necessarily reflect the experience of companies in one of the third world countries such as Jordan- for example- because of cultural, economical, social, political and religious dramatic differences, this study has been done in Jordan and its result are restricted to MARKA VIP company.

4. Current Study is expected to help managers to become aware of the importance of mobile customer relationship management applications in customer knowledge creation, and how these two aspects can be used in conjunction to provide personalized relationship with customer, a set of remunerations were addressed in this regards.

5. According to the best knowledge of the researcher, this is the first study that tries to understand the importance of mobile customer relationship management applications in customer knowledge creation in Jordan.

6. Create a quantitative model based on the proposed qualitative model that has been made suggested by (Khodakarami & Chan, 2014), the interview questions of the

study that made by Khodakarami & Chan (2014) have been formulated to fit questionnaire instrument.

(1-4) The Study Hypotheses

According to the study problem, which has been referred to and based on the questions that have been identified, the researcher has developed the following hypotheses:

Main hypothesis (H01): There is no significant effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation (from, for and about) in MARKA VIP Company at $\alpha \leq$ 0.05.

From this hypothesis a number of sub-hypotheses have been emerged:

H01-1: There is no significant effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation (from customer) in MARKA VIP Company at $\alpha \leq 0.05$

H01-2: There is no significant effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation (for customer) in MARKA VIP Company at $\alpha \leq 0.05$

H01-3: There is no significant effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation (about customer) in MARKA VIP Company at $\alpha \leq 0.05$

(1-5) The Study Model

Independent Variables   H01   Dependent Variable

Mobile CRM Applications:

➢ Operational MCRM

➢ Analytical MCRM

➢ Collaborative MCRM

H01.1 → Customer Knowledge Creation (From Customer)

H01.2 → Customer Knowledge Creation (For Customer)

H01.3 → Customer Knowledge Creation (About Customer)
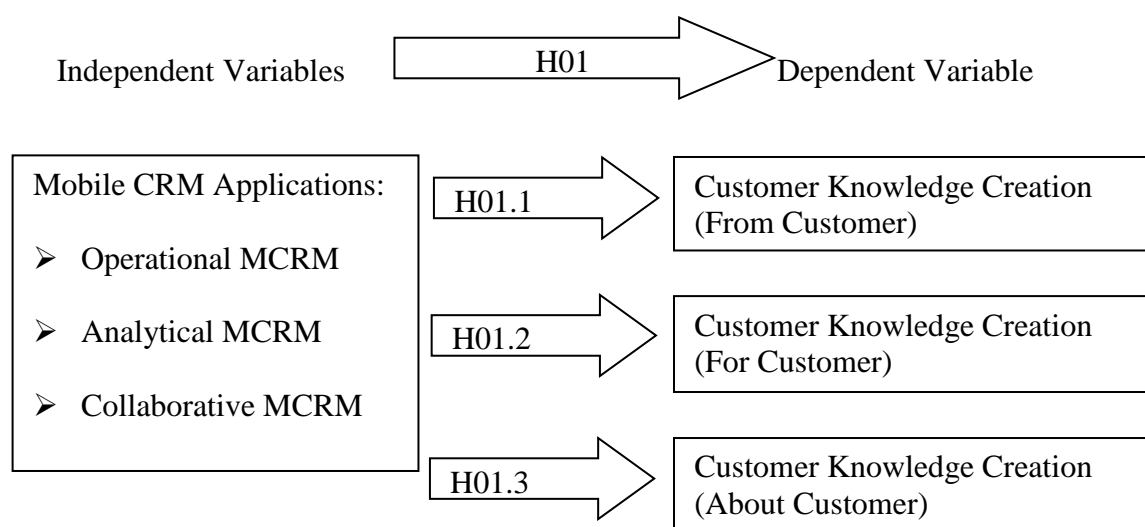
Figure (1-1)

This research model is developed by the researcher as a revised extension of the model proposed by (Khodakarami & Chan, 2014) and (Xu & Walton, 2005).

(1-6) The Study Limitations

1- Location Limitations: The current study will be conducted at MARKA VIP online store in Jordan.

2- Human resource Limitations: The current study targets only MARKA VIP employees.

3- Timeline Limitations: This study is expected to be accomplished through the year (2015-2016).

(1-7) The Study Delimitations

The benefits beyond research accomplishments are restricted by the following delimitations:

1- The results are limited for "MARKA VIP" company only.

2- The results represent e-commerce based business sector.

(1-8) The Study Operational Definitions

For the purposes of this study, the meaning and procedural methods and variables could be determined as the following:

1. **Mobile customer relationship management applications**

Mobile customer relationship management applications are a set of different applications that are used by "MARKA VIP" to interact with customers, organize and facilitate its business process. Mobile customer relationship management applications are used to integrate internal organization resources and processes and external marketing strategies in order to understand and fulfill their customer's needs regardless location, time and devices capability**.**

Operational mobile customer relationship management applications, hereafter Operational MCRM.

Operational mobile customer relationship management applications are a set of mobile applications that are used by MARKA VIP in order to improve mobile customer relationship management efficiency and productivity.(e.g., MARKA VIP mobile App).

2. **Analytical mobile customer relationship management applications, hereafter Analytical MCRM**.

Analytical mobile customer relationship management applications are a set of applications that are used to analyze the data collected in order to provide a better understanding of individual customers' behaviors and needs , it also facilitates customer behavior predictive modeling and purchase pattern recognition. (e.g, data mining, data warehouses, mobile analytical processing).

3. Collaborative mobile customer relationship management applications, Hereafter Collaborative MCRM.

Collaborative mobile customer relationship management applications are a set of applications that are used to manage and integrate communication channels that serve mobile-based communication.

4. Customer knowledge creation

Customer knowledge creation is a set of processes that drive creates knowledge related to customer.

5. Customer knowledge creation (from customer)

Is to create knowledge from customers, that is; what they know about products, services and competitors.

6. Customer knowledge creation (for customer)

It is to create knowledge for customers, which is provided to customers to satisfy their needs for information about products, services and other relevant items.

7. Customer knowledge creation (about customer)

It is to create knowledge about customers, which refers to knowledge about customers' back-grounds, motivations and preferences which facilitate continuous improvement of the services.

Chapter 2

Theoretical Framework and Previous Studies

(2-1) Introduction

The chapter is composed of five sections; Section 2-1: introduction. Section 2-2: provides an overview of mobile customer relationship management. This section divided into three sub-sections; mobile customer relationship management definition, types and characteristics of mobile customer relationship management: 2-2-1, 2-2-2 and 2-2-3. Customer knowledge creation is described in Section 2-3. This section divided into three sub-sections; customer knowledge creation definition, customer knowledge creation types and benefits: 2-3-1, 2-3-2 and 2-3-3. Section 2-4; discusses how customer relationship management applications effect customer knowledge creation. Finally, previous studies are summarized in Section 2-5.

(2-2) Overview of mobile customer relationship management

(2-2-1) mobile customer relationship management definition

1. "The possibilities that are created by mobile medium which enabled companies and industries to exploit this medium to promote customer relationship management activities" (Sinisalo, 2006).

2. "By using mobile medium, companies are able to advance activities with customer in the sense of saving time, cost and inconvenience" (Sinisalo, 2006).

3. "Utilizing mobile medium for the purpose of managing customer relationships and activating customers to start dialogue with the company via mobile medium" (Sinisalo, 2006).

4. The ability to use handheld devices to manage sales, sales contacts, and customer service activities (Bitpipe, 2006).

5. "Services that (1) aim at nurturing customer relationships, acquiring or maintaining customers, (2) support marketing, sales or service processes, and (3) use wireless networks as the medium of delivery to the customers"(Camponovo, 2005).

6. "... communication, either one-way or interactive, which is related to sales, marketing, and customer service activities conducted through the mobile medium for the purpose of building and maintaining customer relationships between a company and it's customer" (Sinisalo, Karjaluoto & Leppäniemi, 2007).

Based on the above definitions, the researcher perceived mobile customer relationship management as an extension of traditional customer relationship management by combining wireless technologies and handhelds devices that enabled applications as a medium to promote customer relationship activities and to provide customized and personalized services anytime and anywhere.

(2-2-2) Types of mobile customer relationship management

The previous studies focused on the customer relationship management systems types. However, there might be a need to extend the functionality of these systems in order to fit the idea of mobile customer relationship management, according to Khodakarami & Chan, (2014), Gebert, Geib, Kolbe, & Brenner, (2003), Xu & Walton, (2005) customer relationship management systems consist of three types as the following:

1. Operational customer relationship management systems: essentially, it's an automation of customer relationship management processes that aims at improving their efficiency and productivity. Here are some examples: call center as to support customer service and support systems , point of sale (POS) systems and marketing automation to support sales force and marketing automation.

2. Analytical customer relationship management systems: They facilitate customer behavior predictive modeling and purchase pattern recognition by providing a better understanding of individual customers' behaviors and needs. Here are examples (analytical tools such as data mining, data warehouses and online analytical processing (OLAP)).

3. Collaborative customer relationship management systems: manage and integrate communication channels and customer interaction touch points. Company websites, e-mail, customer portals and video/web conferencing are examples of collaborative systems.

(2-2-3) Unique Characteristics of mobile customer relationship management

1. Personalization of communication: as mobile phone generally belongs to only one person, the communication through mobile medium is targeted in person (Sinisalo, Karjaluoto & Leppäniemi, 2007). To succeed in personalization, customers must be identified by understanding their preferences, needs and wants so that companies can manage their customers. Nevertheless, without this identification and understanding, customers are invisible to the company and therefore their unspoken needs are unmanageable (Park & Kim, 2003).

2. Interactivity: numerous studies have emphasized interactivity as one of the main characteristics that make the mobile medium unique (Barwise & Strong, 2002) , (Barnes & Scornavacca, 2004), (Bauer, 2005). The mobile medium enables interactivity and includes all the features necessary to have a direct dialogue between the company and its customer. According to Dowling and Uncles, (1997) personalized dialogues result in enhanced loyalty. Accordingly, it is important to utilize this characteristic. Otherwise, many of the benefits of the mobile medium will vanish (Sinisalo, Karjaluoto & Leppäniemi, 2007).

3. Flexibility: mobile phone users always carry their devices with them which make the mobile medium a flexible channel in terms of time and location and this type of channels are highly valued by customers, (Balasubramanian, 2002). Sinisalo, Karjaluoto & Leppäniemi (2007), added that "Aside from simply providing a platform for flexible communication, the proper utilization of the mobile medium for CRM purposes is also expected to deepen customer relationships".

(2-3) Overview of customer knowledge creation

(2-3-1) Customer knowledge creation definition

1- "The customer knowledge management is related to knowledge about, for and from customer. Knowledge is created, located and captured, disseminated, modified and constantly used within all CRM business processes" (Gebert, Geib, Kolbe, & Brenner, 2003).

2- "In practice, what companies actually manage under the banner of knowledge management is a mix of knowledge, information, and unrefined data-in short, whatever

anyone finds that is useful and easy to store in an electronic repository", (Grover & Davenport, 2001).

3- "To build good relationships with customers, it is necessary to serve each customer in his preferred way, therefore requiring the management of customer knowledge", (Davenport, 2001).

Based on the above definitions, the researcher believe customer knowledge creation is concerned with total data, information, needs, wishes, ideas, preferences, expectations, unspoken needs, etc. which companies should collect from\about\for customer, and subject it to further analysis to strengthen their relationships with customers.

(2-3-2) Types of Customer knowledge

According to Srisamran & Ractham, (2014) and Gebert, Geib, Kolbe, & Brenner, (2003), Customer knowledge can be categorized into three types:

1) Knowledge for customers: knowledge companies post to their customer regarding their needs (e.g. knowledge on products, markets, and suppliers).

2) Knowledge about customers: This type of knowledge facilitates customizing products and services. It also helps organizations to personalize marketing messages. It is obtained by understanding customer's needs and motivations. E.g. knowledge of customer's histories, customer's requirement, etc.

3) Knowledge from customers: the knowledge that emerged through communicating with customers. i.e. customers knowledge on products, markets and suppliers. It can be used for sustainable and continuous improvement.

(2-3-3) Benefits of Customer knowledge creation

- According to Khodakarami & Chan, (2014) organization have a valuable competitive activity by gathering, managing, and sharing their customers information and knowledge .

- organization can achieve a direct benefit and satisfy their customers need by using (knowledge for customers), which is knowledge about products, services and other relevant items (Khodakarami & Chan, 2014).

- The development in the organization is based on (knowledge about customer) and (knowledge from customer) as they give a guide line for continuous improvement at the level of processes , such as new product development and customer services (Khodakarami & Chan, 2014).

- According to Davenport (2001), the management of customer knowledge is the way to build good relationships with customers by personalizing services as preferred by the customers, which maintain life long relationship.

(2-4) The effect of customer relationship management on customer knowledge creation

Much of prior studies in the literature focused on the effect of traditional customer relationship management on customer knowledge management,

- According to Davenport (2001), customer knowledge and customer relationship are cause and effect, one leads to the other.

- According to Salojärvi, Sainio & Tarkiainen, (2010), using of CRM enhance the utilization of customer knowledge.

- Gebert, Geib, Kolbe & Brenner, (2003), Khodakarami & Chan, (2014) and (Xu & Walton, (2005) confirmed that CRM which customer knowledge oriented consist of three types: Operational CRM, Analytical CRM and Collaborative CRM.

- According to Gebert, Geib, Kolbe & Brenner, (2003) and Khodakarami & Chan, (2014) CRM and Customer Knowledge are both integrated and each types of CRM lead to create specific type of customer knowledge at the process level.

- Customer relationship management systems are the tools to gather and integrate customer knowledge from different sources and facilitate the creation of new knowledge (Khodakarami & Chan, 2014).

- Customer knowledge supports the primary goal of customer relationship management which is serving customer by managing the knowledge about, for and from customers. The synergy between customer relationship management and customer knowledge management is observed in practice, in respect to the mutual benefits, customer relationship management and customer knowledge management are interdependent. (Gebert, Geib, Kolbe & Brenner, 2003).

- Khodakarami & Chan, (2014) explained how each types of CRM systems (Operational , Analytical and Collaborative) are facilitating creating each types of customer knowledge(From, for and about) by through knowledge management processes (Externalization , Socialization , Internalization , Combination) .

- Xu & Walton, (2005) focused on a specific type of CRM to gain customer knowledge and explained how Analytical CRM is used to generate real time knowledge about customer preferences and behaviors.

Mobile customer relationship management is an extension of traditional customer relationship management and is made up of various tools that enable organizations to collect, process, analyze data collected from and about customers.

This allows organizations to customize their products according to customers' needs and preferences. It also enables organizations to interact personally and continuously with customers. By doing so, organizations are not only know what they sell but for whom they are selling. Then, instant and continuous feedback about products and services are always available and suggestions for further improvements will be provided by customers. As result, a high level of intimacy and customers' loyalty will be achieved.

Based on the above arguments, it can be concluded that customer relationship management applications facilitate customer knowledge creation. Therefore, Mobile Customer relationship management applications have direct influence on customer knowledge creation.

(2-5) Previous Studies

The researcher searched well known databases such as (Emerald, ProQuest, IEEE and Elsevier), University of Jordan database and Google Scholar to access a lot of literatures and studies that were discussed in the current study. These studies include the following:

Gebert, Geib, Kolbe & Brenner (2003) conducted a study titled **"Knowledge-enabled customer relationship management: integrating customer relationship management and knowledge management concepts".**

The paper aims to investigate how customer relationship management and knowledge management are both beneficial to the business and the main focus is measurement and proof of tangible performance improvement that have been achieved by implementation of CRM processes .

The purpose of this study is to propose a process level view to link customer relationship management with customer knowledge management concepts. The research Tools, six-years of action research analysis in addition to cases studies and survey conducted with corporate research partner with 14 companies.

The study conclusions were management knowledge is a critical success factor for customer relationship management, knowledge management methods aims to support customer relationship management are process oriented, customer relationship management and knowledge management have a high synergy potential and should be used in conjunction with each other.

Dous, Salomann, Kolbe & Brenner, (2005) conducted a study titled **"Knowledge Management Capabilities in CRM: Making Knowledge For, From, and About Customers Work".**

The paper aims to enhance CRM processes by knowledge management capabilities and how both are deliver continues improvements toward customers. The purpose of the study is to address the actual status quo of CKM initiatives within

organization and how can companies successfully utilize knowledge for, from and about customer to achieve superior performance in CRM processes by answering when, how companies can successfully utilize Knowledge for, from about customer to achieve superior performance in CRM processes.

The study applies two-stage research approach combining quantitative-empirical data with result from a multiple case study design, the quantitative –empirical data was collected by means of a survey of 1000 CRM executive of renowned companies in Germany speaking region, and semi-structured interview in three case studies in Swiss and German companies in the second half of 2004 to illustrate good practice in either managing knowledge for, from and about customers.

The result of the study were most of the respondents say that they have not or hardly implemented any processes of managing customer knowledge, firms may refrain from KM initiatives in CRM due to difficulty in visualizing the benefits in short-term pay-offs , also they advised that KM had a negative connotation within their organization and therefore investment decision was rarely carried out, and addressed implications in three areas : CKM challenges , relevant knowledge aspects and performance outcome for each type of customer knowledge.

Xu & Walton, (2005) conducted a study titled **"Gaining customer knowledge through analytical CRM".**

The paper aims to examine how customer relationship management (CRM) systems are implemented in practice with a focus on the strategic application, i.e. how analytical CRM systems are used to support customer knowledge acquisition and how such a system can be developed.

The purpose of the study is to explore the potential of CRM systems and the ways that organizations can better use the system to unlock the wealth of customer information and deliver it, enterprise wide, to both internal and external users. The method of the study is examination data reported from a four-year's, and the survey of CRM applications in the UK and an evaluation of CRM analytical functions provided by -the sample- which is 20 leading software vendors .

The study conclusions were current CRM systems are dominated by operational applications such as call centers. The application of analytical CRM has been low, and the provision of these systems is limited to a few leading software vendors, the latest findings on CRM systems application are reported, and an innovative analytical CRM system is proposed for customer knowledge acquisition.

Sinisalo, Salo, Karjaluoto & Leppäniemi, (2007). Conducted a study titled **"Mobile customer relationship management: underlying issues and challenges".**

The study focused on the emerging phenomenon known as mCRM. The purpose of the study is twofold. First, in order to guarantee a coherent discussion about mobile customer relationship management (mCRM), the paper presents a conceptualization of mCRM delineating its unique characteristics. Second, the authors develop the empirically grounded framework of the underlying issues in the initiation of mCRM.

The Method of the research is a single-case-study method used for the empirical component of the study in order to gain a holistic view of the case and access to latent and confidential information of the company under scrutiny. The sample is one of the biggest retailers in Finland in terms of annual turnover. The process of the initiation of

mCRM in this particular company was investigated from August until December of 2004.

The research Tools Semi-structured interviews of the key informants of the company form the main data source through which the issues are identified and the proposed framework is built. The study conclusions were proposed framework identifies issues that can be divided into three categories (exogenous, endogenous and mCRM-specific) the company has to take into account when moving towards mCRM.

The study recommended that further investigations are needed to empirically examine mCRM phenomenon and to look at how mCRM is utilized in different kinds of companies.

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Belachew, Hoang & Kourieh, (2007). Conducted a study titled"**Mobile customer relationship management: A study of barriers and facilitators to mobile customer relationship management adoption".**

The study focused on the barriers and facilitators to mCRM adoption in the Swedish Market. The purpose of the study is to find out why companies chose to adopt or not adopt mCRM systems , the problem of research is how hard to meet all customers' needs at once and how the organizations meet the most important needs to the most important customers to gain competitive advantage. The research conducted qualitative research to analyze the collected data, the sample was a Swedish retailer company in Lulea and the researcher conducted the interview with the company's head of department store.

The study conclusions are several reasons for mCRM acceptance and rejection. The primary reason for investing mCRM was found to be the need to reach customers

and sales force anytime and anywhere. Also, current IT adoption and IT dependency, as well as industry sector, are found to influence attitude towards mCRM. Factors that are found not to affect mCRM adoption are size of the firm and external pressure from the market. The overall perception of mCRM is positive among the respondents and all believe that the mobility aspect of CRM will become increasingly popular. The study recommended doing more studies in the subject of mCRM in different countries.

Salojärvi, Sainio & Tarkiainen, (2010). Conducted a study titled **"Organizational factors enhancing customer knowledge utilization in the management of key account relationships".**

The study aims to understand the utilization of customer-specific knowledge. The study focused on the relationships between various intra-organizational factors and customer knowledge utilization in the context of key account management.

The study focuses on Finish industrial firms with over 200 employees, 171 companies were founded eligible, the study targets higher-level managers representing the sales function, the study uses structural mail questionnaire as a survey instrument.

The results of the study show that suppliers dependency on the key account relationship was positively related to customer knowledge utilization, geographical scope of the key account and supplier firm size had no effect on customer knowledge utilization, top management involvement, the use of teams, CRM technology and formalization coefficient is positively related to the utilization of customer knowledge while customer relationship orientation is not.

Xiong, Qiu-yue & Chun-li, (2010). Conducted a study titled **"Creating competitive advantage through customer knowledge management in customer relationship management".**

This study aims to shed light on the lack of a simple and overall framework to integrate the traditional customer relationship management (CRM) functionalities with the management and application of the customer-related knowledge. The study presents an integrated framework for CRM through the application of knowledge management technology. The framework can be the basis for enhancing CRM development, the framework shows how to link customer knowledge management types, customer knowledge management processes, incorporate CKM into CRM systems and how this can reflected in individual, departmental, divisional and corporation wise.

Sinisalo, (2011). Conducted a study titled **"The role of the mobile medium in multichannel CRM communication".**

The study focused on examines communication through the mobile medium in customer relationship management in a communication perspective, the purpose of the study is to begin to fill the gap in the literature by enhancing the theoretical and practical understanding of mCRM. The study proposes the conceptualization of the focal phenomenon of the study, mCRM, and further elicits the salient characteristics of it.

The study focuses on communication as the core of the interaction between the company and the customer via mobile medium. Accordingly, the study sheds light on the key elements of the communication process within mCRM and its various phases. The study founds a theoretical framework for mCRM; identifying the customer

relationship management, mobile commerce and communication literature streams that define mCRM theoretically.

The study elaborates on the specific role of the mobile medium as a channel within CRM and highlights the ways in which it differs from all other channels within the multichannel CRM environment. The empirical part of the study is conducted as a qualitative case study, the sample of the research is seven Finnish companies utilizing the mobile medium as a communication channel in CRM were selected for the empirical analysis. The research tools are Interviews, observations and personal experiences gained within those companies form the main sources of data.

The study conclusions were to give guidelines on aspects ranging from the initiation of mCRM to actual communication through mCRM, encourage managers, regardless of industry, to consider whether their company could provide added-value of any kind through the use of the mobile medium to benefit their customer relationships. The study stated that there is a gap in the academic literature in the subject of mCRM and encourage further researches.

Frow, Payne, Wilkinson & Young, (2011). Conducted a study titled **"Customer management and CRM: addressing the dark side"**

The paper aims to consider the neglected area of customer relationship management (CRM) and customer management's services provider dark side in business to customer sector and identify the key types of dark side behaviors –that can damage customer relationship- of service providers as well as integrated approaches to CRM that will assist in overcoming dark side behavior.

The study uses extensive literature review in subject of CRM and relationship marketing to fulfill the objective of the paper which is explore the dark side of the service providers behavior in terms of the abuse of relationship created through poor customer management. The paper concludes that the cause of the dark side are poor understanding of the strategic focus of CRM may lead to inappropriate explanation of customers, and maliciously motivated service provider can explicitly abuse customers, as CRM technology can equip them with powerful resources to do that.

The paper identified 10 forms of the dark side behavior that grouped into three broad categories based on means used and targets, and how it linked to the strategic CRM processes, the study recommends that in order to move towards more enlightened marketing practice and overcome dark side behavior more strategic CRM approach need to be adopted.

Ranjan & Bhatnagar, (2011). Conducted a study titled **"Role of knowledge management and analytical CRM in business: data mining based framework"**

The purpose of the paper is to establish a framework that integrates Business Intelligence, Knowledge Management and Analytical CRM using Data Mining techniques which help enterprise decision making. The study focus on the study literature in regards Analytical CRM, Knowledge Management and Data Mining. The paper presents a customized integrated framework to match the need of business.

The paper uses the following tools: a qualitative approach was followed in addition to empirical case study scenarios of the adoption of the framework. Moreover, multiple empirical case scenarios to provide more in depth information about the research problem, an informal discussion was made with organization executives, pellet developers, management educators, management consultant, and management students,

in addition to informal talk with various key notes speakers of various international and national conferences in regards knowledge management, analytical CRM, business intelligent and data mining.

The paper concludes that an Analytical CRM system contributes to the company competitive advantages by enhancing an organization ability to improve customer service, sale performance, and marketing analytics, KM technology coupled with DM principle are capable of managing the firm's explicit and implicit knowledge. Finally, the blend of KM and DM in ACRM add value to the business and the successful implementation of this blend –the framework- enhances the business value of the organization.

Khodakarami & Chan, (2014). Conducted a study titled **"Exploring the role of customer relationship management (CRM) systems in customer knowledge creation"**

The study explores how customer relationship management (CRM) systems support customer knowledge creation processes. The purpose of the study is to explore Three-way interactions among CRM systems, types of customer knowledge, and knowledge creation processes. This research conducted a qualitative research approach , the case study method was used to explore the structure and complexity of knowledge creation processes.

The sample of this study was three Canadian organizations, all three organizations used a variety of CRM systems that made them appropriate case studies. The researcher conducted interviews as the main technique for data collection, although data were also gathered from company websites and company brochures and documents. This method facilitated data triangulation. Several semi-

structured interviews were conducted using a predefined set of questions while allowing for conversational and open-ended answers.

The study confirmed that operational CRM systems can help organizations capture and externalize knowledge about customers. through the socialization process, organizations provide information and knowledge for customers, collect knowledge about customers and gain knowledge from customers. The studied collaborative CRM systems facilitate the externalization of knowledge for customers and help them learn more about products and services. Customers can also share their feedback and opinions with the organization through these systems. Another set of collaborative CRM systems are used to facilitate collaboration inside the organizations. This group of systems helps employees externalize their knowledge about customers, collectively make decisions and find solutions to business problems (e.g., an electronic suggestion box).

The case study confirmed that the analytical CRM systems provided the highest level of support for combination processes and were very capable of producing useful knowledge about customers. Some operational systems supported socialization, and others provided moderate support for externalization. Collaborative systems had the highest capabilities to support knowledge creation processes. Most of these systems facilitated externalization and internalization processes, provided knowledge for customers, and provided organizations with opportunities to learn from their customers.

The study addressed that it served as a started point to encourage further researches in the subject of customer knowledge management and customer relationship management, and recommended to do more research in these subjects.

Aziza, Oubrich & Søilen, (2015). Conducted a study titled **"The impact of CRM on QoE: An exploratory study from mobile phone industry in Morocco".**

This study explores the impact of determinant of CRM and those of quality of the customer experience in the mobile phone industry in Morocco. This study followed hypothetico-detective approach to capture the relationship between CRM practice and the quality of customer experience and to build the framework of the study. Then, an exploratory qualitative research approach to explore the determinants of CRM practice and the most significant factor in the quality of customer experience in mobile phone industries, the sample of 60% of practitioners among telephone mobile operator and 16% of vital service provider were interviewed.

The study concludes that CRM is a strategic choice for mobile phone service providers, there is an interactive links between determinants of CRM and determinants of Quality of customer Experience, the practitioners should look beyond the relationship to manage the customer experience to satisfy and retain thereafter.

Karjaluoto, Sinisalo, Saraniemi, & Töllinen, (2015). Conducted a study titled **"Barriers to the use of Mobile Sales Force Automation Systems. A Salesperson's Perspective".**

This study aims to examine mobile sales force automation system from sales person's perspective to shed light on the barriers to use mobile SFA system and also it offers a conceptualization of mobile SFA systems.

The study uses multiple case studies to deepen the theoretical framework of mobile CRM and test the assumptions on the barriers of using mobile SFA system and

finds support for all of them and reveals two additional barriers to mobile SFA system use. The primary data were collected by semi-structured interviews of the study sample, that is ten of sales personnel in B2B environment with many years of experience of sales in different role within the same company or in other companies,

The study described how sales works changed over the last decades, and shows how sales is about personnel in the first place, while the role of mobile devices and applications is to support the selling processes. Then the study shed light to the barriers to use SFA system from the sales persons perspective; which are: customer knowledge, quality of information and characteristics of mobile devices, in addition to extra two barriers : lack of time and SFA not optimized to mobile SFA uses. The study recommends future studies to study different perspective other than sales person perspective in the adoption and utilization of SFA system in organization.

Kim, Lee, Wang & Mirusmonov, (2015). Conducted a study titled **"Evaluating effects of mobile CRM on employees' performance".**

The purpose of this paper is twofold; to examine employees' personal performance after mobile customer relationship management (m-CRM) use, considering the characteristics of mCRM based on an updated model of information system (IS) success, also to investigate whether personal performance of the employee varies according to the period of MCRM use.

Through a literature review the study point out that research on MCRM still in primarily stage. The study employed theoretical framework that focuses on three dimensions: information quality, system quality and service quality. The study obtained structural equation analysis to analyze data of 217 respondents of mCRM users represents South Korean firms which implemented MCRM systems.

The study model considered IS success in context of MCRM to test the effect of the core quality characteristics of MCRM on personal performance through the mediating effect of user satisfaction and system use. The model controls the effect of organization type, number of employees and sales volume on personal performance.

The study uses questionnaire as a study tool, the instrument of the questionnaire were modified to fit the study and they were measured using five point likert-type scale. A pilot survey and individual interview of the expert above level of the section of chief with some MCRM experience were obtained to modify or delete items were too difficult to be understood.

The study concluded that the model was fit to measure the effect of the two aspects, the best model indicate that MCRM quality (system quality, information quality and service quality) and personal performance were fully mediated by system use and user satisfaction. In terms of MCRM, the mediating effect of user satisfaction and system use suggested that customer segmentation and customer information integration maybe associated with better personal performance by promoting user's satisfaction and frequently system use, while MCRM system quality and system extensibility had no indirect effect on personal performance via user satisfaction and system use.

System flexibility had no indirect effect on personal performance via system use and user satisfaction. As to MCRM service quality, immediacy and personalization had significant indirect effect on personal performance via user satisfaction and system use.

The mediating effect of system use and satisfaction indicated that immediacy and personalization increases satisfaction and system use, which in return, increases personal performance. The mediating effect of the period of MCRM use positively

moderates most of relationship in the study model while it does not significantly moderate the relationship between system extensibility and personal performance.

The study recommended a future research to consider a wider range of factors, consider other factors such as the level of investment and firm size as moderating variables.

Liu, (2015). Conducted a study titled **"A Conceptual Framework of Analytical CRM in Big Data Age"**

The study attempts to provide a conceptual framework approach to provide valuable direction, definition and guide line to prepare successful big data marketing by introducing the role of technological progress from I-commerce through M-commerce till U-commerce then to present ubiquitous compute and big data age.

The purpose of this study is to shed light to ubiquitous compute, CRM definitions and dimensions, also it introduced loyalty scheme to link Analytical CRM with customer knowledge types and how such concept integrated to each other's. In other words how each type of CRM brings certain type of customer knowledge.

This research followed previous literature analysis and qualitative research approach by interview 5 marketing leaders in Taiwan. This study conclude ubiquitous commerce technology can help customer to get completely tailored experience with context, in other words, complete personalize and customize services and products according to his/her preferences and needs. Also it contributes a conceptual framework for analytical CRM that considered big data in ubiquitous computing environment. The study recommends doing more research in different fields.

San-Martín, Jiménez & López-Catalán, (2015). Conducted a study titled **"The firms benefits of mobile CRM from the relationship marketing approach and the TOE model".**

The study considered TOE model, Technological competency, Organizational factors and Environmental factors, to define the perceived benefits deriving from mobile CRM. The main purpose of the study is to study the degree to which companies consider m-marketing positively contributes to establish a relationship with clients and what evaluation depends on.

Through an extensive literature review the study pointed out that MCRM investigation and practice are still in their primarily stage. Thus, the objective of the study is triple: to analyze the perception of the benefits of the MCRM, to embrace from the point of view of the theory of relationship marketing and the TOE model, the effect of technological competences in a company, its innovativeness, employee support and customer information management have on the benefits perceived from MCRM, and contrast company practice with marketing theory.

Empirical study approach was performed to telephone survey the sample of 125 valid Spanish SME's executives who are familiar with the use of information and communication technology in various sectors: commercial, industrial, technological service and non-technological service sector, data analyzed using structural equation modeling.

The study concludes that technological competence of the company is the key of perceiving benefit derived from implementation of MCRM. The propensity of the company to adopt innovation is deceived factor for perception of benefits of MCRM, the interest and involvement of the employees to the company allow the company

obtain and perceive benefit of implementing MCRM strategy. Customer information management is not influencing benefit of the use of technology for CRM.

Following to the study results the study confirms that the organization and organizational and technological factors influencing the most of the perception of benefit of MCRM. The study recommended future study to take TOE model to test the perceived benefits of MCRM in different context, and tudy the influence of the concern for customer privacy and its effect on the adoption of technology in specific field CRM.

Stieglitz, Lattemann & Brockmann,(2015). Conducted a study titled **"Mobile Applications for Knowledge Workers and Field Workers".**

The study explores mobile applications and types of users as it's distinguish between knowledge workers and field workers, it define mobile application, importance, characteristics types of users, and their requirements. The purpose of this study is to differentiate two types of mobile user, distinguish between business mobile applications and enterprise mobile applications.

The study followed a qualitative research approach to observe and interview for 1 hour face to face for 15 German IT consultants, 3 German managers and 3 German craftsmen. The interview forms was designed according to the literature review and market research for 20 vendor of mobile CRM applications, most of the analyzed applications only allow information pull out of the CRM system, while a minority of them allow uploading data to the CRM system. None of the evaluated applications was able to support enterprise specific processes.

The study concludes requirements of mobile apps to support each group of mobile workers, link MS dynamic CRM with smart phones to fulfill these requirements.

The study recommends further research to evaluate applied mobile applications, throughout log file-analysis or surveys among employees.

Töllinen, Karjaluoto & Jayawardhena, (2015). Conducted a study titled **"The Intention of The Sales Force To Use Mobile CRM: Model Development and Validation".**

The study aims to investigate the behavior intention of B2B sales manager to use mobile CRM for their work. The study empirically tested data from 105 sales managers representing 5 B2B companies. The study concludes the role perceived usefulness in determining a user attitude to mobile CRM and their intention to use it. Furthermore, perceived reachability and perceived behavior control that explains intention to use mobile CRM. The study also concludes that neither attitude user's experience of CRM software nor their experience of mobile devices explains the adoption of mobile CRM.

Chapter Three

Study Methodology

(3-1) Introduction

This chapter discusses the methods used in the study to answer the study questions and to test the hypotheses by several statistical methods. It is divided into the following sections: Study Methodology, Study Population and Sample, Study Tool and Data Source and Collection.

(3-2) The Study Methodology

This study followed descriptive and analytical approaches. The descriptive approach used to describe the logic behind the presumed relationships between the study variables and the characteristics of research sample. The analytical approach goes beyond describing phenomena in its context to collect relevant data and analyze it to generalize the induced results into similar organizations with similar conditions. Typical descriptive studies are concerned with the assessment of attitudes, opinions, demographic information, conditions, and procedures.

The research design chosen for the study is the survey research. The survey is an attempt to collect data from members of a population in order to determine the current status of that population with respect to one or more variables .The survey research of knowledge at its best can provide very valuable data. It involves a careful design and execution of each of the components of the research process. The purpose of the survey instrument is to collect data about the respondents on the variables of the study.

(3-3) The Study Population and sample

       The population of this study includes all employees in MARAK VIP Company in Jordan: Employees, Managers and Heads of Departments, which represent around (200) employees, according to interview with Mr. Numan Abutaleb, HR Associate in MARKA VIP. Because the population is small a decision was made to survey all the population members. Thus, the population of the study became its sample.

(3-4) Study Tool

The questionnaire instrumental sections are as follows:

1. **Demographic variables**: The demographic information was collected with closed-ended questions, through (5) factors (Age; Gender; Educational Qualification; Years of work experience and Career level).

2. **Mobile customer relationship management applications variables**: the mobile Customer relationship management applications consists of three dimensions called: (Operational, Analytical and Collaborative) and were measured by 18 questions, based on (Khodakarami & Chan, 2014). The questionnaires items were anchored on Likert Five Point Scale ranged from 1 strongly agree to 5 strongly disagree.

3. **Customer knowledge creation variables**: the customers knowledge creation consists of three dimensions called: (for customer, from customer and about customer) and were measured by 23 questions, based on (Khodakarami & Chan, 2014). The questionnaires items were anchored on Likert Five Point Scale ranged from 1 strongly agree to 5 strongly disagree.

Afterwards, the questionnaire has been distributed to the research sample to collect the relevant data from respondents, the response rate of was 56% as 111 questionnaires were received and considered valid for data analysis. Finally, the researcher used the following suitable statistical methods to manipulate the collected data:

- Descriptive and Analytical Statistics to describe the sample and determine the importance of the measurement of the study variables and to collect data from the population in order to test hypotheses.

- Cronbach Alpha to test the reliability of the research questionnaire and the standard threshold is not less than 70 %.

- Simple Regression analysis to test the main hypothesis and the effect of independent variable on dependent variable.

- Multiple Regression analysis to test the effect of three independent dimensions on one dependent dimension.

- Stepwise Regression analysis to test the relevant importance to the effect of each independent dimension on each of the dependent dimension.

(3-5) The Data Sources and Collection

The current study consists of two aspects, theoretical and practical. In the theoretical aspect, the researcher relied on the scientific studies that are related to the current study. Whereas in the practical aspect, the researcher relied on descriptive and analytical methods using the practical manner to collect, analyze data and test hypotheses.

The data collection, manners of analysis and programs used in the current study are based on two sources:

1. Secondary sources: books, journals, and theses to write the theoretical framework of the study.

2. Primary source: a questionnaire that will be designed to reflect the study objectives and questions.

In this study, both primary and secondary data were used. After conducting a thorough literature review to construct robust theoretical background for the subject, the researcher developed questionnaire to measure the research variable by adopting valid and reliable measures from previous studies. Then, the questionnaire tested to check the suitability of contents and relevant to the research variables.

(3-6) Validity and Reliability

(3-6-1) Validity

In order to present a valid and coherent research questionnaire, the questionnaire has been reviewed by academic reviewers from Jordan Universities specialized in faculty and practitioners in the facilities of Business Administrations and Marketing. The questionnaire was reformulated according to the recommendation that have been received, some items were added, while others were dropped based on their valuable recommendations. Some others were reformulated to become more accurate to enhance the research instrument. The academic reviewers are mentioned in (Appendix "1").

(3-6-2) Reliability

The equation of internal consistency has been used to calculate the stability of the study tool, and the values of Cronbach alpha for all variables of the study and identification not less than (70%) which is acceptable in the researches and studies (Sekaran, 2003), which gives the questionnaire as a whole the reliability coefficient ranged between (77.4-90.0%), as shown in table (1).

Table (1)

Variables	Cronbach Alpha
Operational MCRM Applications	90.0
Analytical MCRM Applications	77.4
Collaboration MCRM Applications	77.4
Knowledge For Customer	85.5
Knowledge From Customer	86.7
Knowledge About Customer	85.2
Total of questionnaire as a whole	**96.2**

Demonstrate consistencies indicate that the tool has high stability coefficient that's give the ability to achieve the purpose of the study according to (Sekaran, 2003), since the total questionnaires reach as a whole (96.2). It shows from Table (1) that the highest stability factor for Operational Mobile Customer Relationship Management Applications is (90.0) and the lowest stability factor is achieved (77.4) for (Analytical Mobile Customer Relationship Management Applications) and (Collaborative Mobile Customer Relationship Management Applications). Regarding to the Customer knowledge Creation, the highest stability factor is (86.7) which (Knowledge from customer) achieved and the lowest stability factor is (85.2) which (Knowledge about customer) achieved.

Chapter Four
Analysis Result and Hypotheses Test

(4-1) Introduction

According to the purpose of this study and the study framework previously mentioned, this chapter describes the results of the statistical analysis for the data collected according to the study question and study hypotheses. The Cronbach's Alpha test was used to test the reliability and consistency of the data collection tool, the data analysis includes Means, frequencies and Standard deviation in order to answer the study questions, simple regression and multiple regression analysis were used to test the hypotheses. As the items were measured using a likert-type scale as follows.

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

The means of the study's constructs will be considered for each of the questionnaire item according to the following formula.

Interval Length = (Highest Value − Lowest Value) / Number of Levels

Interval Length = (5-1) / 3 = 4/3 = 1.33 and thus;

- **Low Level** = 1+1.33 = 2.33 and Less

- **Medium Level** = 2.34+1.33 = 3.67 so this level range is from 2.34 to 3.67

- **High Level** = 3.68 and above

Means and the standard deviations have been calculated for the study constructs along with the items based on the responses the researcher has collected from the study's population who actually respond to the questionnaire.

(4-2) Descriptive Analysis of Study

Table (2)

AGE			
	Frequency	Percent	Valid Percent
Less than 20 years	24	21.6 %	21.6
Between 20 and 24 Years	18	16.2 %	16.2
Between 25 and 29 Years	52	46.8 %	46.8

Between 30 and 34 Years	9	8.1 %	8.1
More than 35 Years	8	7.2 %	7.2
Total	**111**	**100.0** %	**100.0**
GENDER			
	Frequency	Percent	Valid Percent
Male	69	62.2 %	62.2
Female	42	37.8 %	37.8
Total	**111**	**100.0** %	**100.0**
EDUCATIONAL QUALIFICATION			
	Frequency	Percent	Valid Percent
High School or less	9	8.1 %	8.1
Diploma Degree	28	25.2 %	25.2
Bachelor Degree	63	56.8 %	56.8
Master Degree	10	9.0 %	9.0
PHd	1	0.9 %	0.9
Total	**111**	**100.0** %	**100.0**

YEARS OF WORK EXPERIENCE			
	Frequency	Percent	Valid Percent
5 Years and less	81	73.0 %	73.0
Between 6 and 10 Years	19	17.1 %	17.1
Between 11 and 15 Years	7	6.3 %	6.3
More than 16 Years	4	3.6 %	3.6
Total	**111**	**100.0** %	**100.0**
CAREER LEVEL			
	Frequency	Percent	Valid Percent
Manager	11	9.9 %	9.9
Head of Department	18	16.2 %	16.2
Employee	82	73.9 %	73.9
Total	**111**	**100.0** %	**100.0**

Table 2 shows the frequencies and percentages of demographic variables, in result indicate the following:

Age Section:

The majority of respondents aged between 25 and 29 (46.8%). However, 21.1 % of our respondent aged less than 20 years old while only (7.2%) who aged more than 35 years old. This indicates that our respondents are mature enough to deal with new technologies and appreciate filling the questionnaire carefully which lead to valid

results for the researcher, in the other hand , that tell us that maybe they unaware of the importance of the two aspects.

Gender Section:

(62.2%) of the respondents are male whilst the remaining (37.2%) are female. This results indicates that the e-business industry dominant by both male and females. In contrast to result in the Middle East culture that does not accept women to work out of the education services.

Educational Qualification Section:

The majority of research respondents have a Bachelor degree (56.8%). Followed by (25.9%) who has Diploma degree while only (8.1%) who had completed his/her postgraduate. This result indicates that the company aware of the importance of employing workers who have good level of education bachelor degree or above. At the same time, it also considers to keep its skillful workers who have college diploma combined with excellent practical experience.

Years of working experience Section:

According to years of experience the majority of research respondents (73.09%) less than 5 years; (17.1%) between 6-9 years, from 11 to 15 is (6.3%) years of experience; and only (3.6%) who have more than 16 years of experience, in the other hand, it maybe indicates that the majority of respondents are using the current system to operate usual work and they limited with the system current utilization.

Career Level Section:

The majority (73.9%) of research respondents are normal Employees. Followed by (16.2%) heads of departments while only (9.9%) managers. This indicates that the research respondents represent a wide spectrum of all career levels which gives the research results more validity rather than surveying only one type of respondents. In the other hand, it maybe indicates that they have a lack of understanding of the benefits of mobile customer relationship management application and customer knowledge and also the importance of using the both in conjunction.

In the next section, details descriptive statistics will be provided to show how the research respondents perceived and answered the questionnaire items, in this regards the researcher present the means and the standard deviations for each of the study's constructs along with their items.

First: Mobile customer relationship management applications

1. Operational MCRM Applications

Table (3)

Means, Std. Deviation of the Operational MCRM applications

No	Statement	Mean	St. Deviation	Rank	Level
1	Mobile (Customer Relationship Management Applications) provide an added value for the user	4.20	0.83	1	High
2	You are satisfied with your company's (Mobile Customer Relationship Management Applications) capabilities.	3.97	0.81	2	High
3	Customers know how to use (Mobile Customer Relationship Management Applications).	3.83	0.96	4	High
4	Customers are satisfied with using (Mobile Customer Relationship Management Applications)	3.73	0.86	5	High
5	Customers are satisfied with using (Mobile Customer Relationship Management Applications)	3.63	0.88	8	Medium
6	The ratio of customers who are using (Mobile Customer Relationship Management Applications) considered satisfied.	3.72	0.88	6	High
7	Company provide a reward to encourage employees to create more customer knowledge through the use of (Mobile Customer Relationship Management Applications).	3.60	1.06	9	Medium
8	(Mobile Customer Relationship Management Applications) provide personalized content to user	3.57	0.97	10	Medium
9	(Mobile Customer Relationship Management Applications) provide information that no other channels do	3.50	0.87	11	Medium

10	(Mobile Customer Relationship Management Applications) allow customer to do services anytime anywhere.	3.90	0.89	3	High
11	(Mobile Customer Relationship Management Applications) have operational capabilities to serve customer.	3.67	0.95	7	Medium
	Overall	**3.75**	**0.91**		**High**

It's clear from table (3) that the weight mean of this axis (Operational mobile customer relationship management application), ranged between (4.20-3.50), where the axis earned weight mean total of (3.75), where paragraph (1) earned the highest mean reaching (4.20), with standard deviation (0.83), where the paragraph stipulated (Mobile (Customer Relationship Management Applications) provide an added value for the user). Similarly, paragraph (9) came in last Place, and its earned mean is (3.50), and a standard deviation is (0.87), where the paragraph stipulated that ((Mobile Customer Relationship Management Applications) provide information that no other channels do).

2. Analytical MCRM Applications

Table (4)

Means, Std. Deviation of the Analytical MCRM applications

No	Statement	Mean	St. Deviation	Rank	Level
1	Employees who are using (Mobile Customer Relationship Management Applications) are well trained	3.96	0.871	2	High
2	Using (Mobile Customer Relationship Management Applications) facilitate customer profiling	3.80	0.86	4	High
3	(Mobile Customer Relationship Management Applications) have analytical capabilities	4.03	0.81	1	High

4	Information gathered by (Mobile Customer Relationship Management Applications) stored in a database and this database is used for analytical process.	3.89	0.91	3	High
	Overall	**3.92**	**0.86**		**High**

It's clear from table (4) that the weight mean of this axis (Analytical mobile customer relationship management application), ranged between (4.03-3.80), where the axis earned weight mean total of (3.92), where paragraph (3) earned the highest mean reaching (4.03), with standard deviation (0.81), where the paragraph stipulated ((Mobile Customer Relationship Management Applications) have analytical capabilities). Similarly, paragraph (2) came in last Place, and its earned mean is (3.80), and a standard deviation is (0.86), where the paragraph stipulated that Using ((Mobile Customer Relationship Management Applications) facilitate customer profiling).

3- Collaborative MCRM Applications

Table (5)

Means, Std. Deviation of the Collaborative MCRM applications

No.	Statement	Mean	St. Deviation	Rank	Level
1	(Mobile Customer Relationship Management Applications) have collaborative capabilities	3.84	0.85	1	High
2	(Mobile Customer Relationship Management Applications) allow customer to share suggestions with the company	3.74	0.88	2	High
3	(Mobile Customer Relationship Management Applications) allow customer to share suggestions with the company	3.66	0.89	3	Medium
	Overall	**3.75**	**0.87**		**High**

It's clear from table (5) that the weight mean of this axis (Collaborative mobile customer relationship management application), ranged between (3.66-3.84), where the axis earned weight mean total of (3.75), where paragraph (1) earned the highest mean reaching (3.84), with standard deviation (0.85), where the paragraph stipulated ((Mobile Customer Relationship Management Applications) have collaborative capabilities). Similarly, paragraph (3) came in last Place, and its earned mean is (3.66), and a standard deviation is (0.89), where the paragraph stipulated that ((Mobile Customer Relationship Management Applications) allow customer to share suggestions with the company).

Second: Customer Knowledge Creation

1- **xKnowledge for customer**

2- **Table (6)**

3- Means, Std. Deviation of the Knowledge for customer

It's clear from table (6) that the weight mean of this axis (Knowledge for customer), ranged between (4.02-3.66), where the axis earned weight mean total of

No	Statement	Mean	St. Deviation	Rank	Level
1	(Mobile Customer Relationship Management Applications) help you exchange your Knowledge with customers	4.02	0.76	1	High
2	(Mobile Customer Relationship Management Applications) effectively support For Customer Knowledge Creation activities within your department.	3.77	0.77	3	High
3	(Mobile Customer Relationship Management Applications) effectively support For Customer Knowledge creation activities in the whole company.	3.86	0.80	2	High
4	(Mobile Customer Relationship Management Applications) have strengths with regards For Customer Knowledge Creation.	3.76	0.93	4	High
5	(Mobile Customer Relationship Management Applications) have weaknesses with regards For Customer Knowledge Creation.	3.66	0.95	6	Medium
6	(Mobile Customer Relationship Management Applications) have opportunities with regards For Customer Knowledge creation.	3.76	0.88	5	High
	Overall	**3.77**	**0.86**		**High**

(3.77), where paragraph (1) earned the highest mean reaching (4.02), with standard deviation (0.76), where the paragraph stipulated ((Mobile Customer Relationship

Management Applications) help you exchange your Knowledge with customers).
Similarly, paragraph (5) came in last Place, and its earned mean is (3.66), and a standard
deviation is (0.95), where the paragraph stipulated that ((Mobile Customer Relationship
Management Applications) have weaknesses with regards For Customer Knowledge
Creation.).

4- **Knowledge from customer**

Table (7)

Means, Std. Deviation of the Knowledge from customer

No.	Statement	Mean	St. Deviation	Rank	Level
1	(Mobile Customer Relationship Management Applications) give you knowledge from customers (about products and services)	4.11	0.79	1	High
2	(Mobile Customer Relationship Management Applications) give you knowledge from customer (about competitors)	3.73	0.84	3	High
3	(Mobile Customer Relationship Management Applications) effectively support From Customer Knowledge Creation activities within your department.	3.69	0.89	6	High
4	(Mobile Customer Relationship Management Applications) have strengths with regards From-Customer Knowledge Creation	3.72	0.84	4	High
5	Mobile Customer Relationship Management Applications (effectively support From Customer Knowledge creation activities in the whole company.	3.75	0.84	2	High

6	(Mobile Customer Relationship Management Applications) have weaknesses with regards From-Customer Knowledge Creation.	3.68	0.81	7	High
7	(Mobile Customer Relationship Management Applications) have opportunities with regards From Customer Knowledge creation	3.71	0.95	5	High
	Overall	**3.74**	**0.89**		**High**

It's clear from table (7) that the weight mean of this axis (Knowledge from customer), ranged between (4.11-3.68), where the axis earned weight mean total of (3.74), where paragraph (1) earned the highest mean reaching (4.11), with standard deviation (0.79), where the paragraph stipulated ((Mobile Customer Relationship Management Applications) have strengths with regards For Customer Knowledge Creation). Similarly, paragraph (6) came in last Place, and its earned mean is (3.68), and a standard deviation is (0.81), where the paragraph stipulated that (Mobile Customer Relationship Management Applications) have opportunities with regards From Customer Knowledge creation).

5- Knowledge about customer

Table (8)

Means, Std. Deviation of the Knowledge about customer

No	Statement	Mean	St. Deviation	Rank	Level
1	(Mobile Customer Relationship Management Applications) help you gather information about your customers	4.00	0.81	1	High
2	(Mobile Customer Relationship Management Applications) are helpful to learn about customer's behavior	3.82	0.84	5	High
3	You provide input to About Customer Knowledgebase	3.86	0.88	3	High
4	Company has repositories for data and information of customers	3.83	0.83	4	High
5	(Mobile Customer Relationship Management Applications) effectively support About Customer Knowledge Creation activities within your department.	3.79	0.94	7	High
6	Mobile Customer Relationship Management Applications (effectively support About Customer Knowledge creation activities in the whole company.	3.94	0.86	2	High
7	(Mobile Customer Relationship Management Applications) have strengths with regards About-Customer Knowledge Creation.	3.80	0.91	6	High
8	(Mobile Customer Relationship Management Applications) have weaknesses with regards About-Customer Knowledge Creation	3.75	0.93	8	High
9	(Mobile Customer Relationship Management Applications) have opportunities with regards About Customer Knowledge creation	3.75	1.07	9	High
	Overall	**3.80**	**0.92**		**High**

It's clear from table (8) that the weight mean of this axis (Knowledge about

customer), ranged between (4.00-3.75), where the axis earned weight mean total of

(3.80), where paragraph (1) earned the highest mean reaching (4.00), with standard deviation (0.81), where the paragraph stipulated ((Mobile Customer Relationship Management Applications) help you gather information about your customers). Similarly, paragraph (9) came in last Place, and its earned mean is (3.75), and a standard deviation is (1.07), where the paragraph stipulated that ((Mobile Customer Relationship Management Applications) have opportunities with regards About Customer Knowledge creation).

The Readiness and Validity of Data for Regression Analyses

To answer research questions and test the study hypotheses, regression analyses need to be run. However, there are three main prerequisites that should be satisfactorily met so as to ensure that the use of regression analyses is valid. Otherwise, non-parametric tests should be employed.

1.   The data should be normally distributed.

2.   Multicollinearity amongst constructs should not be high so as to ensure independency of constructs.

3.   The correlation among research constructs should not be higher than (80%) to ensure that each construct is independent and not part of any other construct (Hair et al., 2013).

Test of Normality

Both Skewness-Kurtosis tests were utilized to test normality of collected data. For data to be normally distributed, values of Skewness-Kurtosis should be between ±2.54, (Hair et al., 2006). Table 9 shows the results of Skewness –Kurtosis test.

Table 9

Test of Normality: Skewness-Kurtosis

Constructs	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Operational MCRM Applications	-.775	.229	2.398	.455
Analytical MCRM Applications	-.650	.229	2.555	.455
Collaborative MCRM Applications	-.533	.229	1.365	.455
Knowledge for customer	-.119	.229	.462	.455
Knowledge from customer	-.184	.229	1.164	.455
Knowledge about customer	-.296	.229	.823	.455

Test of Multicollinearity

Both Tolerance and Variance Inflation Rate (VIF) values are utilized to make sure that constructs are independent and multicollinearity is not a likely threat (Hair et al., 2013). The tolerance values should be more than (0.20) and VIF values should be less than (5) for constructs to be independent and for assuring that multicollinearity is not available amongst constructs. Table 10 confirms the independency of constructs given that the measured values meet the conditions of tolerance and VIF. Hence, the

study constructs are independent and thus the second prerequisite for regression analyses is assured.

Table 10

Multicollinearity test among independent variables

Study constructs	Collinearity Statistics	
	Tolerance	VIF
Operational MCRM Applications	0.48	2.1
Analytical MCRM Applications	0.44	2.3
Collaboration MCRM Applications	0.44	2.3

Bivariate Pearson Correlation

Table 11

Bivariate Pearson Correlation

	Operational MCRM Applications	Analytical MCRM Applications	Collaboration MCRM Applications	Knowledge for customer	Knowledge from customer	Knowledge about customer
Operational MCRM Applications	1					
Analytical MCRM Applications	0.71**	1				
Collaboration MCRM Applications	0.72**	0.75**	1			
Knowledge for customer	0.65**	0.67**	0.65**	1		
Knowledge from customer	0.69**	0.62**	0.64**	0.76**	1	
Knowledge about customer	0.68**	0.69**	0.64**	0.69**	0.79**	1
**. Correlation is significant at the 0.01 level (2-tailed).						

Bivariate Pearson Correlation test was conducted to assure the independency of data. The rule is that the correlation between each pairs of constructs should not be higher than 80% (Hair et al., 2006). Otherwise, the two constructs should be merged to form one construct. If this rule applied to the correlation coefficients in Table 11, then all the research constructs were independent from each other and the data is ready and valid to be used for regression analyses. Based on the values in Table 11, the constructs are independent as they do not correlate with each other more than 80% which indicates that all the research constructs are independent from each other and the data is valid for further analysis.

In order to test the effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation the researcher obtained Multiple Regression.

Table 12

Multiple Regression Analysis of MCRM applications Dimensions on

Customer knowledge creation

R^2	Adjusted R^2		F Value		P Value
0.80	**0.63**		**63.94**		**0.000**
Constructs	**B Value**	**St. Error**	**Beta**	**T Value**	**P Value**
Operational MCRM Applications	0.33	0.08	0.38	4.26	0.000*
Analytical MCRM Applications	0.25	0.08	0.29	3.11	0.002*
Collaborative MCRM Applications	0.16	0.08	0.21	2.23	0.028*

***Significant at p≤0.05

Dependent Variable: **Customer knowledge creation**

Table 12 indicates that the dimensions of mobile customer relationship management applications (Operational, Analytical and collaborative) altogether explain about 63% of the variance in customer knowledge creation on the basis of the Adjusted R^2 Value. The F Value is equal to 63.94 and thus significant (p≤0.05). This assures that there is a significant effect for mobile customer relationship management applications dimensions on customer knowledge creation. Moreover and on the basis of t values, one can tell that mobile customer relationship management applications (Operational, Analytical and collaborative) have positive effect on customer knowledge creation. However; such effect will be significant (p≤0.05). This result is expected as mobile customer relationship management applications (operational, analytical and collaborative) supposed to support customer knowledge creation.

The researcher obtained a simple regression to test the effect of each dimension of mobile customer relationship management application on each dimension of customer knowledge creation

The effect of Operational mobile customer relationship management applications on Customer knowledge creation as shown in the following:

Table 13

Construct	R	Beta	R^2	Adjusted R^2	F Value	P Value
Knowledge from Customer	0.69	0.69	0.47	0.47	97.547	0.000*
Knowledge for Customer	0.65	0.65	0.43	0.42	81.144	0.000*
Knowledge about Customer	0.68	0.68	0.46	0.46	94.444	0.000*

* Significant at p≤0.05

Table 13 shows that F Value is varied (81.444 – 97.547) which is significant (p≤0.05). This indicates that there is an effect for operational mobile customer relationship management applications on customer Knowledge creation. The Beta value (0.65 – 0.69) indicates that the impact of operational mobile customer relationship management applications on customer knowledge creation is positive and significant at (p≤0.05). In addition, based on the value of adjusted R^2, the Operational mobile customer relationship management applications explain (47%, 42% and 46%) of the variance in customer knowledge creation (from, for and about).

The effect of Analytical mobile customer relationship management applications on customer Knowledge creation as shown in the following:

Table 14

Construct	R	Beta	R^2	Adjusted R^2	F Value	P Value
Knowledge from Customer	0.62	0.62	0.38	0.38	67.248	0.000
Knowledge for Customer	0.67	0.67	0.45	0.44	87.385	0.000
Knowledge about Customer	0.69	0.69	0.47	0.46	96.350	0.000

* Significant at $p \leq 0.05$

Table 14 shows that F Value is varied (67.248 – 96.350) which is significant ($p \leq 0.05$). This indicates that there is an effect for analytical mobile customer relationship management applications on customer knowledge creation. The Beta value (0.62 – 0.69) indicates that the impact of Analytical mobile customer relationship management applications on customer knowledge creation is positive and significant at ($p \leq 0.05$). In addition, based on the value of adjusted R^2, the Analytical mobile customer relationship management applications explain (62%, 67% and 69%) of the variance in customer knowledge creation (from, for and about).

The effect of Collaborative mobile customer relationship management applications on customer knowledge creation as shown in the following:

Table 15

Construct	R	Beta	R^2	Adjusted R^2	F Value	P Value
Knowledge from Customer	0.64	0.64	0.41	0.40	75.402	0.000
Knowledge for Customer	0.65	0.65	0.42	0.42	79.553	0.000
Knowledge about Customer	0.64	0.64	0.41	0.40	75.000	0.000

* Significant at p≤0.05

Table 15 shows that F Value is varied (75.000 – 79.553) which is significant (p≤0.05). This indicates that there is an effect for Collaborative mobile customer relationship management applications on customer knowledge creation. The Beta value (0.64 – 0.65) indicates that the impact of Collaborative mobile customer relationship management applications on customer knowledge creation is positive and significant at (p≤0.05). In addition, based on the value of adjusted R^2, the Collaborative mobile customer relationship management applications explain (40%, 42% and 40%) of the variance in customer knowledge creation (from, for and about).

(4-3) Hypotheses Testing

In order to test hypotheses and to know which of the independent variables has higher effect on the dependent variables the researcher applied a multiple regression analysis, stepwise analysis is used to determine the weight of importance of each dimension of mobile customer relationship management applications in the regression model in explaining Customer knowledge creation.

H01-1: There is no statistical significant effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation (from customer) in MARKA VIP Company at $\alpha \leq 0.05$

Table 16

Multiple Regression Analysis of MCRM applications Dimensions on

Knowledge from customer creation

R^2		Adjusted R^2		F Value		P Value
0.72		0.51		57.581		0.000*
Constructs	B Value	St. Error	Beta	T Value		P Value
Operational MCRM Applications	0.45	0.10	0.47	4.90		0.000*
Collaborative MCRM Applications	0.26	0.82	0.31	3.13		0.002*

*Significant at p≤0.05

Dependent Variable: **Knowledge from customer**

Table 16 indicates that the dimensions of mobile customer relationship management applications (Operational and collaborative) altogether explain about 51% of the variance in Knowledge from customer on the basis of the Adjusted R^2 Value. The F Value is equal to 57.581 and thus significant (p≤0.05). This assures that there is a significant effect for mobile customer relationship management applications dimensions on Knowledge from customer. Moreover and on the basis of t values, one can tell that mobile customer relationship management applications (Operational and collaborative) have positive effect on Knowledge from customer .However; such effect will be significant (p≤0.05).

The researcher also utilized the stepwise multiple regression to determine the weight of importance of each dimension of mobile customer relationship management applications in the regression model in explaining Knowledge from customer. As shown in Table 17, Operational mobile customer relationship management applications explain 47 % of the variance in Knowledge from customer creation. Collaborative mobile customer relationship management applications altogether with Operational mobile customer relationship management applications explains about 51 % of the variance in Knowledge from customer creation ,Analytical mobile customer relationship management application was excluded from the regression model and this led the researcher to conclude that H1-0 to be false.

This result is expected as mobile customer relationship management applications (operational, analytical and collaborative) supposed to support Knowledge from customer creation as it used to collect information from customers. However such result might be caused by the way those users are using the mobile customer relationship management application.in the other hand, its indicate that the current

system have no Analytical application in regards to knowledge from customer which in result explains why the company have a problem in customer profiling.

Table 17

Stepwise Multiple Regression Analysis of MCRM applications

Dimensions on Knowledge from customer creation

Order of Constructs in the Regression Model	Adjusted R^2	F Value	Beta	T value	P Value
Operational MCRM Applications	0.47	97.55	0.47	4.89	0.000*
Collaborative MCRM Applications	0.51	57.58	0.30	3.13	0.002*

*Significant at p≤0.05

Dependent Variable: **Knowledge from customer creation**

H01-2: There is no statistical significant effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation (for customer) in MARKA VIP Company at α≤ 0.05

Table 18

Multiple Regression Analysis of Mobile customer relationship management

applications Dimensions on Knowledge for customer creation

R^2	Adjusted R^2		F Value		P Value
0.73	**0.52**		**40.015**		**0.000***
Constructs	**B Value**	**St. Error**	**Beta**	**T Value**	**P Value**
Operational MCRM Applications	0.29	0.10	0.30	2.82	0.006*
Analytical MCRM Applications	0.28	0.10	0.28	2.74	0.007*
Collaborative MCRM Applications	0.19	0.10	0.22	2.00	0.048*

*Significant at p≤0.05

Dependent Variable: **Knowledge for customer**

Table 18 indicates that the dimensions of mobile customer relationship management applications (Operational, Analytical and collaborative) altogether explain about 52% of the variance in Knowledge for customer on the basis of the Adjusted R^2 Value. The F Value is equal to 40.015 and thus significant (p≤0.05). This assures that there is a significant effect for mobile customer relationship management applications dimensions on Knowledge for customer. Moreover and on the basis of t values, one can tell that mobile customer relationship management applications (Operational, Analytical and collaborative) have positive effect on Knowledge for customer .However; such effect will be significant (p≤0.05).

The researcher also utilized the stepwise multiple regression to determine the weight of importance of each dimension of mobile customer relationship management applications in the regression model in explaining Knowledge for customer. As shown in Table 19, an Analytical mobile customer relationship management application explains 44 % of the variance in Knowledge for customer creation. Analytical mobile customer relationship management applications altogether with Operational mobile customer relationship management applications explains about 50 % of the variance in Knowledge for customer creation and Analytical mobile customer relationship management applications , Operational mobile customer relationship management applications and Collaborative mobile customer relationship management applications altogether explains 52 % of the variance in Knowledge for customer creation , which higher than each alone , However such effect will be significant this led the researcher to conclude that H1-2 to be false.

This result is expected as mobile customer relationship management applications (operational, analytical and collaborative) supposed to support Knowledge for customer creation and its used to provide information for customers, this moderate effect indicates that there is a problem with utilization of the current system which in result cause a problem in customize and personalize of the service that provided to the customer.

Table 19

Stepwise Multiple Regression Analysis of MCRM applications Dimensions

on Knowledge for customer creation

Order of Constructs in the Regression Model	Adjusted R^2	F Value	Beta	T value	P Value
Analytical MCRM Applications	0.44	87.39	0.30	2.82	0.006*
Operational MCRM Applications	0.50	56.47	0.28	2.74	0.007*
Collaborative MCRM Applications	0.52	40.02	0.22	2.00	0.048*

*Significant at p≤0.05

Dependent Variable: **Knowledge for customer creation**

H01-3: There is no statistical significant effect of mobile customer relationship management applications (operational, analytical and collaborative) on customer knowledge creation (about customer) in MARKA VIP Company at α≤ 0.05

Table 20

Multiple Regression Analysis of MCRM applications Dimensions on

Knowledge about customer creation

R^2		Adjusted R^2		F Value		P Value
0.74		**0.54**		**62.212**		**0.000***
Constructs	**B Value**	**St. Error**	**Beta**	**T Value**		**P Value**
Analytical MCRM Applications	0.37	0.83	0.41	4.443		0.000*
Operational MCRM Applications	0.37	0.86	0.39	4.308		0.000*

*Significant at p≤0.05

Dependent Variable: **Knowledge about customer**

Table 20 indicates that the dimensions of mobile customer relationship management applications (Analytical and Operational) altogether explain about 54% of the variance in Knowledge about customer on the basis of the Adjusted R^2 Value. The F Value is equal to 62.212 and thus significant ($p \leq 0.05$). This assures that there is a significant effect for mobile customer relationship management applications dimensions on Knowledge about customer. Moreover and on the basis of t values, one can tell that mobile customer relationship management applications (Analytical and Operational) have positive effect on Knowledge about customer .However; such effect will be significant ($p \leq 0.05$). A Collaborative mobile customer relationship management application was excluded from the regression model.

The researcher also utilized the stepwise multiple regression to determine the weight of importance of each dimension of mobile customer relationship management applications in the regression model in explaining Knowledge about customer. As shown in Table 21, Analytical mobile customer relationship management application explains 46 % of the variance in Knowledge about customer creation. Analytical mobile customer relationship management applications altogether with Operational mobile customer relationship management applications explains about 54 % of the variance in Knowledge about customer creation, However such effect will be significant this led the researcher to conclude that H1-3 to be false.

This result is expected as mobile customer relationship management applications expected to support Knowledge about customer creation and create knowledge about the customer behavior and preferences. However, excluding Collaborative mobile

customer relationship management applications indicates that the knowledge that's created is not being shared

Table 21

Stepwise Multiple Regression Analysis of MCRM applications Dimensions on Knowledge about customer creation

Order of Constructs in the Regression Model	Adjusted R^2	F Value	Beta	T value	P Value
Analytical MCRM Applications	0.46	96.35	0.41	4.44	0.000*
Operational MCRM Applications	0.54	65.21	0.39	4.31	0.000*

*Significant at p≤0.05

Dependent Variable: **Knowledge about customer creation**

Chapter Five

Result Discussion and Recommendation

(5-1) The Study Results

The study explored a number of important and significant results that the researcher hopes to enrich relevant literature. The researcher also hopes that such result would lead e-business companies to better way of using two aspects of this study and more specifically, the company included in this study. Based on the data analysis and hypotheses test those have been recorded in chapter four, the result generated and summarized as the following:

1. (62.2) % of the respondents was male whilst the remain (37.8)% are female ; more than the half of the respondents have mature age over that 25 years ; the majority of the respondents have less than 5 years of working experience

2. The company included in this study has Operational, Analytical and Collaborative mobile customer relationship management application.

3. There is a relationship between mobile customer relationship management applications and customer knowledge creation. This result in accordance with the result of Gebert, Geib, Kolbe & Brenner, (2003) as its indicated that CRM and customer knowledge management have a high synergy but the current study differs from that study that the relationship found to be moderated level, the difference maybe because of lake of CRM understanding according to Xu & Walton, (2005), or its maybe because of lack of : technological competences, lack of propensity to innovativeness or lack of employee support according to (San-Martín ,Jiménez & López-Catalán, 2015).

4. There is a significant statistical effect for mobile customer relationship management applications (Operational, Analytical and Collaborative) on knowledge from customer creation. This result in accordance with the result of Khodakarami & Chan, (2014) and differ with the result of Xu & Walton, (2005) as Analytical mobile customer relationship management application was excluded from the regression model , such difference may be due to lack of managers awareness of benefits of the Analytical Applications and its contribution to gain knowledge from customers.

5. There is a significant statistical effect for mobile customer relationship management applications (Operational, Analytical and Collaborative) on knowledge for customer creation. This result in accordance with the result of (Gebert, Geib, Kolbe & Brenner, 2003) and (Khodakarami & Chan, 2014).

6. There is a significant statistical effect for mobile customer relationship management application (Operational, Analytical and Collaborative) on knowledge about customer creation. This result in accordance with the result of Xu & Walton, (2005) and Khodakarami & Chan, (2014), bearing in mind that Collaborative mobile customer relationship management application was excluded from the regression model and that indicates lack of empowerment of management in strategic decision making level to make the company knowledge oriented. Or maybe it's due to employees personal performance according to (Kim ,Lee, Wang & Mirusmonov, 2015).

7. The reason why the company included in this study has problem with customization and personalization of the communication with customer is originated from customer profiling problems which result from the restricted use of mobile customer relationship management application and lack of utilization of Analytical mobile customer relationship management application while creating knowledge from customer in alignment with miss collaborate using customer knowledge especially knowledge about

customer, This result differs from the result of Sinisalo, (2011) which indicates that mobile customer relationship management allow companies to personalize the communication with their customers.

8. The researcher provide a theoretical framework which been developed through an extensive review for previous literature, developed model and quantitative study which may facilitate further researches.

(5-2) The Study Conclusions

This study aimed to study the effect of mobile customer relationship management applications (Operational, Analytical and Collaborative) on customer knowledge creation (From, for and about). The study tries to determine the importance of mobile customer relationship management applications (Operational, Analytical and Collaborative) in creating customer knowledge (From, for and about). In Addition, how mobile customer relationship management applications (Operational, Analytical and Collaborative) provide customized and personalized communications with customers based on creating knowledge (From, for and about) customers.

In fact, using of mobile customer relationship management applications (Operational, Analytical and Collaborative) in associate with customer knowledge creation provides a significant value which is customer knowledge, and such knowledge in return allows companies to deal with their customer according to their preferences which reflect a long term relationship. At the same time, failing of create a customer knowledge from mobile customer relationship management applications point that there is a misuse of it.

The researcher has developed a model to find out the effect of mobile customer relationship management applications (Operational, Analytical and Collaborative) on customer knowledge creating (From, for about). An extensive literature review has been done to build the research model. The model has two variables: independent variable which represents mobile customer relationship management applications (Operational, Analytical and Collaborative) and dependent variables which includes knowledge from customer, knowledge for customer and knowledge about customer. The developed model was applied and tested in MARKA VIP in Jordan, MARKA VIP have a mobile application which revel to customer relationship management. The study targets all employees in all levels in MARKA VIP Company in Jordan.

The questionnaire was revised to reflect comments and suggestion those received by the referees. Afterward, the questionnaire was distributed to the study population and the response rate was 56% considered valid for data analysis. The analysis was done using SPSS. The result of the analysis was recorded in chapter four.

The company included in this study applies mobile customer relationship management applications (Operational, Analytical and Collaborative) and it contributes to customer knowledge creation. Usually, companies who are using mobile customer relationship management application are more likely to have extended knowledge from, for and about their customers. However; in the case of this study seems different; as there is a misuse of mobile customer relationship management applications, especially Analytical and Collaborative customer relationship management applications, which explain the reason why the company included in this study has problem with customization and personalization of the communication with customer.

(5-3) The Study Recommendations

A set of managerial and academic recommendation can be formulated as follows:

Managerial Recommendation

The researcher here provides some recommendations that would enhance the deployment and utilization of mobile customer relationship management application to create customer knowledge among companies in Jordan those have similar case to the company that included in this study. In order to achieve the maximum benefit of mobile customer relationship management applications and customer knowledge creation the researcher would recommend taking the following point into consideration:

1. Pay more attention to the capabilities of mobile customer relationship management applications.

2. Pay more attention to customer knowledge creation and how important it will be as a valuable asset and how to benefit from it.

3. Increase the awareness of the importance of mobile customer relationship management and customer knowledge creation and use them in conjunction to elevate the benefit of both of them.

4. Mobile customer relationship management applications are the starting point to make customer profile by creates customer knowledge. then it will be the tool to make a customized and personalized communication with customers

5. Management should communicate with employees the importance of the customized and personalized communications with customers and how this will be reflected as a long term relationship.

Academic Recommendation

This study like any others cross sectional studies is not free of limitations. Therefore, this study depends mainly on the questionnaire as only method for data collection. The questionnaire is not free of bias; thus future research can utilize others approach such as interviews or focus group to understand fully the phenomena under investigation.

This study was limited to MARKA VIP Company, which specialized in trading field only, so service or manufacturing firms were not included. Although this study shed light on trending subject nowadays which is mobile customer relationship management application and customer knowledge creation, but it does not claim the mutual factors that impact both. Thus, future research can used the current research model as a base and added other independents, moderators, and mediators variables that might affect the both. Such as knowledge management processes.

The current study is distinguished from previous studies In terms of objective, this is the first study that attends to test the direct relationship between mobile customer relationship management applications on customer knowledge creation types, and in terms of the environment, this study conducted in the Arab World namely in MARKA VIP Company in Jordan, in contrast to other studies which have been done in United State of America and Europe.

The current study finds a significant effect for mobile customer relationship management applications on customer knowledge creation. This result is expected and in accordance with the result of other previous studies results. Therefore, future study can re-test and scrutinize the presumed effect by using longitudinal data to understand

the phenomena under-investigation objectively. Future Studies should test the effect of the relationship between the two aspects and customer satisfaction and loyalty.

Future studies should try to develop valid and reliable measure for mobile customer relationship management applications and re-test the current research model at the same context or in others context. The current study depends on different informants (Managers, heads of departments, and employees) without make clear discriminations between users work needs. Combining the responses of different informants from different managerial level to construct one perception about mobile customer relationship management applications may obscure the results; each managerial level has different perception for mobile customer relationship management applications. Thus, future study should try to test the current research model in each managerial level within specific organization to further our understanding how mobile customer relationship management applications can effect customer knowledge creation respectively.

As mentioned earlier the generalizability of the research results is limited to research sample and the results should be taken with caution. In order to increase the generalizability of the research results, future research can apply the same model but to wider number of organizations.

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"Appendix 1"

Questionnaire Arbitrators

No.	Name	Specialization	University
1	Prof. Mohammad Al Nuiami	Business Administration	Middle east University
2	Prof. Kamel M. Moghrabi	Business Administration	Middle east University
3	Dr. Fadi Qutaishat	Management Information System	Applied Science University
4	Dr. Faisal Aburub	Management Information System	University of Petra
5	Dr. George Sammour	Business Informatic	Princess Summaiyah University
6	Dr. Sajid Al Awwadi	Management Information System	Islamic Science University
7	Dr. Mohamed Al Maaitah	Computer Information System	Applied Science University

Questionnaire in Arabic

نموذج استبانه

<u>السادة شركة ماركا في اي بي المحترمين..., تحية طيبة</u>

يهدف الباحث إلى القيام بدراسة بعنوان :

أثر ادارة علاقات الزبائن باستخدام تطبيقات الهواتف الخلوية على بناء معرفة العملاء : دراسة حالة في شركة ماركا في اي بي

The Effect of Mobile customer relationship management   Applications on Customer Knowledge Creation: A MARKA VIP Case Study.

أرجو التكرم بوضع إشارة (X) في المكان المناسب، يرجى التكرم بالعلم بان البيانات التي سيتم جمعها هي لغايات البحث العلمي فقط و سيتم معاملتها باعلى مستوى من السرية ولن تعطى لاي طرف ثالث الا بموافقه خطية من الشركة .

نشكركم على حسن تعاونكم ومشاركتكم في هذه الدراسة .

المشرف

د. أسعود المحاميد   الباحث

الطالب: علاء نهاد البسطامي

الخصائص الديموغرافية لعينة الدراسة

العمر					
☐	من 20– 24 سنة	☐	من 25– 29 سنة	☐	أقل من 20 سنة
		☐	35 سنة فأكثر	☐	من 30– 34 سنة
الجنس					
		☐	أنثى	☐	ذكر
المؤهل العلمي					
☐	بكالوريوس	☐	دبلوم كلية	☐	توجيهي أو أقل
		☐	دكتوراه	☐	ماجستير
عدد سنوات الخبرة					
☐	من11 سنة 15-	☐	من6 سنوات 10-	☐	5 سنوات فأقل
				☐	من أكثر16 سنة
المستوى الوظيفي					
☐	موظف	☐	رئيس قسم	☐	مدير

لا أوفق بشدة	لا أوافق	محايد	أوافق	أوافق بشدة	تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي (عملياتيه , تحليليه , تشاركيه)	No
					تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي (عملياتيه)	
					تقدم (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) قيمة مضافة للمستخدم	1
					تمتلك الشركة قدرات (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) ترضي الموظفين	2
					يتمتع الزبون الذي يستخدم (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) بمعرفة كافية بطريقة استخدامها	3
					الزبائن يشعرون بالرضا تجاه استخدام (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي)	4
					لا يمانع الزبون اعطاء بياناته الشخصية عند استخدام (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي)	5
					تعتبر نسبة الزبائن الذين يستخدمون (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) مرضية	6
					تقدم الشركة مكافأت لتشجيع الموظفين للعمل على بناء معرفة العملاء من خلال استخدام (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي)	7
					تقدم (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) للمستخدم محتوى مخصص حسب الشخص	8
					تقدم (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) معلومات تتعذر على القنوات الاخرى توفيرها	9
					تسمح (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) للمستخدمين بتأدية الخدمات في اي الوقت و اي مكان	10
					تتوفر(تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) قدرات تشغيلية لخدمة الزبون	11

					تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي (تحليليه)	
					يتمتع الموظفون الذين يستخدمون (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) بتدريب جيد	1
					يسهل استخدام (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) عمل ملف تعريفي للزبائن	2
					تتوفر لدى (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) قدرات تحليلية	3
					المعلومات التي يتم جمعها من خلال (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) يتم تخزينها في قواعد بيانات من اجل استخدامها في عمليات تحليلية	4

					تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي (تشاركيه)	
					تتوفر لدى (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) قدرات تعاونية	1
					تتيح (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) للزبون امكانية مشاركة اقتراحاته مع الشركة	2
					تساعدك (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) في تبادل المعرفة مع الموظفين الاخرين	3

لا أوفق بشدة	لا أوافق	محايد	أوافق	أوافق بشدة	معرفة للعملاء	No
					(تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تساعدك بتبادل المعرفة التي تتوفر لديك مع الزبائن	1
					(تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تدعم بفاعلية انشطة بناء معرفة للعملاء في القسم الخاص بك	2
					(تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تدعم بفاعلية انشطة بناء معرفة للعملاء في الشركة ككل	3
					هناك نقاط قوة (لتطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تخص بناء معرفة للعملاء	4
					هناك نقاط ضعف (لتطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تخص بناء معرفة للعملاء	5
					يوجد فرص (لتطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تخص بناء معرفة للعملاء	6
					يوجد تهديدات (لتطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تخص بناء معرفة للعملاء	7

لا أوفق بشدة	لا أوافق	محايد	أوافق	أوافق بشدة	معرفة من العملاء	No
					تعطيك (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) معرفة من الزبائن (عن المنتجات و الخدمات)	1
					تعطيك (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) معرفة من الزبائن (عن المنافسين)	2
					(تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تدعم بفاعلية انشطة بناء معرفة من العملاء في القسم الخاص بك	3
					هناك نقاط قوة (لتطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تخص بناء معرفة من العملاء	4
					(تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تدعم بفاعلية انشطة بناء معرفة من العملاء في الشركة ككل	5
					هناك نقاط ضعف (لتطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تخص بناء معرفة من العملاء	6
					يوجد فرص (لتطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تخص بناء معرفة من العملاء	7

No	معرفة عن العملاء	أوافق بشدة	أوافق	محايد	لا أوافق	لا أوفق بشدة
1	(تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تساعدك على جمع معلومات عن الزبائن					
2	تفيد (تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) في التعرف على سلوك الزبائن					
3	انت تساهم في تغذية قاعدة المعرفة عن العملاء بالمدخلات					
4	تمتلك الشركة مخازن للبيانات والمعلومات عن العملاء					
5	(تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تدعم بفاعلية انشطة بناء معرفة عن العملاء في القسم الخاص بك					
6	(تطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تدعم بفاعلية انشطة بناء معرفة عن العملاء في الشركة ككل					
7	هناك نقاط قوة (لتطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تخص بناء معرفة عن العملاء					
8	هناك نقاط ضعف (لتطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تخص بناء معرفة عن العملاء					
9	يوجد فرص (لتطبيقات ادارة علاقات الزبائن باستخدام الهاتف الخلوي) تخص بناء معرفة عن العملاء					

<center>**"Appendix 3"**</center>

<center>**Questionnaire in English**</center>

<center>**Questionnaire Form**</center>

MEU جـــامـــعـــة الـــشــرق الأوسط
MIDDLE EAST UNIVERSITY

<center>**Messer's: MARKA VIP Jordan**</center>

The purpose of the questionnaire is to investigate

The Effect of Mobile customer relationship management Applications on

Customer Knowledge Creation: A MARKA VIP Case Study.

Please value the questionnaire parties also please be noted that , we would like
to confirm that all information you provide will be kept confidential and it will only be
used for research's purpose and it will not be shared with any third party.

<center>Thanks for your cooperation and participation</center>

The researcher   Supervisor

Ala Bustami   Dr. Soud Al Mahamid

Demographics Variables

☐	Between 20 and 24 Years	☐	Between 25 and 29 Years	☐	Less than 20 years
		☐	More than 35 Years	☐	Between 30 and 34 Years

		☐	Female	☐	Male

☐	Bachelor Degree	☐	Diploma Degree	☐	High School or less
		☐	PHd	☐	Master Degree

☐	Between 11 and 15 Years	☐	Between 6 and 10 Years	☐	Less than 5 Years
				☐	More than 16 Years

☐	Employee	☐	Head of Department	☐	Manager

The table contains the following section headers:

AGE

Sex

Scientific Qualification

Years of Work Experience

Career Level

No	Mobile Customer Relationship Management Applications (Operational, Analytical, Collaboration)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Operational Mobile Customer Relationship Management Applications					
1	Mobile (Customer Relationship Management Applications) provide an added value for the user.					
2	You are satisfied with your company's (Mobile Customer Relationship Management Applications) capabilities.					
3	Customers know how to use (Mobile Customer Relationship Management Applications).					
4	Customers are satisfied with using (Mobile Customer Relationship Management Applications)					
5	Customer is willing to give their personal information when using (Mobile Customer Relationship Management Applications).					
6	The ratio of customers who are using (Mobile Customer Relationship Management Applications) considered satisfied.					
7	Company provide a reward to encourage employees to create more customer knowledge through the use of (Mobile Customer Relationship Management Applications).					
8	(Mobile Customer Relationship Management Applications) provide personalized content to user.					

9	(Mobile Customer Relationship Management Applications) provide information that no other channels do.					
10	(Mobile Customer Relationship Management Applications) allow customer to do services anytime anywhere.					
11	(Mobile Customer Relationship Management Applications) have operational capabilities to serve customer.					

	Analytical Mobile Customer Relationship Management Applications					
1	Employees who are using (Mobile Customer Relationship Management Applications) are well trained.					
2	Using (Mobile Customer Relationship Management Applications) facilitate customer profiling					
3	(Mobile Customer Relationship Management Applications) have analytical capabilities.					
4	Information gathered by (Mobile Customer Relationship Management Applications) stored in a database and this database is used for analytical process.					

	Collaboration Mobile Customer Relationship Management Applications					
1	(Mobile Customer Relationship Management Applications) have collaborative capabilities					
2	(Mobile Customer Relationship Management Applications) allow customer to share suggestions with the company					
3	(Mobile Customer Relationship Management Applications) help you exchange your knowledge with others employees.					

No	Knowledge For Customer	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	(Mobile Customer Relationship Management Applications) help you exchange your Knowledge with customers					
2	(Mobile Customer Relationship Management Applications) effectively support For Customer Knowledge Creation activities within your department.					
3	(Mobile Customer Relationship Management Applications) effectively support For Customer Knowledge creation activities in the whole company.					
4	(Mobile Customer Relationship Management Applications) have strengths with regards For Customer Knowledge Creation.					
5	(Mobile Customer Relationship Management Applications) have weaknesses with regards For Customer Knowledge Creation.					
6	(Mobile Customer Relationship Management Applications) have opportunities with regards For Customer Knowledge creation.					
7	(Mobile Customer Relationship Management Applications) have threats with regards For Customer Knowledge creation.					

No	Knowledge From Customer	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	(Mobile Customer Relationship Management Applications) give you knowledge from customers (about products and services)					
2	(Mobile Customer Relationship Management Applications) give you knowledge from customer (about competitors)					
3	(Mobile Customer Relationship Management Applications) effectively support From Customer Knowledge Creation activities within your department.					
4	(Mobile Customer Relationship Management Applications) have strengths with regards From-Customer Knowledge Creation.					
5	Mobile Customer Relationship Management Applications) effectively support From Customer Knowledge creation activities in the whole company.					
6	(Mobile Customer Relationship Management Applications) have weaknesses with regards From-Customer Knowledge Creation.					
7	(Mobile Customer Relationship Management Applications) have opportunities with regards From Customer Knowledge creation.					

No	Knowledge About Customer	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	(Mobile Customer Relationship Management Applications) help you gather information about your customers.					
2	(Mobile Customer Relationship Management Applications) are helpful to learn about customer's behavior					
3	You provide input to About Customer Knowledgebase					
4	Company has repositories for data and information of customers.					
5	(Mobile Customer Relationship Management Applications) effectively support About Customer Knowledge Creation activities within your department.					
6	Mobile Customer Relationship Management Applications) effectively support About Customer Knowledge creation activities in the whole company.					
7	(Mobile Customer Relationship Management Applications) have strengths with regards About-Customer Knowledge Creation.					
8	(Mobile Customer Relationship Management Applications) have weaknesses with regards About-Customer Knowledge Creation.					
9	(Mobile Customer Relationship Management Applications) have opportunities with regards About Customer Knowledge creation.					