A Study on Customer Satisfaction, Trust and Loyalty Factors of M-Commerce in Oman

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Abstract

The purpose of this paper is to provide an explanation of factors influencing customer satisfaction, trust and loyalty towards m-commerce in Oman. The research consists of 100 respondents as a sample. Data were analyzed by employing correlation analysis. The proposed model was empirically tested and results confirmed that user interface quality have a significant positive impact on m-commerce customer satisfaction and m-commerce customer trust. The results also indicate that m-commerce customer satisfaction and m-commerce customer trust are correlated in positive manner.

Keywords: Mobile, Internet, Trust, Satisfaction, loyalty

1. Introduction

Mobile Commerce or M-Commerce refers to the act of purchasing and retailing of goods and services via handheld wireless devices like cellphones and PDAs(TechTarget SearchMobileComputing, n.d.). Mobile commerce is a substantial commercial and technology field with budding marketing capabilities. It acts as a subsection of electronic commerce and embodies any monetary transaction done within a mobile network(Ngai & Gunasekaran, 2007).

Towards the ending of the 20th century, m-commerce has started evolving. The information technology and telecommunication technologies are the major drivers of development for m-commerce. The constantly growing popularity of online services, smartphones, mobile applications and social networks are also some factors that helps in the growth of m-commerce. The retail electronic commerce, internationally, is predicted to touch about 4 trillion US dollars online. The ICT and mobile technologies, and the wide distribution of mobile Internet and free Wi-Fi access in

many developed and developing countries provides big opportunities for m-commerce. As this helps in seizing a big percentage of online retail markets (Saritas,Ozcan, Gokhberg, Kuzminov, & Bakhtin, 2016).

Due to the subjective nature and state of the art communication technologies, m-commerce has promptly achieved wide-reaching astuteness. Because of the substantial ambiguities encompassed in mobile research, first-hand explorations on m-commerce have seen only moderate growth. One key challenge in m-commerce research is the want of principles in terminologies, ideas, and theories. The wireless technology's infrastructure differs across markets, but the researchers are inclined tothe usage of the term "m-commerce" without taking into account the distinctive settings and conditions of what they are scrutinizing. The participation of industries in academic research is seldom. In many cases, the developing mobile technology was not accepted rapidly as the practitioners expect.This is due to the higher cost per service ratio and also these services can be easily substituted with the wired Internet (Okazaki, 2005).

The number of mobile phone users is increasing day by day. This has a significant effect on the purchasing of products and services via m-commerce. The purpose of this study is to provide the status of customer satisfaction of m-commerce and also to identify its loyalty factors in Oman.

Safety of mobile transactions is a great trepidation all around the world, so does in Oman. The result of this research paper would be of a particular significance and relevance to the private and public telecommunication companies that are interested in the investment of m-commerce in the Sultanate of Oman.

2. Literature Review

Laudon and Traver accentuates that m-commerce is the use of traditional e-commerce models by utilizing wireless technologies. (Delic, Duzevic, & Knezevic, 2016) M-Commerce is defined as an extension of e-commerce (ZHANG, LEE, & CHEN, 2013). According to a Journal article titled "Mobile Commerce: Promises, Challenges and Research agendas" published in the Journal of Database Management, Mobile Commerce is a kind of e-commerce in which all the transactions are conducted via wireless handheld devices.

Various business organizations are now targeting to move on to mobile commerce platforms for various reasons. Therefore, it became essential to the retailers to recognize the potential value of conducting the business in electronic format. Even though, m-commerce has many advantages, its adoption by customers is very slow. And this calls for a comprehensive understanding of customer perceptions for increasing the superior functionality of mobile devices and retailing applications. The studies on m-commerce are still at its infancy. Nevertheless, M-commerce has achieved many attributes from the success model of e-commerce (Delic, Duzevic, & Knezevic, 2016).

As per S. Okazaki in his research paper "New Perspectives on M-Commerce Research" published in the "Journal of Electronic Commerce Research in 2005, a growing number of empirical researches are being conducted in m-commerce research, but many of its important areas are still unexplored. The most studied areas according to him are mobile Internet and SMS-based push type advertising/marketing. Researches are almost non -existent in e-commerce versus m-commerce comparison, mobile based word of mouth, and research methodology in m-commerce. Also mobile is a personal media and is also ubiquitous compared to wired net. In Japan, it has been demonstrated that m-commerce is an effective distribution channel for consumer goods(Okazaki, 2005).

According to an article titled "Determinants of Mobile Customer loyalty in Malaysia", published by Elsevier in 2016, the factors that influence m-commerce customer loyalty directly or indirectly are efficiency, fulfillment, system availability, satisfaction, privacy, commitment and trust. Among all these factors, efficiency has the strongest influence on customer satisfaction, which in turn leads to customer loyalty(Lee & Wong, 2016).

Eid (2011) describes the key factors that affect the e-commerce customer satisfaction, trust and loyalty are user interface quality, security risk perception, service information quality and privacy perception. Out of these, the factors user interface quality and service information quality of ecommerce websites were found to have a positive impact on customer satisfaction. The study also found that e-commerce customer satisfaction significantly influences the customer loyalty(Eid, 2011).

Suki (2011) affirms that customer satisfaction with the vendor or the service in m-commerce do not have any significant influence by the antecedents of the website quality, namely, interactivity and customization. Also, the antecedents of the mobile technology quality, i.e., usefulness and ease of

use do not play any significant role in the same. The study confirms that a user's satisfaction with the m-commerce vendor significantly influences his/her trust in the same(Suki M. N., 2011).

As per the study titled "An assessment of m-customer satisfaction drivers and levels from m-shopping applications with Kano's model" in 2015 published in the journal "Manas journal of Social Studies" the satisfaction of the m-customer affects their future purchase intent and decisions. This study says that the m-store applications should be designed as per the m-customers wishes and desires for gaining competitive advantage. The study concludes that m-customer satisfaction acts as a key element for realizing m-marketing. It is also indicated from the study that convenience, entertainment, usability and perceived price level are the important factors that influence the purchasing behaviors from m-stores. These variables can also lead to repurchase intentions from the customers as only totally satisfied customers make repurchases (BARUTCU, AKGUN, & AYDIN, 2015).

According to the study titled "Customer satisfaction and loyalty factors of mobile commerce among young retail customers in Croatia", published in the journal "RevistaEletronicaGestao&Sociedade", in 2016, it was found that the smartphone users are concerned about the functionality of m-Internet and the suitability of the screen size of the smartphone for accessing the m-Internet. The study reveals that functionality influences the satisfaction level of the m-customer. The study also states that various offers and availability of contents and services also influences customer satisfaction. Some other variables that lead to customer satisfaction include easiness of approach and navigation via m-commerce content(Delic, Duzevic, & Knezevic, 2016).

According to a research article titled "Driving Forces for M-commerce Success" in the journal " Journal of Internet Commerce" in 2009, the success of m-commerce depends on the synergy of three driving forces: technology innovation, evolution of a new value chain, and active customer demand (Zhang, Yuan, & Archer, 2002).

In a study titled "Factors affecting M-commerce adoption in Oman using Technology Acceptance Modeling Approach" published in the journal "TEM Journal" in 2014, it is revealed that m-customers in Oman have positive attitude, but they are reluctant to shift from the traditional service providers. The common concerns of the customers are the security in business transactions, privacy and risks in online transactions (Naqvi & Al-Shihi, 2014).

In the article "Customer Satisfaction Factors of Mobile Commerce in Korea" published in the journal "Internet Research" in 2008, it is advised that the mobile service providers need to care more about the content reliability and transaction process to increase the customer interest and satisfaction with the m-commerce. According to this study, transaction process, customization, content reliability, availability and perceived price level are the factors that affect the m-customer satisfaction (Choi, Seol, Lee, Cho, & Park, 2008).

As per the article "From electronic to mobile commerce - opportunities through technology convergence for business services" in the journal "Tech Monitor" in 2008, the factors that influence m-customer satisfaction are stated as ubiquity, immediacy, localization, instant connectivity, pro-active functionality and simple authentication procedure(Tiwari, Buse, & Herstatt, 2006).

According to a research study titled "Factors Influencing Customer Satisfaction and Trust towards Vendors on the Mobile Internet", ease of use, responsiveness and brand image are the factors that influence the customer satisfaction towards the m-commerce vendor. And the customer trust on the m-commerce vendor is influenced by the vendor's website quality elements namely, responsiveness, brand image and satisfaction towards the vendor. The study also confirms that ease of use is the only factor in the mobile technology that influences customer trust in m-commerce(Suki N. M., 2011)

3. Proposed Research Model

The proposed research model has been adopted from study titled "Determinants of e-commerce customer satisfaction, trust, and loyalty"(Eid, 2011).
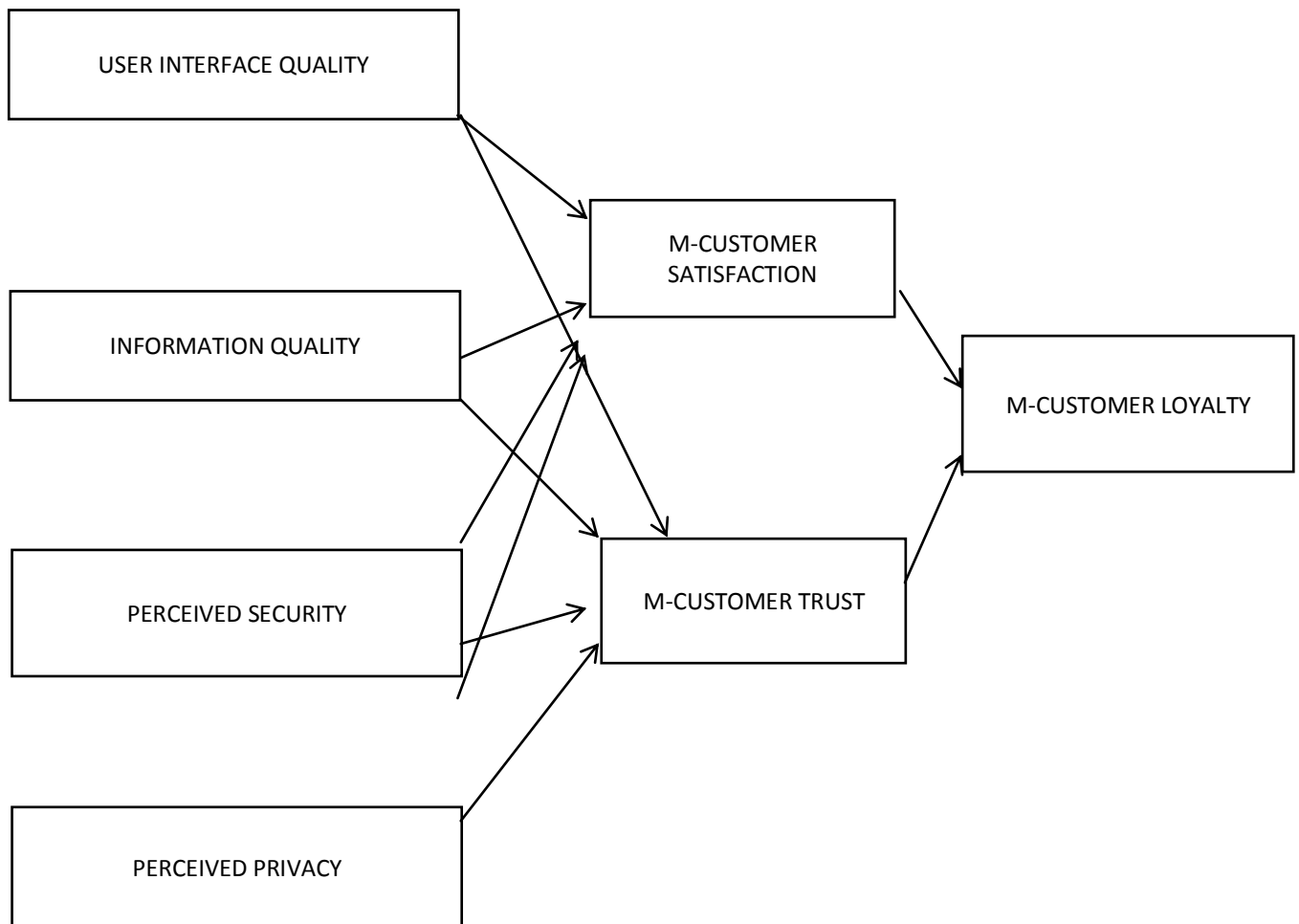

Fig:1 Proposed Research Model(Eid, 2011)

The research model strives to establish relationship between M Customer Satisfaction, M Customer Trust and M Customer Loyalty. The conduction of commercial transactions online via wireless, handheld, and portable devices like mobile phones, PDAs etc. is called M-Commerce. The term constitutes the practices of online banking, online retailing, bill payment, information delivery etc. M-Commerce is "any transaction, involving the transfer of ownership or rights to use goods and

services, which is initiated and/or completed by using mobile access to computer-mediated networks with the help of an electronic device" (Tiwari, Buse, & Herstatt, 2006).

Customer Satisfaction refers to a marketing term that represents how products or services produced by a company meet the expectation of the customer (Beard, 2014).Customer Loyalty is a behavioral and attitudinal tendency to prefer one brand over another. This is due to several reasons like comfort with the brand, convenience, performance, or satisfaction with the product or service. Customer loyalty pushes consumers to purchase more often, and gives them a positive feel about the shopping experience(PR Loyalty Solutions, 2017).A customer has a set of beliefs regarding their service provider's features as well as how they might act in future. This is called Customer trust (Eid, 2011). As per Eid (2011)User Interface Quality refers to the quality of the channels via which the customers interact with their online service provider. As per Park and Kim, the user interface quality directly affects the customer satisfaction, because it gives physical evidence of the service provider's capability and also enables to use the services effortlessly.

The product/service information quality refers to the perception of the customer regarding the quality of the information given in the website/app of the service provider regarding the products or services it offers. The content quality of the websites and apps are argued to be a forerunner of online customer trust (Eid, 2011).Perceived Security refers to the customer perceptions on the safety and reliability of the payment methods and the systems of data transmission and storage employed by the online service provider(Eid, 2011).Perceived Privacy is the customer's perception regarding his/her ability to control who they want to interact or not in an online transaction. It is also the ability of the customer to control the amount of information he/she disseminates online. Privacy is a critical factor in obtaining new customers and retaining the existing ones (Eid, 2011). Consumer satisfaction is the consumer's response in a particular consumption experience to the evaluation of the perceived discrepancy between prior expectations (or some other norm of performance) and the actual performance as perceived after the consumption experience. If the perceived performance is less than expected, consumers will be dissatisfied, on the other hand; if the perceived performance meets or exceeds consumer's expectations he/she will be satisfied (Chia Chi, 2003). M-Customer Satisfaction refers to how a customer is satisfied with his/her m-commerce service provider(Eid, 2011).

M-Customer Trust is the set of beliefs the customers have on their m-commerce service providers regarding their characteristics and their probable performance in the future(Eid, 2011).M-Customer Loyalty is the online customer's tendency to repurchase from one service provider frequently(Eid, 2011).

4. Hypotheses

The following hypotheses are being proposed after in-depth study of literature:

- H1: The increase in user interface quality (UIQ) will have a direct positive effect on m-customer satisfaction (CS).

- H2: The increase in user interface quality (UIQ) will have a direct positive effect on m-customer trust (CT).

- H3: The increase in product/service information quality (IQ) will have a direct positive effect on m-customer satisfaction (CS).

- H4: The increase in product/service information quality (IQ) will have a direct positive effect on m-customer trust (CT).

- H5: As the perceived security risk (PSR) decreases, m-customer satisfaction (CS) increases.

- H6: As the perceived security risk (PSR) decreases, m-customer trust (CT) increases.

- H7: As the perceived privacy risk (PP) decreases, m-customer satisfaction (CS) increases.

- H8: As the perceived privacy risk (PP) decreases, m-customer trust (CT) increases.

- H9: An increase in m-customer satisfaction (CS) will have a direct positive effect on m-customer loyalty (CL).

- H10: An increase in m-customer trust (CT) will have a direct positive effect on m-customer loyalty (CL) (Eid, 2011).

5. Scope of the Study

The area of the study covers the customer satisfaction, trust and loyalty factors of m-commerce in Oman. The research was conducted amongst the age groups of 15 to 55 and above years. The data is collected from 100 people of the Muscat and Nizwa region of the Sultanate of Oman.

6. Research Design

This study is both explorative and descriptive in type. Exploratory research enables the researcher to comprehend the observation made by him/her. It is utilized to determine whether the made observation can be explained by an existing theory and lays the foundation for the future study. Descriptive study is that study which is employed to acquire information regarding the present/current position of a particular phenomenon to depict what is there, considering the variables or conditions in that situation (Kothari, 2004).

6.1 Sample Size:

Sample size is the total number of items picked for the research study using the sampling method, from the population(Kothari, 2004). The sample size employed here in this study is 100 units.

6.2 Data Collection Method(s)

Data collection methods refer to the methods or practices employed in collecting data. Here, the secondary data is collected via Journals, Books and Internet. And the primary data is acquired using a well-structured questionnaire entailing close ended questions. A five point Likert Scale (1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree) was used to measure five constructs; UIQ, IQ, MCS, MCT, and MCL. And another five-point Likert scale (1 = Not Important At All, 2 = Not very important, 3 = Quite Important, 4 = Very Important, and 5 = Essential) was used to measure the constructs PSR and PP.

6.3 Analysis of Data: Tools & Techniques

The data analysis is done on the basis of the information collected from the 100 respondents. Online questionnaires (Google forms) were issued to the respondents to record their responses. The questionnaire is structured undisguised. And then the data is analyzed using the softwares Microsoft Excel and SPSS.

The techniques used for the analyzing are:

- Test of Reliability of Scale (Cronbach Alpha)
- Correlation Test between the variables

7. Reliability Analysis

Reliability analysis was conducted and value of cronbach's alpha was calculated for every scale. Summary of findings for scales of every dimension are shown as below.

Table 1: Summary of reliability analysis (Cronbach's Alpha)

Dimensions	Number of items	Reliability coefficients (Cronbach's Alpha)
User Interface Quality	4	.943
Information Quality	4	.880
M-Customer Satisfaction	4	.951
M-Customer Trust	3	.926
M-Customer Loyalty	3	.786
Perceived Security	4	.894
Perceived Privacy	5	.845

The value of cronbach's alpha for scales used under every dimension is very closer to 1, which indicates the reliability of scales used in the questionnaire.

8. Correlations

Table 2: Correlation between different constructs

		UIQ	IQ	CS	CT	CL	PS	PP
UIQ	Pearson Correlation	1	.022	.710**	.512**	-.115	.167	.128
	Sig. (2-tailed)		.831	.000	.000	.255	.097	.206
	N	100	100	100	100	100	100	100
IQ	Pearson Correlation	.022	1	.059	.222*	.533**	.534	.414
	Sig. (2-tailed)	.831		.561	.026	.000	.000	.000
	N	100	100	100	100	100	100	100
CS	Pearson Correlation	.710**	.059	1	.746**	-.067	.165**	.205
	Sig. (2-tailed)	.000	.561		.000	.506	.101	.040
	N	100	100	100	100	100	100	100
CT	Pearson Correlation	.512**	.222*	.746**	1	.093	.170**	.134*
	Sig. (2-tailed)	.000	.026	.000		.357	.091	.184
	N	100	100	100	100	100	100	100
CL	Pearson Correlation	-.115	.533**	-.067	.093	1	.431	.393**
	Sig. (2-tailed)	.255	.000	.506	.357		.000	.000
	N	100	100	100	100	100	100	100
PS	Pearson Correlation	.167	.534**	.165	.170	.431**	1	.704**
	Sig. (2-tailed)	.097	.000	.101	.091	.000		.000
	N	100	100	100	100	100	100	100
PP	Pearson Correlation	.128	.414**	.205*	.134	.393**	.704	1**
	Sig. (2-tailed)	.206	.000	.040	.184	.000	.000	
	N	100	100	100	100	100	100	100

As per the data in the above table, it can be inferred that the null hypothesis H01 gets rejected. Here, correlation coefficient r is .710. That is there is a strong correlation between the variables UIQ and CS. Therefore, the variables UIQ and CS are strongly correlated and they are having a positive relation with each other. From the above table, it can be inferred that correlation coefficient r is .512 between UIQ and CT. That means, there is moderate correlation between the two variables UIQ and CT, and these variables are positively correlated in a moderate way. Hence, the null hypothesis H02 gets rejected. It is also evident that the null hypothesis H03 gets accepted. Since, the correlation coefficient r is .059. That is, the relationship between the variables IQ and CS is not

significant.From the above data, it can also be inferred that the variables IQ and CT have a weak correlation as correlation coefficient r is .222. The significance of the relationship is weak, even though it is positively correlated. Hence, the null hypothesis H04 gets rejected.

From the above table, it is evident that there is no relationship between the variables PSR and CS. Here, the correlation coefficient r is .165. Hence, the null hypothesis H05 can't be rejected. It is also evident that the null hypothesis H06 can't be rejected, since the correlation coefficient r is .170, i.e., the variables PS and CT are not significantly related.

From the above data, it can be inferred that the correlation between the variables PP and MCS is insignificant i.e., correlation coefficient r is .205. The significance of the relationship between the variables PP and CS is weak and it is positively correlated. Hence, the null hypothesis H07 gets rejected.

From the above data, it can be inferred that the correlation between variables PP and CT is insignificant and correlation coefficient r is .134. Hence, the null hypothesis H08 can't be rejected. It is evident that the null hypothesis H09 can't be rejected,since the correlation coefficient r is -.067. Hence, it can be inferred that there is no significant relationship between these two variables.From the above data, it is evident that the null hypothesis can't be rejected as the correlation coefficientbetween the variables CT and CL is .093.

9. Conclusion

In this study, it is found out that user interface quality have a significant positive impact on m-commerce customer satisfaction and is moderately correlated to m-commerce customer trust, but information quality does not have any impact on m-commerce customer satisfaction. This implies that the customers in Oman, considers those online service providers as responsible who offers greater level of dependability, consistency and integrity.

Also, it is found that the factors information quality, perceived security and perceived privacy are weakly related to m-commerce customer trust. The factors perceived privacy and perceived security were found to be weakly related to m-commerce customer satisfaction.

The factors m-commerce customer satisfaction and loyalty were also tested for correlation, and it is found that they do not have any significant relation with each other. This means, even if the customer gets satisfied with the service/product, there is no guarantee that he/she will be loyal to the

product/service provider. The same applies to the relationship between m-commerce customer trust and loyalty. These two variables also do not have any significant relationship with each other.

To conclude, the user interface quality is the main factor that affects the m-commerce customer satisfaction and trust. And the m-commerce service providers, in order to increase their customer trust, will have to work on their quality of information regarding their products and services in their websites and apps. Also, they need to consider the factors perceived security and perceived privacy, to improve their customer satisfaction. All these factors are to be taken care of because, in the statistical analysis it is clear that these factors do have some significance, even though it's weak.

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