

# Applying Electronic Customer Processes to Electronic Customer Retention (Field Study in Jordanian Telecommunication Sector)

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## Abstract

Electronic Knowledge Repository in electronic customer relationship management (eCRM) is an important topic for improving Electronic Customer Retention. Also, In spite of several previous studies of eCRM, none has adequately examined the influences of Electronic Customer Processes and Electronic Knowledge Repository on Electronic Customer Retention. For this reason, the relationships among (Electronic Customer Analysis, Electronic Customer Attraction, and Electronic Customer Acquisition) mediating by Electronic Knowledge Repository to improve Electronic Customer Retention are tested, based on a PLS analysis with 218 survey sample from three Jordanian telecommunication sector. This paper has significant Practical implications of these findings beneficial to our understanding of eCRM process in the Electronic Customer Retention for organization in Jordanian telecommunication sector.

**Keywords:** electronic customer processes, electronic knowledge repository management, electronic customer acquisition, electronic customer retention

## 1. Introduction

Current electronic customer relationships challenges induced by globalization and advances in information technology have forced organization to focus on managing electronic customer relationships to improve electronic customer retention. Over the last decade, Organizations are confronting with a fast changing environment and there is a greater requirement for knowing customer's demands and competitor's strategies for the enhancement of product innovation (Lin et al., 2012). In addition, due to the fast pace of the electronic customer revolution, knowledge repository has become essential for building an effective and efficient relationship with electronic customers processes. Moreover, the role of electronic knowledge repository in electronic Customer Relationship Management (eCRM) is significant for reaching electronic customer retention. Also, because of strong competition, the dominating economic crisis and precipitous changes in business environment, firms are searching for enhancement to their business processes, with an aim to decrease cost, enhance efficiency and decrease the influence of the economic crisis on their operations. In this respect, knowledge repository is becoming increasingly significant for the enhancement of business processes according to previous studies (Alhawari et al., 2008).

Additionally, (Wahab et al., 2011) described that the eCRM technology should be more advanced and sophisticated to meet the requirement for developing and knowledgeable customers.

Furthermore, (Wu & Hung, 2009) explained that the aims of eCRM via the Internet form unique fortunes for structured trades and increasing profits streams by improving channel harmonization, increasing geographical areas, and enhancing sequential competence. Then, challenging fierce of global competition, firms have applied electronic knowledge Repository to improve Electronic customer retention and increasing investments in resources for electronic knowledge repository implementation in the area of eCRM.

The study reported in this paper aims to contribute to the existing literature on the eCRM field and the implementation of eCRM processes mediating by electronic knowledge Repository to examining Electronic customer retention. To do so, the objective of this study will examine, in a Jordanian context to present a coherent model of Electronic customer processes to improve the electronic customer retention mediating by

electronic knowledge repository; consequently, it is required from firms to focus and attention on developing interaction with electronic customer's process to maximize electronic customer retention.

The rest of the paper is organized as follows. It starts by reviewing literatures relevant to eCRM, concept of Electronic knowledge repository, and introduce the concept of Electronic customer retention in which this study is based. Next, proposes the research model and hypothesis in section three. Then, introduces the research methodology in term of sample size and data collection method in section four. Hypotheses analysis and results highlighted and discussed in section five. The last section presents our conclusion.

## 2. Literature Review

### 2.1 Concept of ECRM

From a marketing perspective, the eCRM software application is an effective tool to control customer relations over the Internet. Also, eCRM applications use profiling method through gained knowledge of customer's requirements and behaviors to help organization to recognize their customers better and be able to build up their relation with them. There are several services integrated with eCRM like a newsletter, SMS alert service, promotional campaigns, a cell phone, a specific software solution, an email system, a web site, etc. (Sophonthummapharn, 2009). Furthermore, (Romano & Fjermestad, 2003) described the aim of electronic customer relationship management (eCRM) systems is to develop customer service, to retain valuable customers, and to support in providing analytical capabilities. Additionally, from the organizational management perspective, eCRM is all about increasing profitability and enabled businesses to keep customers under control and making the customer feel they are actually a part of the business progress (Shoniregun et al., 2004).

Recently, (Girinath & Ravi, 2013) suggested that the factors to eCRM Success: There are four suggested implementation factors that affect the viability of a project like this: Developing customer-centric strategies, Redesigning workflow management systems, Re-engineering work processes, and finally, supporting with the right technologies. Nevertheless, a full eCRM processes is essential for an effective electronic customer retention mediating by electronic knowledge repository.

In (Bataneh, 2015), the author study the impact of eCRM practices supplied by banks operating in Jordan on electronic word of mouth (eWOM) on these banks social networking sites (SNSs) namely Twitter, Facebook and Instagram. The results indicated that the electronic mail, perceived rewards and interpersonal communication are respectively influence eWOM of banks SNSs. Also the mediating role of customer satisfaction was supported. The experiments conducted using multiple regression test to evaluate 507 returned questionnaires.

According to (Hadi, 2015) developed a model describes how the CRM strategies stage would reach the competitive advantage. The author adapts the quantitative research method by using the survey strategy, which is conducted by a questionnaire collected from 170 persons working in the operational position of three Jordanian telecommunication firms. The main importance was focused on the concept of CRM strategies stage (attraction, acquiring, withholding and expanding), and the competitive advantage.

### 2.2 Concept of Electronic Knowledge Repository

eCRM has arisen in latest years as the convergence of a number of factors. Theoretically, the aim of electronic knowledge know is to convey appropriate electronic knowledge to the right individual by most beneficial technique in a suitable time. In addition, electronic knowledge can be used in different varying areas such as eCRM, project management, education and more.

In a study by (Injazz & Popovich, 2003) describe that data warehousing technology makes CRM possible because it consolidates, correlates and transforms customer data into customer intelligence that can used to form a better understanding of customer behavior. Additionally, (Winder, 2001) provides an expanded the important stage of CRM process includes seven stages: a database of customer activity; analyses of the database; decisions about which customers to target; tools for targeting customers; establishment of relationships with targeted customers; privacy issues; and metrics for measuring the success of the CRM program. Also, According to (Ryals & Payne, 2001), CRM is all about implementing relationship marketing using IT.

Recently, (Girinath & Ravi, 2013) eCRM explain that geared more toward front end, which interacts with the back-end through used data warehouses, and data marts. (Kennedy, 2006) supports this view and argues that when a company uses eCRM technology and redefines its business processes in customer retention, it strengthens its capabilities in key areas that linkages all process to data repository. Consequently, All of these linkages need to be effective and operational for eCRM to successfully impact company activities and will present a host of challenges as business processes may have to be modified. Additionally, (Muruko et al., 2013) noted that eCRM helps an organization keep track of key customer information such as contacts, communication,

accounts, purchases and preferences allowing the organization to match customer needs with products and services. From this point, the knowledge repository provides a powerful corporate memory of customers, an integrated organization wide data store that is capable of relevant data analyses. In addressing this issue, (Muruko et al., 2013) noted that eCRM provides multiple channels for organization to communicate and interact with customers to supports data gathering process for an organization, thus eCRM helps an organization to realize and analyses customer behaviors and needs much easier.

### 2.3 Concept of Electronic Customer Retention

Recently, (Wahab et al., 2011) describe that eCRM performance is a complete business and marketing strategy that incorporates people, process, technology and all business processes for attracting and retaining customers. More specifically, (Kennedy, 2006) noted that the eCRM can be used a method to relationship management with multiple stakeholders counting customers, and specific opportunities of eCRM highlighted here include enhanced customer connections and relationships.

Development in the area of information and communication technology has growth the scope of CRM operation in business process in organization, which leads to the rising of eCRM concept (Harfoushi, 2013). By incorporate customer processes through the internet; eCRM processes assistances to improve electronic customer retention. In addressing this issue, the use of information technology and information system can enable the collection of the necessary data to determine the economics of customer acquisition, retention, and life-time value. Advanced technology involves the use of databases, data warehouses, and data mining to help organizations increase customer retention rates and their own profitability (Ngai, 2005). Also, information technology and information system can be used to support and integrate the eCRM process to satisfy the electronic customer retention. Additionally, information technology and information system play a main role in the development of CRM (Ling & Yen, 2001). They can be used to automate and enable some or all eCRM processes. Likewise, Individual factors for eCRM have been highlighted for the successful implementation of e-commerce (Leonard & Riemenschneider, 2008). Additionally, the second CRM development stage is the IT-assisted CRM, predominately a manual process that uses information technology to enhance the company-customer relationship (Wells et al., 1999) and analyze customer-related data.

The increasing significance of the eCRM processes to marketing is evident in the frequent eCRM initiatives prevalent today. To be successful, organization must re-think, how they do business and how they retain their electronic customers, this is accomplished by providing a superior understanding of the process of eCRM on the one hand, and the operation of eCRM process mediating by knowledge repository to improve electronic customer retention on the other.

### 3. Research Model and Hypotheses Developments

The author proposed a model in this paper to emphases on the causal relationships among three Electronic Customer processes (Electronic Customer Analysis, Electronic Customer Attraction and Electronic Customer Acquisition) mediating by Electronic Knowledge Repository to improve Electronic Customer Retention. The authors examine the relationships among these constructs and the basic model for this research is provided by the theoretical framework shown in Figure 1.

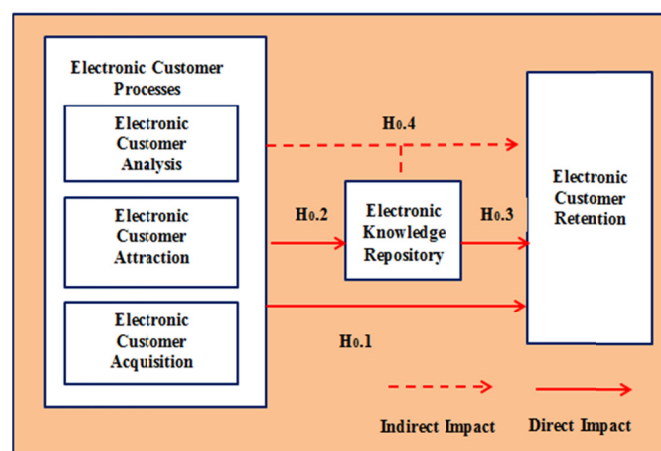


Figure 1. Research model

In order to test the model, the research has conducted an extensive review of the literature in the area of eCRM to build the research model. Based on the literature, the model components have been tested and justified for the model by using four stages.

**Firstly**, we will discuss the direct effects of electronic customer processes (Electronic Customer Analysis, Electronic Customer Attraction and Electronic Customer Acquisition) on electronic customer retention in **H0.1**. That is stated in three sub-hypotheses as follows.

**H0.1.1:** There is no significant impact of electronic customer analysis on electronic customer retention at ( $\alpha \leq 0.05$ ).

**H0.1.2:** There is no significant impact of electronic customer attraction on electronic customer retention at ( $\alpha \leq 0.05$ ).

**H0.1.3:** There is no significant impact of electronic customer acquisition on electronic customer retention at ( $\alpha \leq 0.05$ ).

**Secondly**, we will discuss the direct effects of electronic customer processes (Electronic Customer Analysis, Electronic Customer Attraction, and Electronic Customer Acquisition) on electronic knowledge repository in **H0.2**. That is stated in two sub-hypotheses as follows.

**H0.2.1:** There is no significant impact of electronic customer analysis on electronic knowledge repository at ( $\alpha \leq 0.05$ ).

**H0.2.2:** There is no significant impact of electronic customer attraction on electronic knowledge repository at ( $\alpha \leq 0.05$ ).

**H0.2.3:** There is no significant impact of electronic customer acquisition on electronic knowledge repository at ( $\alpha \leq 0.05$ ).

**Thirdly**: we will discuss the direct relation between Electronic Knowledge Repository and Electronic Customer Retention in **H0.3** will be tested.

**H0.3.1:** There is no significant impact of electronic knowledge repository on electronic customer retention at ( $\alpha \leq 0.05$ ).

**Finally**: the important perspectives for achieving electronic customer processes are the indirect effects between electronic customer processes mediation by electronic knowledge repository. The relationships between electronic customer processes impact on electronic knowledge repository and electronic customer retention are dealt in **H0.4**. The underlying assumptions are that electronic customer processes will improve electronic customer retention by mediation of electronic knowledge repository. It is hypothesized (Electronic Customer Analysis, Electronic Customer Attraction and Electronic Customer Acquisition) with succeeding electronic customer retention by mediation of electronic knowledge repository; therefore, **H0.4** is tested based on three sub-hypotheses.

**H0.4.1:** Electronic knowledge repository does not mediate the relation of electronic customer analysis and electronic customer retention at ( $\alpha \leq 0.05$ ).

**H0.4.2:** Electronic knowledge repository does not mediate the relation of electronic customer attraction and electronic customer retention at ( $\alpha \leq 0.05$ ).

**H0.4.3:** Electronic knowledge repository does not mediate the relation of electronic customer acquisition and electronic customer retention at ( $\alpha \leq 0.05$ ).

#### 4. Research Methodology

In order to conduct this study, the quantitative research method is selected in this paper and Stratified random sampling was used with organizations belonging to Jordanian telecommunication sector. In this paper, the researcher selected of 245 survey questionnaires were distributed randomly from employee working in operational level. The sample of the survey was distributed into the three Jordanian telecommunication sectors in Jordan. Our paper depends on a survey based on analyses only of 218 returned completed questionnaires.

#### 5. Data Analysis and Result

The proposed model and hypothesis testing was conducted using Partial Least Squares (PLS) Version 2.0.M3 rather than the other statistical techniques in data analysis. In this paper, the first step in PLS is to analyze the measurement mode by test the internal consistency (similar to Cronbach's alpha), convergent, and discriminant validity of variables by using two test: firstly: Composite Reliability (CR) and Average Variance Extracted (AVE)

Test, secondly: Path loadings whereas the second step was to test the all hypotheses related to propose model (Anderson & Mittal, 2000).

5.1 Path Loadings (Factors Analysis Result)

The first step in PLS analysis is to analyze the measurement model (factor analysis loading) to determine how all questions related to each factors well be load. The path loadings for all variables were above (0.55). According to (Falk & Miller, 1992), standardized loadings are suggested to be 0.55 to confirm the variables in model. Figure 2 present the all path loadings (factors analysis loading) for proposed model.

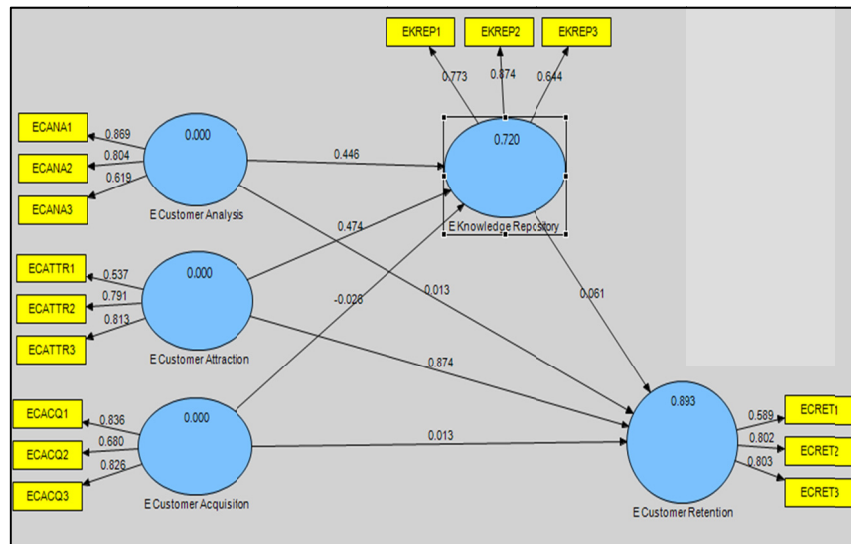


Figure 2. Factors analysis result

Based on Figure 2, all items were larger than 0.55 for all factors and therefore all were accepted in the model. Based on recommending by (Falk & Miller, 1992).

5.2 Cronbach's Alpha Test

The Cronbach alpha is the most usually used measure for assessing the reliability (internal consistency) of survey factors. A Cronbach's alpha (internal consistency) around 0.70 or higher is considered adequate (Hair et al., 2006).

Table 1. Cronbachs Alpha test

Factors	Value of Cronbachs Alpha
Electronic Customer Analysis	0.72
Electronic Customer Attraction	0.75
Electronic Customer Acquisition	0.76
Electronic Knowledge Repository	0.78
Electronic Customer Retention	0.82

As presented in Table 1 the values of Cronbach's alpha ranged from (0.72) to (0.82). So, that the questions in this research instrument have achieved high levels of reliability (internal consistency) and accepted.

5.3 Composite Reliability (CR) and Average Variance Extracted (AVE) Test

CR test and AVE tests were applied to test convergent validity for all variables. (Fornell & Larcker, 1981) clarified that the value of CR is above (0.70) to be accepted, whereas, the value of the AVE need to above (0.50) to be accepted the convergent validity.

Table 2. Composite Reliability (CR) and average variance extracted (AVE)

Factors	Average Variance Extracted (AVE)	Composite Reliability (CR)
Electronic Customer Analysis	0.60	0.81
Electronic Customer Attraction	0.52	0.76
Electronic Customer Acquisition	0.61	0.82
Electronic Knowledge Repository	0.59	0.81
Electronic Customer Retention	0.54	0.77

As presented in Table 2 the (AVE) for all variables of proposed model is above (0.50), and therefore, it could be accepted the convergent validity based on recommending by (Fornell & Larcker, 1981). (CR) for all variables of proposed model is above (0.70) and consequently, it could be accepted convergent validity based on recommending by (Fornell & Larcker, 1981).

5.4 R (Square) Test

To Assessment the path coefficients technique’s results for the proposed model need to use the R2 values.

Table 3. R Square result

Factor	R Square
Impact of Electronic Customer processes on Electronic Customer Retention	0.72
Impact of Electronic Customer processes on Electronic Customer Retention mediation by Electronic Knowledge Repository	0.89

After analyzing Table 3, we found that the R2 value for the Electronic Customer processes without mediation Electronic Knowledge Repository is (0.72) was above (25%) which determine a satisfactory and accepted prediction level in empirical paper (Gaur & Gaur, 2009). On the other hand, The R2 value for the Electronic Customer processes with mediation Electronic Knowledge Repository is (0.89) was above (25%) therefore, acceptable research paper based on recommending by (Gaur & Gaur, 2009). The increased percent of Electronic Customer processes R2 value is (17%), (from 72% to 89%) when the Electronic Knowledge Repository is used as mediation variable in the relation between Electronic Customer processes and Electronic Customer Retention. The high R2 verifies the propose model’s predictive validity based on recommending by (Hair et al., 2012).

5.5 Testing Hypotheses

The authors of this paper used the analysis of the proposed model to provide a detailed explanation of our results and to test all hypotheses by using Bootstrapping in smart PLS to find (T value).

**Firstly:** need to find (T value) for Electronic Customer processes and Electronic Customer Retention without mediation of Electronic Knowledge Repository.

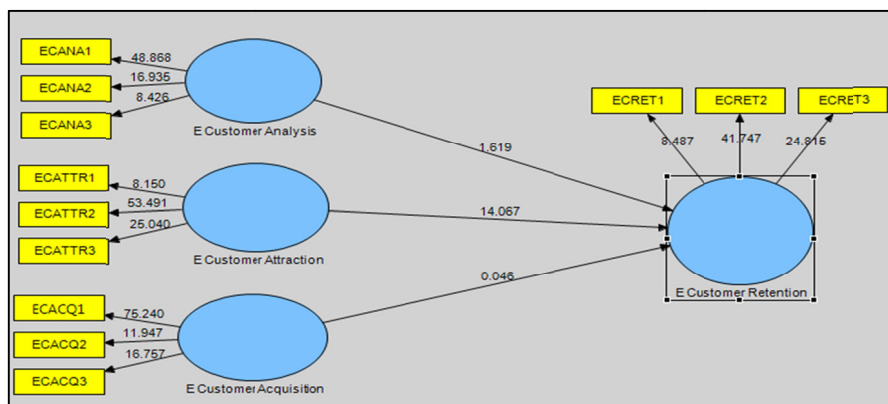


Figure 3. Bootstrapping (T value) without mediation of electronic knowledge repository

Based on Figure 3, the authors find the T value test by using Smart PLS to test the hypothesis related to

Electronic Customer processes (Electronic Customer Analysis, Electronic Customer Attraction, and Electronic Customer Acquisition) on Electronic Customer Retention. In Table (4) summarize all (T) value and (Beta) value.

Table 4. Test results for electronic customer processes and electronic customer retention

Relation (direct effects)	T value	Beta
Electronic Customer Analysis and Electronic Customer Retention	1.6	0.06
Electronic Customer Attraction and Electronic Customer Retention	14.0	0.90
Electronic Customer Acquisition and Electronic Customer Retention	0.04	0.01

Referring to Table 4, the value of T is (1.6) between the relation of Electronic Customer Analysis and Electronic Customer Retention, for that reason, it significant at level (0.05). Additionally, the value of (Beta) is (0.06) that is specify the alteration of one amount in the Electronic Customer Analysis will cause in an alteration of (0.06) amount in Electronic Customer Retention. This results backing to not accept of the null hypothesis: **H0.1.1**: There is no significant impact of electronic customer analysis on electronic customer retention at ( $\alpha \leq 0.05$ ).

Referring to Table 4, the value of T is (14.0) between the relation of Electronic Customer Attraction and Electronic Customer Retention, for that reason, it significant at level (0.05). Additionally, the value of (Beta) is (0.90) that is specify the alteration of one amount in the Electronic Customer Attraction will cause in an alteration of (0.90) amount in Electronic Customer Retention. This results backing to not accept of the null hypothesis: **H0.1.2**: There is no significant impact of electronic customer attraction on electronic customer retention at ( $\alpha \leq 0.05$ ).

Referring to Table (4), the value of T is (0.04) between the relation of Electronic Customer Acquisition and Electronic Customer Retention, for that reason, it not significant at level (0.05). Additionally, the value of (Beta) is (0.01) that is specify the alteration of one amount in the Electronic Customer Acquisition will cause in an alteration of (0.01) amount in Electronic Customer Retention. This results backing to accept of the null hypothesis: **H0.1.3**: There is no significant impact of electronic customer acquisition on electronic customer retention at ( $\alpha \leq 0.05$ ).

**Secondly**: need to find (T value) for Electronic Customer processes on electronic customer retention with mediation of Electronic Knowledge Repository.

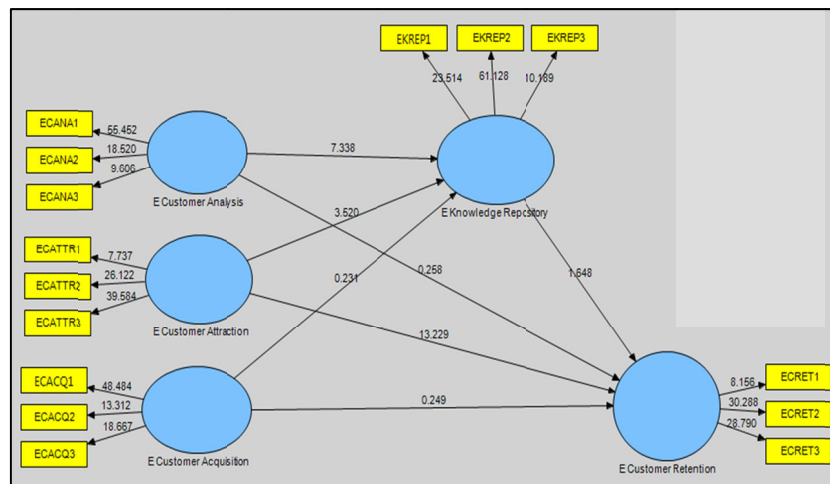


Figure 4. Bootstrapping (T value) with mediation of Electronic Knowledge Repository

Based on Figure 4, the authors find the T value test by using Smart PLS to test all hypotheses related to Electronic Customer processes (Electronic Customer Analysis, Electronic Customer Attraction, and Electronic Customer Acquisition) on Electronic Knowledge Repository.

Table 5. Test results for electronic customer processes and electronic knowledge repository

Relation (direct effects)	T value	Beta
Electronic Customer Analysis and Electronic Knowledge Repository	7.33	0.44
Electronic Customer Attraction and Electronic Knowledge Repository	3.62	0.47
Electronic Customer Acquisition Electronic Knowledge Repository	0.23	-0.02

Referring to Table 5, the value of T is (7.33) between the relation of Electronic Customer Analysis and Electronic Knowledge Repository, for that reason, it significant at level (0.05). Additionally, the value of (Beta) is (0.44) that is specify the alteration of one amount in the Electronic Customer Analysis will cause in an alteration of (0.44) amount in Electronic Knowledge Repository. This results backing to not accept of the null hypothesis: **H0.2.1**: There is no significant impact of electronic customer analysis on electronic knowledge repository at ( $\alpha \leq 0.05$ ).

Referring to Table (5), the value of T is (3.62) between the relation of Electronic Customer Attraction and Electronic Knowledge Repository, for that reason, it significant at level (0.05). Additionally, the value of (Beta) is (0.47) that is specify the alteration of one amount in the Electronic Customer Attraction will cause in an alteration of (0.47) amount in Electronic Knowledge Repository. This results backing to not accept of the null hypothesis: **H0.2.2**: There is no significant impact of electronic customer attraction on electronic knowledge repository at ( $\alpha \leq 0.05$ ).

Referring to Table (5), the value of T is (0.23) between the relation of Electronic Customer Acquisition and Electronic Knowledge Repository, for that reason, it not significant at level (0.05). Additionally, the value of (Beta) is (-0.02) that is specify the alteration of one amount in the Electronic Customer Acquisition will cause in an alteration of (-0.02) amount in Electronic Knowledge Repository. This results backing to accept of the null hypothesis: **H0.2.3**: There is no significant impact of electronic customer acquisition on electronic knowledge repository at ( $\alpha \leq 0.05$ ).

Furthermore, from Figure 4, the researcher uses the T value test Smart PLS to examination the hypothesis associated to Electronic Knowledge Repository and electronic customer retention, table (6) shows the summary of the result.

Table 6. Test Results for electronic knowledge repository and electronic customer retention

Relation (direct effects)	T value	Beta
Electronic Knowledge Repository and Electronic Customer Retention	1.65	0.06

Referring to Table 6, T value is (1.65) between the relation Electronic Knowledge Repository and Electronic Customer Retention, Therefore, it significant at level (0.05). Additionally, the value of (Beta) is (0.06) that is specify the alteration of one amount in the Electronic Knowledge Repository will cause in an alteration of (0.06) amount in electronic customer retention. This results backing to rejection of the null hypothesis: **H0.3.1**: There is no significant impact of electronic knowledge repository on electronic customer retention at ( $\alpha \leq 0.05$ ).

In this paper, the authors used the T value test by apply Smart PLS to confirm the Electronic Knowledge Repository mediating the relationship between Electronic Customer processes (Electronic Customer Analysis, Electronic Customer Attraction and Electronic Customer Acquisition) on electronic Customer Retention.



Table 7. Results for the relation between electronic customer analysis on and electronic customer retention mediating electronic knowledge repository

Relation (direct effects)	Direct Effect	Direct Effect	Indirect Effect	Total effect	Total effect
	t value	Beta	Beta	t value	Beta
Electronic Customer Analysis on Electronic Knowledge Repository	7.33	0.44		7.33	0.44
Electronic Knowledge Repository on electronic customer retention	1.65	0.06		1.65	0.06
Electronic Customer Analysis on and electronic customer retention mediating Electronic Knowledge Repository			0.026		
Electronic Customer Analysis on electronic customer retention	14.0	0.90		0.25	0.034

Referring to Table 7, T value is (7.33) between the relation Electronic Customer Analysis on Electronic Knowledge Repository, Therefore, it significant at level (0.05). Additionally, the T value is (1.65) between the Electronic Knowledge Repository on electronic customer retention. Therefore, it significant at level (0.05), As well as, the value of (Beta) for (Indirect Effect) is (0.026) that is specify the alteration of one amount in the Electronic Customer Analysis and Electronic Knowledge Repository will cause in an alteration of (0.026) amount in Electronic Customer Retention. This results backing to reject of the hypothesis **H0.4.1**: electronic knowledge repository doesn't mediate the relation of electronic customer analysis and electronic customer retention at ( $\alpha \leq 0.05$ ). Consequently, the electronic knowledge repository is a partially mediate the relation of electronic customer analysis and electronic customer retention.

Table 8. Results for the relation between electronic customer attraction on and electronic customer retention mediating electronic knowledge repository

Relation (direct effects)	Direct Effect	Direct Effect	Indirect Effect	Total effect	Total effect
	t value	Beta	Beta	t value	Beta
Electronic Customer Attraction on Electronic Knowledge Repository	3.62	0.47		7.33	0.44
Electronic Knowledge Repository on electronic customer retention	1.65	0.06		1.65	0.06
Electronic Customer Attraction on and electronic customer retention mediating Electronic Knowledge Repository			0.028		
Electronic Customer Attraction on electronic customer retention	14.0	0.90		13.2	0.87

Referring to Table 8 T value is (3.62) between the relation Electronic Customer Attraction on Electronic Knowledge Repository, Therefore, it significant at level (0.05). Additionally, the T value is (1.65) between the Electronic Knowledge Repository on electronic customer retention. Therefore, it significant at level (0.05), As well as, the value of (Beta) for (Indirect Effect) is (0.028) that is specify the alteration of one amount in the Electronic Customer Attraction and Electronic Knowledge Repository will cause in an alteration of (0.028) amount in Electronic Customer retention. This results backing to reject of the hypothesis **H0.4.2**: Electronic knowledge repository doesn't mediate the relation of electronic customer attraction and electronic customer retention at ( $\alpha \leq 0.05$ ). Consequently, the Electronic knowledge repository is a partially mediate the relation of electronic customer Attraction and electronic customer retention.

Table 9. Results for the relation between electronic customer acquisition on and electronic customer retention mediating electronic knowledge repository

Relation (direct effects)	Direct Effect	Direct Effect	Indirect Effect	Total effect	Total effect
	t value	Beta	Beta	t value	Beta
Electronic Customer Acquisition on Electronic Knowledge Repository	0.23	-0.02		7.33	0.44
Electronic Knowledge Repository on electronic customer retention	1.65	0.06		1.65	0.06
Electronic Customer Acquisition on and electronic customer retention mediating Electronic Knowledge Repository			-0.001		
Electronic Customer Acquisition on electronic customer retention	0.04	0.01		0.25	0.011

Referring to Table 9 T value is (0.23) between the relation Electronic Customer Acquisition on Electronic Knowledge Repository, Therefore, it not significant at level (0.05). Additionally, the T value is (1.65) between the Electronic Knowledge Repository on electronic customer retention. Therefore, it significant at level (0.05), As well as, the value of (Beta) for (Indirect Effect) is (-0.001) that is specify the alteration of one amount in the Electronic Customer Acquisition and Electronic Knowledge Repository will cause in an alteration of (-0.001) amount in Electronic Customer retention. This results backing to reject of the hypothesis **H0.4.3**: Electronic knowledge repository doesn't mediate the relation of electronic customer acquisition and electronic customer retention at ( $\alpha \leq 0.05$ ). . Consequently, the Electronic knowledge repository is a fully mediate the relation of electronic customer acquisition and electronic customer retention.

## 6. Conclusions

An eCRM processes contributes to the company's competitive advantage by enhancing an organizations ability to improve electronic customer retention. However, not all an electronic customer retention systems are successful, Therefore, eCRM process coupled with electronic knowledge repository are capable of managing the all-electronic knowledge would definitely add value to the electronic customer retention. Hence, in this paper we had proposed a model that is suitable for the telecommunication sector using eCRM process and electronic knowledge repository to improve electronic customer retention. The findings shed light on the potential areas in which organizations can practically use eCRM process in telecommunication sector. The application of eCRM process was investigated to build up an electronic customer retention model in practice. The paper also provides guidance for the telecommunication sector as to how an eCRM process mediating by electronic knowledge repository to be developed to support electronic customer retention.

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