

# EVALUATING USERS SATISFACTION FACTORS OF THE CUSTOMER RELATIONSHIP MANAGEMENT SYSTEM: A STUDY OF KHEDMAH SYSTEM AS A SINGLE SERVICE PLATFORM

SHAFIQ DARWISH ALABRI<sup>1</sup>, SUZILAWATI KAMARUDIN<sup>2</sup>

<sup>1</sup>International Business School in Universiti Teknologi Malaysia (UTM), Kuala Lumpur, Malaysia

<sup>2</sup> Associate Professor in University of Business and Technology, Jeddah, KSA

<sup>2</sup> Associate Professor in Universiti Teknologi Malaysia UTM, Kuala Lumpur, Malaysia.

E-mail: E-mail: <sup>1</sup>shafiqalabri@gmail.com, <sup>2</sup>suzilawati@ibs.utm.my, <sup>2</sup>s.kamarudin@ubt.edu.sa

## ABSTRACT

This study investigates the factors that influence user satisfaction of Khedmah's system in Oman. The Information Systems Success Model (ISSM), Technology Acceptance Model (TAM), and Theory of Planned Behavior model (TPB) are integrated to form the theoretical framework for this study. This study investigates the impact of the individual's computer skills, perceived ease of use, and perceived usefulness have on the user satisfaction of Khedmah's system. These constructs were derived from the three models. Data were collected from the users of Khedmah system through a self-administered questionnaire. The researchers relied on the judgmental technique to identify the research sample. Using SPSS v25 and SmartPLS 3, a total of 164 questionnaires were analyzed. The findings revealed that generally the users are satisfied with the Khedmah's performance. The findings also illustrated that the individual's computer skills, the perceived ease of use, and the perceived usefulness positively and significantly affect the level of user satisfaction of the system. The findings of the study would enhance the performance of Khedmah system, which will reflect positively on the level of user satisfaction. It would enrich the knowledge of the managers and system developers to further develop the system in order to achieve high levels of users' satisfaction. Also, the findings of this study provide insight for the developers of similar systems in other institutions. The study findings confirm that combining ISSM, TAM, and TPB models is applicable to CRM. The findings of the study would enrich the CRM literature. Based on the researchers' knowledge, this study is the first of its kind in CRM literature that combines these three models.

**Keywords:** *Information Systems Success Model (ISSM), Technology Acceptance Model (TAM), Theory of Planned Behavior model (TPB), Customer Relationship Management (CRM), Khedmah's System*

## 1. INTRODUCTION

Customer Relationship Management (CRM) is the most effective way to provide integrated and high-quality services and build personal relationships with customers. This approach increases the organization's ability to provide better services to its clients and meet their needs. The prosperity of an organization depends on its ability to satisfy its customers. CRM is defined by [1] as “a holistic management approach, enabled by

technology with a broad customer focus, to start, maintain and optimize relationships and to make customers more loyal/profitable”. Moreover, CRM is a process responsible for managing customer interactions [2]. They pointed out that investing in CRM projects has become popular worldwide as organizations seek to increase their efficiency and performance, reduce costs, improve profitability and increase customer satisfaction. Customer satisfaction and loyalty are achieved by providing personalized and value-added services [3]. CRM

activities aim to meet customer expectations [4]. The customer satisfaction is a criterion for the CRM performance [2]. Therefore, customer satisfaction used to evaluate CRM projects [5]. Moreover, assessing user satisfaction, especially for emerging online services systems, is an important issue [6].

In addition to the above, customer satisfaction is an essential goal of CRM as it has a positive impact on customer loyalty and organizational profitability. In line with this, reducing complaints and maximizing customer satisfaction are key outcomes for CRM success [7]. Moreover, [8] pointed out that customer satisfaction negatively affects customer complaints and positively impact usage behavior and customer loyalty. [7], [8], [9], [10], [11], [12], and [13] found that there is a positive relationship between CRM system and customer satisfaction.

Khedmah is one of CRM systems in Oman developed by Oman Investment & Finance Co. (OIFC) aims to provide integrated services for phone recharge and bill payment for 10 electricity, water and telecommunications companies. Those services are provided through a single platform. The system allows customers to create and manage their own accounts. This system provides multiple communication channels for customers to pay all the bills or to recharge the phone, namely branches of Khedmah outlets, Khedmah Kiosks, bill payment machines, OIFC website, and mobile App. The payment can be made electronically using the bank card from anywhere in the world [14]. The Khedmah system framework is compatible with the CRM framework, which consists of a set of integrated elements: communication channels, front offices, back offices, data warehouses, and related entities [1], [15].

Knowing customer satisfaction factors is a significant step towards the successful implementation of CRM. Despite the considerable investment in CRM systems [8], there is a scarcity of studies that have investigated the factors associated with customer satisfaction. Generally, there is a lack of CRM studies in developing countries in general and Oman in particular. Therefore, this study comes to reveals the level of customer satisfaction about Khedmah system. In addition, the objective of this study is to examine and identify the factors that influencing the user satisfaction. Overall, this study seeks to answer the following research question “What are the factors that affect user satisfaction of Khedmah system?”.

## 2. THEORETICAL CONSTRUCTS

To explain the customer satisfaction factors, this study incorporates constructs from three different frameworks, the ISSM [16], [17], TAM [18], and TPB [19] (see Figure 1). These frameworks have been widely used in IS studies and have demonstrated their ability to understand and predict the social behavior of individuals. In the following subheadings those frameworks will be explained:

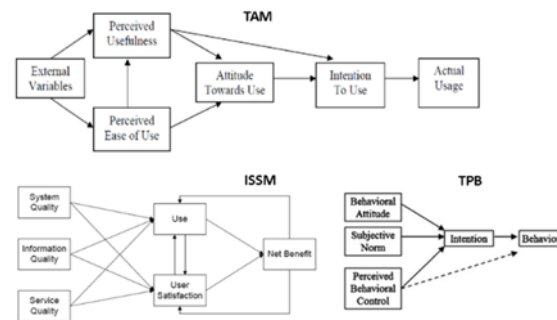


Figure 1. An overview of ISSM, TAM and TPB

### 2.1. Information Systems Success Model (ISSM)

In 1992, DeLone and McLean developed the ISSM framework as a means of measuring IS success or effectiveness. In 2003, they updated the framework by incorporating a measure of service quality [16], [17]. This framework consists of six dimensions, three of which are independent variables namely system quality (functionality, reliability, portability, usability, integration, and flexibility), information quality (relevance, completeness, accuracy, consistency, timeliness, and personalization), service quality, which affects three dependent variables namely usage intention/system use, user satisfaction, and net benefits [17]. Based on this framework, the development of information systems (IS) has some features that result in different degrees of information and system quality. The IS features are recognized by users when using the system and they reflect on their level of satisfaction with the information and system quality [20]. The user's intention/actual use of the system and user satisfaction increases as the quality of the system, the information, and the service of IS increase. So, [17] suggest that there are causal relationships between ISSM dimensions with the user's intention/actual use of the system and user satisfaction. Measures for system quality are incorporated in this study to

assess the technical success. The effectiveness of the system is captured through use's and user satisfaction's constructs. So, this study intends to examine the impact of system quality measures on the user's satisfaction of Khedmah system.

**2.2. Technology Acceptance Theory (TAM)**

TAM is one of the most widely cited models in IS research developed by [18]. TAM has been used, modified and proven by numerous studies as a reliable predictor of information technology (IT) acceptance by an individual [20]–[25]. This model encompasses two fundamental determinants of system usage: perceived ease of use (PEU), and perceived usefulness (PU) [18]. These two constructs affect an individual's attitudes, beliefs, and intentions towards the actual use of technology [26]. PEU refers to "the degree to which an individual believes using a system would be free from effort". PU, in contrast, defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" [18]. PEU and PU constructs are a part of this study to explain their impact on customer satisfaction as one of the ISSM theory constructs. In contrast, TAM does not take human factors into account. Therefore, to improve the predictive power of TAM, human factors can be incorporated with it [27]. Consequently, this study will integrate the individual's computer skills factor with TAM as a factor of the TPB theory.

**2.3. Theory of Planned Behavior model (TPB)**

TPB is a framework used to understand and predict human social behavior [19] and it is an extension of reasoned action theory which developed by [28]. According to the TPB theory, the intentions of individuals is a direct consequence of several constructs: perceived behavioral control, subjective norms, and behavioral attitude. Moreover, human behavior is directly influenced by their intentions [19]. IS research refers to the construct of perceived behavioral control as "self-efficacy" or the ability of an individual to use computer technology [29]. There is a positive relationship between experience with computer technology and perceived outcome and use [30]. Other studies have shown that computer self-efficacy has a strong effect on user responses to IT [20], [23], [31], [32]. Computer skills are used in this study as an alternative measure of perceived behavioral control construct. Individuals may intend to use the Khedmah system

but they may lack the required skills which may hinder the actual behavior.

**3. RESEARCH MODEL AND HYPOTHESES**

The proposed integrated model of this study consists of four constructs drawn from the three above explained frameworks ISSM, TAM, and TPB, which seek to provide an explanation of four causal relationships between the chosen constructs. The proposed model used to explain the user satisfaction with Khedmah electronic services. Table 1 summarizes the theoretical constructs of ISSM, TAM, and TPB frameworks and constructs used in the present study model. Figure 2 represents the theoretical framework of this study, followed by the hypotheses' formulation in the next subheadings in light of the finding of previous studies.

*Table 1. Theories contributing to the study model*

Theories	Independent variables	Dependent variables	Constructs
ISSM [16], [17]	system quality, information quality, and service quality	usage intention/system use, user satisfaction, and net benefits	User satisfaction (USAT)
TAM [18]	perceived ease of use (PEU), and perceived usefulness (PU)	Behavioral Intention to Use; System Usage	perceived ease of use (PEU), and perceived usefulness (PU)
TPB [19]	perceived behavioral control, subjective norms, and behavioral attitude	Intention and behavior	Computer skills (CS)

**3.1. Computer skills (CS) influence perceived ease of use (PEU)**

Electronic skills or CS of customers are often referred to as self-efficacy [33], [34]. CS affect the ability of an individual to handle IS. These skills have an impact on individual perceptions of the ease of use of the system [32]. The outcome of the online service experience depends on the customer's skill in dealing with mainstream technology. It differs from the traditional service as the customer becomes a partner in providing online services [35], [36]. Moreover, [37] pointed out that customer skills are more important than just providing good e-services design and clear instructions and navigation. Whereas, raising customer skills and knowledge through the implementation of learning processes is of strategic importance for the organization to manage customer satisfaction. In line with this, [38] argues that differences in the level of customer satisfaction and perceived quality of service are related to differences in individual experience. A number of previous empirical studies have revealed a positive relationship between CS and easy to use the technology [20], [23], [32], [39]. Accordingly, the relevant hypothesis to be tested is as follows:

H1: CS positively influence the PEU of the electronic services provided by the Khedmah system (CS → PEU).

### 3.2. Perceived ease of use (PEU) influence perceived usefulness (PU)

The relationship between PEU and PU is one of the TAM model relationships defined by [18]. Moreover, [26] revealed that there are many studies have shown a positive relationship between PEU and PU. This means that the PU of the IS is higher when the user finds the system easy to use. In IS literature, there are several empirical studies that have investigated the relationship between these two constructs (i.e. PEU and PU) and proved a positive relationship between them [18], [20], [23], [32], [40]–[45]. For this study, PEU is the users' perception that Khedmah's electronic services can be used with minimal effort. This reflects positively on their perception that this system is useful. Consequently, the following hypothesis is proposed:

H2: PEU positively influence the PU of the electronic services provided by the Khedmah system (PEU → PU).

### 3.3. Perceived ease of use (PEU) and perceived usefulness (PU) influence user satisfaction (USAT)

Based on TAM framework PEU and PU affect behavioral intention (BI) [18], and BI affects USAT according to ISSM model of [17]. Then, through combining TAM and ISSM frameworks, PEU and PU affect USAT [17], [18]. In addition, previous studies have revealed that there is a significant positive relationship between PEU and PU with USAT [32], [46], [47]. These studies explain that USAT increases by increasing PEU and PU. In this study, the researchers believe that USAT can be higher when the users find the electronic services of the Khedmah system is easy to use and beneficial. Consequently, the following hypotheses are proposed:

H3: PEU positively influence the US of the electronic services provided by the Khedmah system (PEU → USAT).

H4: PU positively influence the US of the electronic services provided by the Khedmah system (PU → USAT).

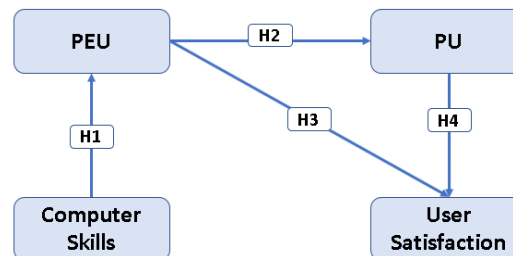


Figure 2. The Theoretical Framework

## 4. RESEARCH METHODOLOGY

In line with [48]'s research model, the researchers have chosen the positivism philosophy to study the current phenomenon. It follows the deductive approach to conduct the study. In addition, this study relies on the survey methodology using a questionnaire as a research tool to collect data from the users of the electronic services provided by Khedmah system. The data were analyzed using Structural Equation Modeling (SEM) by using the Partial Least Squares (PLS) technique via SmartPLS3 software. In the subheadings below, details about the research sample and method of analysis will be provided.

### 4.1 The study model and variables

As detailed above, the study theoretical model shown in Figure 2 combines three frameworks widely used in the technology literature: ISSM, TAM, and TPB [17]–[19]. The study model

includes four constructs, three of which are independent: CS, PEU, and PU, and USAT is a dependent variable. To measure these variables using a questionnaire, measurement items have been adopted from a number of previous studies in the technology literature [20], [23], [32], and adapted the items to suit the context of this study as shown in Table 2.

Table 2. The Questionnaire Measurement Items

Code	Items
Computer skills (CS):	
CS1	Rate your skill in Microsoft Word
CS2	Rate your skill in Microsoft Excel
CS3	Rate your skill in Microsoft Power Point
CS4	Rate your skill in using the Internet
CS5	Rate your skill in Microsoft Access
Perceived ease of use (PEU):	
PEU1	It is easy to navigate the electronic services of "Khedmah"
PEU2	It is easy to find what you are looking for
PEU3	It is easy to use the electronic services of "Khedmah"
PEU4	The language to me is clear and easy to understand
Perceived usefulness (PU):	
PU1	The information about services on the "Khedmah" system for you was sufficient
PU2	The contents of the "Khedmah" system is useful for my purpose
PU3	The "Khedmah" system offer adequate user guidelines to help me
PU4	My needs/queries are adequately addressed by the "Khedmah" system
User Satisfaction (USAT):	
USAT1	I am satisfied with my previous online Payment/Recharge experience through "Khedmah" system
USAT2	Online Payment/Recharge is a pleasant experience
USAT3	Overall, I am satisfied with my e-services experience through "Khedmah" system

Based on the theoretical framework of this study (Figure 2) and the measurement items (Table 2), Figure 3 combines the study variables (latent variables) with its associated measurement items (observable variables). This theoretical model uses to test the four hypotheses of the study using SEM-PLS.

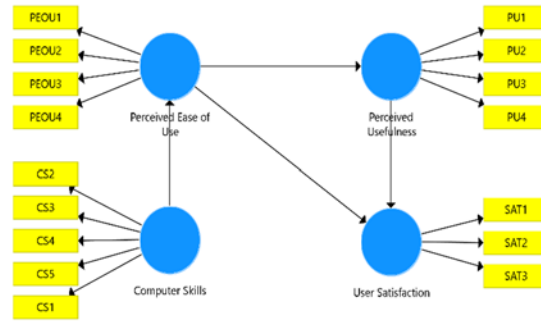


Figure 3. The Study Theoretical Model

#### 4.2 The study population and sample

This study investigates the effect of three factors on the satisfaction of users of e-services offered by the Khedmah system using the data collected from the users of such services in Oman. Given the lack of a framework for determining the study sample, the researchers relied on the judgmental technique to identify the sample that fits with the requirements of this study [48]–[50]. This technique is best suited to determine the representative sample of e-services users provided by the Khedmah system. The respondents are identified by two prevalent characteristics among the respondents: their use of the e-services, and the beginning of using the e-services should be one year or more. These characteristics were determined by two questions that were asked to respondents at the beginning of the distributed questionnaire.

Determining the sample size depends on the method of data analysis. In this study, SEM-PLS was used to analyze data and test the proposed model. Accordingly, based on [51], the guideline for determining the sample size of this study was to be ten times the number of measurement items in the questionnaire. Since the research tool of this study (questionnaire) contains 16 items to measure the four constructs of this study, therefore the minimum sample size should be at least 160 subjects. Participants were asked to determine their extent of agreement with the measurement items that measure each construct using the five-point Likert scale, where 1 is strongly disagree (low) and 5 is strongly agree (high). The data were collected using self-administrated questionnaire. In Table 3, the researcher analyzed the demographic data of those who meet the criteria for selecting the participants in this study. The results in Table 3 shows that males participants are higher than females, with most



participants aged between 26 and 35. The educational level of most participants is a bachelor.

Table 3. The Demographic Data

Demographic Variables	Category	Frequency	Percentage
Gender	Male	143	87.2
	Female	21	12.8
Age	Less than 24 years	5	3
	Between 25 to 35 years	50	30.5
	Between 36 to 45 years	79	48.2
	More than 46 years	30	18.3
Educational Level	General Education Diploma and below	44	26.8
	University Diploma	24	14.6
	Bachelor	48	29.3
	Master	38	23.2
	PhD	10	6.1
Total responses		164	

## 5. DATA ANALYSIS AND RESULTS

As can be seen from Figure 3, the theoretical model (path model) of this study consists of four constructs and sixteen items. This model was built on three frameworks, and the researchers adapted items from the previous studies to measure each construct. To verify the validity of this model or the so-called construct validity, quantitative data were collected from the study sample using an electronic questionnaire (self-administered questionnaire). SEM-PLS was used to test the model and verify the study hypotheses. The construct validity was verified according to two assessments that are conducted sequentially, namely, the outer model assessment (measurement model assessment) and inner-model assessment (structural model assessment) [48], [52], [53]. Prior to verifying the construct validity, a preliminary data examination was conducted to verify that it was free of errors. This step is essential for any multivariate analysis [51], [52]. Therefore, the results of these analyses will be presented in the three subheadings below.

### 5.1 The preliminary tests of the data

Using SPSS v25, the researchers tested that data by performing three preliminary tests: 1) missing data, 2) outliers, and 3) data distribution. The data analysis results revealed that they are complete and no data is missing. In addition, the Z-score and Mahalanobis D2 measures are used to determine the univariate outliers [54], [55] and multivariate outliers [51], respectively. The results of both measures revealed no extreme values. Moreover, to verify the distribution of data, three statistical tests were conducted: Skewness and Kurtosis, and the Shapiro-Wilk test, and the Kolmogorov-Smirnov test [51]. Thus, the results of these tests have confirmed that the data are distributed abnormally, which is a strong reason to proceed with the verification of the model and the research hypotheses using SEM-PLS [51].

### 5.2 Measurement model assessment

It measures the correlation between the observable and latent variables [51]. It is a prerequisite step for the structural model assessment [56]. Convergent and discriminant validity are two tests used to assess the construct validity and reliability [52], [57], where the results of both will be presented in the subheadings below.

#### 5.2.1 Convergent Validity

Convergent validity is interested in the relationship between the measurement items and their associated constructs [58]. The degree of correlation between them can be investigated using three tests, namely Factor Loading ( $FL > 0.5$ ), Average Variance Extracted ( $AVE \geq 0.5$ ), and Composite Reliability ( $CR > 0.7$ ) [51]. Table 4 presents the results of these three tests, which are above the minimum value. FL values range between 0.730 and 0.902, AVE values range between 0.659 and 0.760, and CR values range between 0.885 and 0.921. This confirms the convergent validity, content validity, and reliability of all constructs.

Table 4. The results of convergent validity tests

Construct	Code	<sup>a</sup> FL	<sup>b</sup> AVE	<sup>c</sup> CR
Computer skills (CS)	CS1	0.832	0.671	0.891
	CS2	0.819		
	CS3	0.829		
	CS4	0.796		
	CS5	Deleted		
Perceived ease of use (PEU)	PEU1	0.834	0.746	0.921
	PEU2	0.894		
	PEU3	0.874		
	PEU4	0.853		
Perceived usefulness (PU)	PU1	0.827	0.659	0.885
	PU2	0.856		
	PU3	0.828		
	PU4	0.730		
User Satisfaction (USAT)	USAT1	0.857	0.760	0.904
	USAT2	0.855		
	USAT3	0.902		
<sup>a</sup> Factor Loading (FL)				
<sup>b</sup> Average Variance Extracted (AVE)				
<sup>c</sup> Composite Reliability (CR)				

	CS	PEU	PU	USAT
PU1	0.266	0.605	0.827	0.53
PU2	0.233	0.595	0.856	0.586
PU3	0.121	0.489	0.828	0.451
PU4	0.185	0.402	0.730	0.446
USAT1	0.184	0.590	0.560	0.857
USAT2	0.178	0.539	0.516	0.855
USAT3	0.221	0.652	0.559	0.902

Table 6. The Fornell and Larcker Method Results

Constructs	CS	PEU	PU	USAT
CS	0.819			
PEU	0.332	0.864		
PU	0.253	0.654	0.812	
USAT	0.224	0.684	0.626	0.872

Table 7. The Heterotrait\_Monotrait Ratio of Correlations (HTMT) Results

Constructs	CS	PEU	PU	USAT
CS				
PEU	0.379			
PU	0.299	0.751		
USAT	0.265	0.788	0.742	

### 5.2.2 Discriminant Validity

The discriminant validity strives to verify that each measurement item highly correlates with the associated construct and not with others [52]. It can be verified using three tests, namely Cross Loading (CL), the square root of AVE which called Fornell and Larcker Method (FLM), and a new test called Heterotrait\_Monotrait Ratio of Correlations (HTMT<1) [51]. Tables 5, 6 and 7 below respectively presents the results of these three tests.

Table 5. The Cross-Loading Results

	CS	PEU	PU	USAT
CS1	0.832	0.241	0.212	0.216
CS2	0.819	0.255	0.181	0.162
CS3	0.829	0.262	0.254	0.174
CS4	0.796	0.317	0.186	0.181
PEU1	0.275	0.834	0.537	0.561
PEU2	0.324	0.894	0.596	0.588
PEU3	0.245	0.874	0.570	0.593
PEU4	0.302	0.853	0.557	0.618

Based on the results presented in Tables 5, 6, and 7 for the cross-loading, Fornell and Larcker, and HTMT criteria respectively, to test the discriminant validity, have been satisfied. Consequently, the discriminatory validity is achieved for all the study constructs. Overall, the results of the convergent validity and the discriminant validity confirm that the validity and reliability of the measurement model are achieved, and thus a structural model evaluation can proceed.

### 5.3. Structural model assessment

Before conducting the path coefficient assessment, the researcher verified the collinearity between the study constructs using the Variance Inflation Factor (VIF) test [52]. The results showed that there are no collinearity issues (VIF< 5).

Therefore, PLS-SEM using SmartPLS 3 is performed to test the study hypotheses. Figures 4 and 5 show the results of the hypothesis testing, which are summarized in Table 7.

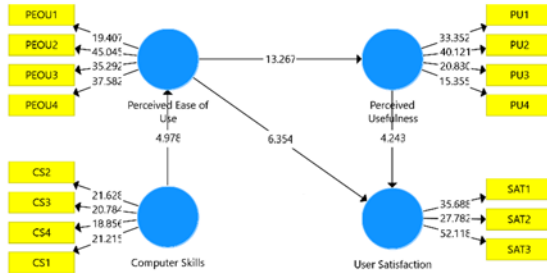


Figure 4. The T-values results

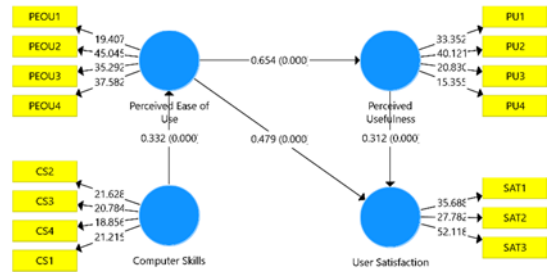


Figure 5. The Path Coefficients and P-values results

The results in Table 8 show that PEOU is positively and significantly ( $\beta = 0.332$ ,  $t = 4.978$ ,  $p < 0.01$ ) affected by the CS. Consequently, H1 is supported. Moreover, PEOU is positively and significantly related to both PU ( $\beta = 0.654$ ,  $t = 13.267$ ,  $p < 0.01$ ) and USAT ( $\beta = 0.479$ ,  $t = 6.354$ ,  $p < 0.01$ ). Therefore, H2 and H3 are supported. Also, H4 is supported because PU is positively and significantly ( $\beta = 0.312$ ,  $t = 4.243$ ,  $p < 0.01$ ) associated with USAT. In general, all the study hypotheses are supported.

Hypothesis	<sup>a</sup> O ( $\beta$ )	<sup>b</sup> t-value	p-value	Decision
H1: CS -> PEOU	0.332	4.978	0.000	S
H2: PEOU -> PU	0.654	13.267	0.000	S
H3: PEOU -> USAT	0.479	6.354	0.000	S
H4: PU -> USAT	0.312	4.243	0.000	S

<sup>a</sup> Original Sample  
<sup>b</sup> T Statistic (IO/ STDEV1)  
 S: Supported

6. DISCUSSION

This study integrated three models, namely TAM [18], ISSM [16], [17], and TPB [19] to examine the factors affecting the satisfaction of the Khedmah system’s users.

As shown above, all the study hypotheses H1, H2, H3, and H4 are supported. The result of the hypothesis H1 confirms that the more users have computer skills, the more they will realize the ease of using Khedmah system. This result is consistent with the findings of several previous studies [20], [23], [32], [39]. Furthermore, H2 came in line with the findings of previous literature, which confirmed that the user’s perceived ease of use of the technology positively and significantly influences the user’s perceived usefulness [18], [20], [23], [32], [40]–[45].

In addition to the above, the result of this study shows that the perceived ease of use and the perceived usefulness are positively and significantly correlated with users’ of Khedmah system satisfaction (the hypotheses H3 and H4). This result is in line with the findings of previous empirical studies [16]–[18], [32], [46], [47]. Overall, the users’ of Khedmah system satisfaction is affected by the users’ computer skills, the perceived ease of use, and the perceived usefulness.

7. THE RESEARCH CONTRIBUTION

This study offers several theoretical and practical contributions. From theoretical standpoint, based on the researchers’ knowledge, this study is the first of its kind in CRM literature that combines three models, namely TAM [18], ISSM [16], [17], and TPB [19] to determine the factors that leading to increase the users’ satisfaction of CRM systems. This study findings confirm that combining these three models is applicable to CRM within the Arab context, Oman in this study. Therefore, the findings

Table 8. The Results of The Hypotheses Testing



of this study came to enhance the knowledge related to the factors affecting users' satisfaction of CRM systems. This study shows the importance of individual's computer skills factor to increase the level of user satisfaction. Also, this study shows the important impact of this factor in the individual's perception of the ease of use of the system. Furthermore, this study is an important starting point for future CRM studies, whether in the Omani or global context to reveal the factors related to users' satisfaction of CRM systems. Satisfaction is the ultimate goal that organizations seek to achieve by implementing CRM systems. From practical standpoint, the results of this study are useful to the company that developed Khedmah system and its managers to further develop the system in order to achieve high levels of users' satisfaction. Also, the results of this study will benefit the developers of similar systems in other companies.

## 8. LIMITATIONS AND FUTURE RESEARCH

This study, like other studies, includes some limitations that must be identified and suggest future research to overcome them. First, the theoretical model of this study investigates a limited number of constructs. Consequently, future studies can extend the study model to address other constructs related to user satisfaction. Second, this study theoretical model investigated some constructs from three different models related to the acceptance, adoption and use of technology (TAM, ISSM, and TPB), but there are other theoretical models such as Unified Theory of Acceptance and Use of Technology (UTAUT) that include a number of constructs related to the acceptance and use of technology. Therefore, it is important that future

empirical studies integrate UTAUT theory with the three models used by this study and broaden the theoretical framework. Finally, the current study was limited to investigate the user's satisfaction factors for one CRM system (Khedmah system). Therefore, future studies may repeat this study on other CRM systems in both global and Omani contexts to enrich CRM literature.

## 9. CONCLUSION

This paper investigates the factors affecting users' of Khedmah system satisfaction, a CRM system. The theoretical basis of this study is a combination of three models, namely TAM [18], ISSM [16], [17], and TPB [19]. Since CRM is an emerging field in Oman and there is a scarcity of empirical scientific studies. Therefore, it has become important for organizations, regulators, managers, and system developers to understand the factors that influence users' satisfaction of these systems. Data for this study were collected from 164 users of Khedmah system. The results revealed that the four hypotheses of this study are supported.

Based on the findings of the hypothesis testing, user satisfaction of Khedmah system is positively and significantly affected by users' computer skills, perceived ease of use, and perceived usefulness. In a more detail, users' computer skills are found to have a positive and significant impact on the users' perceived ease of use of the technology. In addition, the users' perceived ease of use is positively and significantly influence both perceived usefulness and user satisfaction. Moreover, the users' perceived usefulness has a positive and significant impact on user satisfaction.

## REFERENCES:

- [1] A. Schellong, "Citizen Relationship Management," *Idea Gr. Ref.*, vol. 1, pp. 174–182, 2007.
- [2] B. Öztayi, T. Kaya, and C. Kahraman, "Performance comparison based on customer relationship management using analytic network process," *Expert Syst. Appl.*, vol. 38, no. 8, pp. 9788–9798, 2011.
- [3] R. Alt and T. Puschmann, "Successful practices in customer relationship management," *37th Annu. Hawaii Int. Conf. Syst. Sci. 2004. Proc.*, vol. 00, no. C, pp. 1–9, 2004.
- [4] P. C. Verhoef, "Understanding the Effect of Customer Relationship Management Efforts on Customer Retention and Customer Share Development," *J. Mark.*, vol. 67, no. 4, pp. 30–45, 2003.
- [5] M. Tandon, N. Sharma, and V. Bhulal, "The Impact of Customer Relationship Management and its Significant Relationship to Customers' Satisfaction in Cooperative Banking (A Case Study of Kangra Central Co-operative Bank)," *Glob. J. Enterp. Inf. Syst.*, vol. 9, no. 2, p. 59, 2017.
- [6] C.-S. Ong, M. Y. Day, and W. L. Hsu, "The measurement of user satisfaction with question answering systems," *Inf. Manag.*, vol. 46, no. 7, pp. 397–403, 2009.
- [7] I. Santouridis and A. Veraki, "Customer relationship management and customer satisfaction: the mediating role of

- relationship quality,” *Total Qual. Manag. Bus. Excell.*, vol. 28, no. 9–10, pp. 1122–1133, 2017.
- [8] S. Mithas, M. S. Krishnan, and C. Fornell, “Why Do Customer Relationship Management Applications Affect Customer Satisfaction?,” *Am. Mark. Assoc.*, vol. 69, pp. 201–209, 2005.
- [9] H.-I. Yao and K. Khong, “Effectiveness of Customer Relationship Management on Customer Satisfaction in the Commercial Banks of Taiwan,” *Contemp. Manag. Res.*, vol. 7, no. 2, pp. 105–116, 2011.
- [10] R. Hassan, A. Nawaz, M. Lashari, and F. Zafar, “Effect of Customer Relationship Management on Customer Satisfaction,” *Procedia Econ. Financ.*, vol. 23, pp. 563–567, 2015.
- [11] R. Ismaili, “Customer Relationship Management, Customer Satisfaction and Loyalty,” *Acad. J. Interdiscip. Stud.*, vol. 4, no. 3, pp. 594–599, 2015.
- [12] N. Bashir, “Impact Of Customer Relationship Management On Customer Retention ’ ( A Case Of Private Banks Of Sialkot , Punjab ),” *Int. J. Sci. Technol. Res.*, vol. 6, no. 8, pp. 293–305, 2017.
- [13] E. Mkawuganga, “Customer Relationship Management (CRM), Customer Satisfaction, Loyalty and Port Performance: A Case Study of Kenya Ports Authority (KPA),” World Maritime University, 2018.
- [14] OIFC, “Oman Investment & Finance Company - Khedmah,” 2019. [Online]. Available: <https://www.oifcoman.com/>.
- [15] S. D. Alabri, S. Kamarudin, A. Rizal, M. Husin, and A. Al Kindy, “Critical Success Factors of Citizen Relationship Management: Higher Education Admission Center In Oman, A Case Study,” *Int. J. Econ. Bus. Manag. Res.*, vol. 3, no. 03, pp. 20–44, 2019.
- [16] W. H. DeLone and E. R. Mclean, “Information systems success: The quest for the dependent variable,” *Inf. Syst. Res.*, vol. 3, no. 1, pp. 60–95, 1992.
- [17] W. H. DeLone and E. R. Mclean, “The DeLone and McLean Model of Information Systems Success,” *J. Manag. Inf. Syst.*, vol. 19, no. 4, pp. 9–30, 2003.
- [18] F. D. Davis, “Perceived usefulness, perceived ease of use, and user acceptance of information technology,” *MIS Quart.*, vol. 13, no. 3, pp. 319–340, 1989.
- [19] I. Ajzen, “The Theory of Planned Behavior,” *Organ. Behav. Hum. Decis. Process.*, vol. 50, pp. 179–211, 1991.
- [20] G. Udo and K. Bagchi, “Understanding the influence of espoused culture on acceptance of online services in a developing country,” *J. Inf. Technol. Theory ...*, vol. 12, no. 2, pp. 25–46, 2011.
- [21] D. Gefen, E. Karahanna, and D. Straub, “Trust And TAM In Online Shopping: An Integrated Model,” *Statew. Agric. L. Use Baseline 2015*, vol. 27, no. 1, pp. 51–90, 2003.
- [22] Y. S. Wang, “The adoption of electronic tax filing systems: An empirical study,” *Gov. Inf. Q.*, vol. 20, no. 4, pp. 333–352, 2002.
- [23] G. J. Udo, K. K. Bagchi, and P. J. Kirs, “Exploring the role of espoused values on e-service adoption: A comparative analysis of the US and Nigerian users,” *Comput. Human Behav.*, vol. 28, no. 5, pp. 1768–1781, 2012.
- [24] W. R. King and J. He, “A meta-analysis of the technology acceptance model,” *Inf. Manag.*, vol. 43, no. 6, pp. 740–755, 2006.
- [25] A. Tarhini, K. Hone, X. Liu, and T. Tarhini, “Examining the moderating effect of individual-level cultural values on users’ acceptance of E-learning in developing countries: a structural equation modeling of an extended technology acceptance model,” *Interact. Learn. Environ.*, vol. 25, no. 3, pp. 306–328, 2017.
- [26] P. Legris, J. Ingham, and P. Collerette, “Why do people use information technology? A critical review of the technology acceptance model,” *Inf. Manag.*, vol. 40, no. 3, pp. 191–204, 2003.
- [27] S. Taylor and P. A. Todd, “Understanding information technology usage: A test of competing models,” *Inf. Syst. Res.*, vol. 6, no. 2, pp. 144–176, 1995.
- [28] M. Fishbein and I. Ajzen, “Belief, attitude, intention, and behavior: An introduction to theory and research,” *Addison-Wesley Publ. Co.*, 1975.
- [29] D. Compeau, C. Higgins, and S. Huff, “Social cognitive theory and individual reactions to computing technology: A longitudinal study,” *MIS Q. Manag. Inf. Syst.*, vol. 23, no. 2, pp. 145–158, 1999.
- [30] R. Agarwal and J. Prasad, “Are Individual Differences Germane to the Acceptance of New Information Technologies?,” *Decis. Sci.*, vol. 30, no. 2, pp. 361–391, 1999.

- [31] G. J. Udo, K. K. Bagchi, and P. J. Kirs, "An assessment of customers' e-service quality perception, satisfaction and intention," *Int. J. Inf. Manage.*, vol. 30, no. 6, pp. 481–492, 2010.
- [32] S. Zaidi, C. Henderson, and G. Gupta, "The moderating effect of culture on e-filing taxes: evidence from India," *J. Account. Emerg. Econ.*, vol. 7, no. 1, pp. 134–152, 2017.
- [33] J. Recker, "Continued use of process modeling grammars: The impact of individual difference factors," *Eur. J. Inf. Syst.*, vol. 19, no. 1, pp. 76–92, 2010.
- [34] C. E. Porter and N. Donthu, "Using the technology acceptance model to explain how attitudes determine Internet usage: The role of perceived access barriers and demographics," *J. Bus. Res.*, vol. 59, no. 9, pp. 999–1007, 2006.
- [35] Y. J. Kim, J. U. Chun, and J. Song, "Investigating the role of attitude in technology acceptance from an attitude strength perspective," *Int. J. Inf. Manage.*, vol. 29, no. 1, pp. 67–77, 2009.
- [36] T. Kuisma, T. Laukkanen, and M. Hiltunen, "Mapping the reasons for resistance to Internet banking: A means-end approach," *Int. J. Inf. Manage.*, vol. 27, no. 2, pp. 75–85, 2007.
- [37] J. Rowley, "An analysis of the e-service literature: Towards a research agenda," *Internet Res.*, vol. 16, no. 3, pp. 339–359, 2006.
- [38] M. Sánchez-Franco and J. L. Roldán, "Web Acceptance and Usage Model: A Comparison between Goal-directed and Experiential Web Users," *Internet Res.*, vol. 15, no. 1, pp. 21–48, 2005.
- [39] M. Shayegh, A. Farimani, and J. Zahmatkesh, "The Moderating Roles Of Culture On Determinants Of Electronic Tax Filing Acceptance," *J. Organ. Behav. Res.*, vol. 3, no. 2, pp. 1–11, 2018.
- [40] A. Mahomed, "Examining Email Usage Among Non- Academic Staff In Public And Private Malaysian Universities," Victoria University of Melbourne Australia, 2015.
- [41] I. T. J. Brown, "Individual and Technological Factors Affecting Perceived Ease of Use of Web-based Learning Technologies in a Developing Country," *Electron. J. Inf. Syst. Dev. Ctries.*, vol. 9, no. 1, pp. 1–15, 2002.
- [42] F. Calisir and F. Calisir, "The relation of interface usability characteristics, perceived usefulness, and perceived ease of use to end-user satisfaction with enterprise resource planning (ERP) systems," *Comput. Human Behav.*, vol. 20, no. 4, pp. 505–515, 2004.
- [43] C. Yoon, "The effects of national culture values on consumer acceptance of e-commerce: Online shoppers in China," *Inf. Manag.*, vol. 46, no. 5, pp. 294–301, 2009.
- [44] J. A. Castañeda, F. Muñoz-Leiva, and T. Luque, "Web Acceptance Model (WAM): Moderating effects of user experience," *Inf. Manag.*, vol. 44, no. 4, pp. 384–396, 2007.
- [45] T. Verhagen, F. Feldberg, B. Van Den Hooff, S. Meents, and J. Merikivi, "Understanding users' motivations to engage in virtual worlds: A multipurpose model and empirical testing," *Comput. Human Behav.*, vol. 28, no. 2, pp. 484–495, 2012.
- [46] M. Mahmood, J. Burn, L. Gemoets, and C. Jacquez, "Variables affecting information technology end-user satisfaction: a meta-analysis of the empirical literature," *Int. J. Hum. Comput. Stud.*, vol. 52, no. 4, pp. 751–771, 2000.
- [47] R. Hussein, N. Mohamed, A. R. Ahlan, and M. Mahmud, "E-government application: An integrated model on G2C adoption of online tax," *Transform. Gov. People, Process Policy*, vol. 5, no. 3, pp. 225–248, 2011.
- [48] M. Saunders, P. Lewis, and A. Thornhill, *Research methods for business students*, Fifth edit. England: Pearson Education Limited, 2009.
- [49] J. Gill and P. Johnson, *Research Methods for Managers*, 3rd editio. London • Thousand Oaks • New Delhi: SAGE Publications, 2002.
- [50] T. Proctor, *Essentials of Marketing Research*, Forth Edit. Pearson Education Limited, 2005.
- [51] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate data analysis*, Seventh Ed. 2014.
- [52] J. Hair, G. T. Hult, C. Ringle, and M. Sarstedt, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Second Edi. SAGE Publications, Inc., 2017.
- [53] J. Henseler, "Advanced Methods for Modeling Markets," Springer International Publishing, 2017, pp. 361–381.

- [54] L. Cohen, L. Manion, and K. Morrison, *Research Methods in Education*, Sixth edit., vol. 55. London and New Yourk: Routledge: Taylor & Francis Group, 2007.
- [55] B. G. Tabachnick and L. S. Fidell, *Using multivariate statistics*. Pearson Education, 2014.
- [56] C. Fornell and D. F. Larcker, “Evaluating Structural Equation Models with Unobservable Variables and Measurement Error,” *J. Mark. Res.*, vol. 18, no. 1, p. 39, 1981.
- [57] J. Henseler, C. M. Ringle, and M. Sarstedt, “A new criterion for assessing discriminant validity in variance-based structural equation modeling,” *J. Acad. Mark. Sci.*, vol. 43, pp. 115–135, 2015.
- [58] J. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 2014.