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THE DIFFERENT PERCEPTIONS OF FACTORS THAT INFLUENCE USER SATISFACTION AMONG MOBILE COMMUNICATION SUBSCRIBERS: STUDY IN KUWAIT

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ABSTRACT

Mobile phone related services are growing tremendously all around the world including Kuwait. Due to limited population and multiple service providers, there is enormous competition among major telecommunication service providers in Kuwait. There are three major companies operating simultaneously in the country. In such a highly competitive environment the major telecommunication service provides need to focus upon services they provide to the user in order to survive. User satisfaction is one apex gadget that can hold company on its user segment longer and sustainable. There is no such study available so far that looked in to this aspect user satisfaction, satisfaction plays an essential role for maintaining old clients and attract new ones. According to an estimate the population of Kuwait is more 4 million and the number of service subscriptions is 6.269 million. Meaning each user, on average has 1.5 subscriptions. Currently all three service providers namely (Zain, Ooredoo, and Viva) have online services that provide instant services to their customers, such as paying bills and checking details, new promotions and downloading media, and access to the social networks. In this research a multidimensional model, consisting of three aspect; information quality, system quality, and service quality is proposed and telecom service user's satisfaction is measured. In this regards the data was collected from three different segments of the population, the users working in banking sector, university students, and oil sector employees in Kuwait. Considering that these employees are the potential users who are clients of telecommunications service providers and experiencing user online services. The analysis shows some differences among different users and satisfaction for different services from all three service providers and results are reported in detail in result sections.

Keywords: user satisfaction, information quality, service quality, system quality, Kuwait, mobile service.

INTRODUCTION

Online service makes the life easier particularly for the activities that had been done manually. The advent of Internet technology has transformed many organization businesses online which created an enabling environment to perform several communication services online. Thus, past few decades it has been seen a sharp rise in online communication services. This growth is not only in developed countries but also in developing countries such as Kuwait[1].

Online service was believed to offer more convenience, seeking information faster along with quick and reliable and transactions; it improved efficiency over conventional channels [2]. Online services could be conducted through various sophisticated tools such as (Smartphone, Laptop, PC, and etc.) and the commonly used pattern involves subscriptions, paying bills, and customer services [3].It is not surprising that paying bills online is becoming normal practice for many users of online services. This motivated a large proportion of business sector to invest doing business through online services.

Mobile communication companies' online services have proliferated over the years, as managers of online services report that providing online services is already leading to reshaping of customer and supplier relationships [4]. Despite the increasing attempts to provide services online and the subsequent investment to launch a Website as the first step towards communication companies, managers still struggle to measure the success of their online services resulting in ineffective online communication activities and the consequent disappointment in recognizable benefits [5]. Therefore, there is a need for businesses to evaluate their current and potential website functionalities in order to maximize the user satisfaction of their online services [6]. It is important to know the perspective of mobile users towards criteria such as information quality, system quality, and service quality, in order for help to develop a model for the customer satisfaction of mobile communication.

An extensive search of literature established that no multi-item scale is available to measure the Kuwait mobile communication companies' online services success with relation to user satisfaction. A provision of such a scale would not only further enhance management's ability to understand the customers' level of satisfaction of their services, but also act as an indicator to reveal the weaknesses and strengths of the online services. This study is considered among a few investigations in this regard as reported in the Kuwait [1], [7],trying to measure user's satisfaction of mobile communication companies' online services. A search aims to develop user satisfaction model for online services provided by mobile communication services providers in Kuwait in which explaining the different perspective of mobile users towards qualities of (information, system, and service).

There are three mobile communication providers in Kuwait (Zain, Ooredoo, and Viva). Currently, consumers of those communication service providers used online services for paying bills and checking details, new promotions and downloading media, and access to the social networks.

Mobile companies are trying to satisfy their consumers by employing various approaches to enhance the quality of online services, providing several bundles and different type of subscription. Besides that, those mobile communication providers promote using their online services to their customers by attaching links to online services in SMS sent by providers to encourage customer to click on and consume. The most exhaustively used service was paying bills; it became a major online service, the main reason behind heavily used that was the Knet, this is a national company providing electronic banking services to all the banks in Kuwait. It committed to identify and adopt state of the art technology in the various fields of electronic banking and therefore rendering solutions and services of the highest standards to member banks and to the banking community in Kuwait. Therefore, Consumers who have an account in any bank in Kuwait which is indeed to be provided with Knet as debt account, those consumers can be paid online and this is considered as an alternative method of credit cards. This offers the clients an opportunity to benefit from electronic banking services in Kuwait which is an encouragement to use online service (http://www.knet.com.kw).

The paper is distributed as follows: The next section provides literature review to identify the factors to be used of in the proposed model and review several studies regarding user's satisfaction with online services. After literature review, given in this paper is the methods used section, the survey questionnaire approach is explained in that section. After that, results and analyzing are given. Following results are discussed section and conclusion, this study also provide limitation and future work in dedicated sections.

LITERATURE REVIEW

The role of Information technology (IT) is significantly increasing in business development where many fields such as learning, shopping, marketing, travel and trading become online with assistance of IT [8], [9]. Advancements in Internet and communication technology transformed the world. The combination of information and communication technology is showing enormous changes across the world [9]. The dramatic changes emerged in 1995, when e-commerce, e-business, and m-business (mobile business) have grown tremendously. IT facilitates for businesses in accessing their customer globally particularly using technology such as internet, and mobile services lately [8], [10]. Currently market of communication provides people with communication package that enable customer to access internet and conduct business with reasonable prices [11].

According to Zhou [12]and Lee, *et al* [9] telecommunication sector, using internet through mobiles, and doing business these days become inseparable. Zhou, [12] reported as an instance of fast growth that "the number of mobile internet users in China has reached 356 million, accounting for 69% of its internet population (513 million)" [12]. Mobile services such as internet access have tremendously grown within short time period [11], [13]. Now the concern is how to retain customers by reducing payment and improving the performance, some studies discussed how to balance between payment as use and performance which is a challenge and competitive option such as [11], [12].

Klein and Jakopin[11] found out the tendency of customers to pay telecommunication bundle: customer considered the price of telecommunication bundle significantly impacts when they purchase bundle. Another concern is about internet access more than texting, so mobile operators and service providers are advised to promote packages with Internet and voice bundles, rather than messaging. There is a tendency towards unbundled purchases of tariffs and handsets[12], said the challenge is providing high quality service within acceptable prices which is complicated objective to be achieved, because of high competitive and high cost of equipment.

Previous studies reported many criteria for high performance and user satisfaction, however, Shieh, *et al*. (2013), saw that as a waste of limited resource of firms and there is a need for new approach to minimize those criteria and focus on most critical criteria. The study of Shieh *et al*. is important for this study because it concerns on the same field (which is telecommunication) and focus on the same objective which is user satisfaction. Therefore, the feedback from these studies is considerable to justify this study.

On the contrary with other mobile online services, mobile online financial services expanding slowly [9]. The study identified the following factors as the major influential factors on mobile online financing services: task-fit, monetary value, connectivity, personal innovativeness, and absorptive capacity. It is noticed that perceived usefulness and perceived ease of use serve as mediators between the other factors and usage intention. In another hand, connectivity influences perceived ease-of-use directly and perceived monetary value significantly influence perceived usefulness.

Alawneh, *et al.* [8], reported that quality of online service is defined as the customer perception of the quality of information about the product/service that is provided by a website. The quality of information content inside website affects customer satisfaction directly. Similarly, [10] reported the service quality is "consumer's judgment about an entity's overall excellence or superiority". This definition has no solid case because it depends on consumer's judgment, which is not stable and cannot mathematically be calculated. Quality of mobile online service is considered critical for business success.

Alawneh, *et al.* [8], focused on one type of online service which is e-governmental services; the study conducted in Jordan and came with the following factors that influence user satisfaction positively: security and privacy, trust, accessibility, awareness, and quality. It can be seen among those factors is quality; service quality is considerably focused in many studies related to user satisfaction.

Quite similar to abovementioned studies, a study conducted in China by Zhao *et al*. (2012), found that the three dimensions of service quality (interaction quality, environment quality and outcome quality) significantly and positively effects on cumulative satisfaction while only one dimension of service quality (interaction quality) has a significant and positive effect on transaction-specific satisfaction, besides procedural justice, the other two dimensions of justice (distributive justice and interactional justice) significantly influences both transaction-specific satisfaction and cumulative satisfaction. Website Evaluation Questionnaire (WEQ): this tool developed by Elling *et al.* [16] to evaluate websites particularly e-government and It was multidimensional structure [16]. This tool "WEQ" was tested in a controlled laboratory setting and in an online real-life setting. The WEQ proved to have seven distinct dimensions (Ease of use, Hyperlinks, Structure, Relevance, Comprehension, Completeness, and Layout). DeLone and McLean [17], reported that the success of the proposed model of information systems, is that the quality of system and quality of information and influence the use of user satisfaction, both of which lead to increased influence individual and organizational impact, later, they developed an updated model and the quality of the service included in the model[17]. Recently, success has been the use of information systems to understand the behavior of mobile phone users model. Ho and Lee, [18],report the following reliability and quality criteria regarding online content: "accuracy, timeliness, its concise nature, relevance, reliability and completeness". Even though the security of website represents considerable clue of trustworthy [18]. Kuo *et al* [13], developed model that tried to find the relationship between quality of service, perceived value, customer satisfaction, and post-purchase intent in mobile added value services, it was found the strong relationship is between customer service and system reliability followed by relationship between perceived value and customer satisfaction[13]. See table1 is summarized identified factors from previous studies.

Table-1. Summarizes the online service factors identified from previous studies.

Researchers	Identified factors
(Elling *et al*., 2012)	Ease of use, Hyperlinks, Structure Relevance, Comprehension, Completeness, Lay out
(Delone and Mclean, 2003).	Information quality (Accuracy, Relevance , Timeliness, Sufficiency) System Quality (Structure, Navigation, Accessibility, Attractiveness) Service Quality (Reliability , Quickness, Responsiveness, Security)
(Ho and Lee, 2007)	Access, communication, credibility, reliability and security. Understanding, color, appearance, availability, functionality. Integrity, resources, relationship services Performance, access, security, sensation, information content and purpose. Accessibility, navigation, design and presentation. Responsiveness and background information. Personalization and customization. Information content, reputation and security. Structure and ease of use and usefulness. Tangibles, reliability, responsiveness; assurance; empathy; quality of information; integration of communication Ease of understanding; intuitive operation, and quality of information. Interactivity, trust, response time, visual appeal, innovativeness. Performance, feature, structure, aesthetics, reliability, and storage. Capability, serviceability, security, and system integrity. Responsiveness, product/service differentiation and customization. Trust, web store policies, reputation, assurance and empathy. Content information, navigation, visual attractiveness, and site accessibility.
Shieh *et al.* (2013)	Mobile telecommunications equipment (Handset functions, Company profile, Basic requirements), Mobile telecomm Services (Service content, Service assurance, Network reliability), and Consumer psychological factors (Social influence, Media influence, Users' factors)
Zhou (2012)	Quality of system (the accessibility of speed, visual appeal, ease of use, and navigation), information quality (relevance, sufficiency,

	accuracyand timeliness), service quality (reliability, responsiveness, assurance and personalization)
(Kuo *et al*., 2009)	Quality of service, value of perceived, satisfaction of customer, and post-purchase intent.

In this study, the mobile telecommunication companies in Kuwait are investigated to measure user satisfaction as a dependent construct by information quality, system quality, and service quality as independents factors. User's perspective is critical contributors towards user satisfaction with online services that have been offered by communication operators. This telecom industry is very saturated with 6.269 million subscribers and the penetration rate hit 161.7% at the end of June of 2013 (Kuwait Ministry of Communication, 2013). The population in Kuwait is 4,004,586 million according to official Kuwait website (www.paci.gov.kw). In years past 2-3, the Ministry of Communication pronounced a plan, which would reduce the influence on the industry, improving the comprehensive quality of the telecom market in Kuwait. This includes the Telecommunications Regulatory Authority (TRA), development of the body and the introduction of Mobile Number Portability (MNP) and the establishment of a joint stock company to provide competitive prices and international rates. Mobile companies face really competitive battle in this scoter particularly after decree No. 33324/2013 that eliminates all barriers and makes consumers more free to choice the operator. Therefore, with mobile number portability (MNP) currently effective, a company in telecom industry increasingly competes each other to maintain consumers through satisfaction factor. Maintaining old clients intact and attracting new client, totally rely upon user's satisfaction from to the services provided to them by the companies. Online services features of telecommunication companies are considered the key role of attracting more customers to visit a website and practice online services. This use depends on the extent to which users think that the website features provided are genuine, lawful, current, appropriate, and not misleading [19]. Therefore, the extent to which a website is free from misleading information and not overcrowding which is clear to be trusted as a true information[7].

According to the research of Zhou [12], it is found the system quality, information quality and service quality affect continuance intention through the satisfaction. In other words, the online services need to deliver quality of information, system, and services in order to facilitate users' post-adoption usage of mobile payment. Therefore, this study measures the users' perspectives towards those factors as independents factors (information quality, system quality, service quality) by measuring user's satisfaction as dependent construct.

METHOD

This study adopted quantitative approach as questionnaire survey and distributed to the target population in paper-based survey. The questionnaire was developed based on previous literature that reviewed in the previous section. Conceptual model was created adopting measurement instruments with underlying factors. It is a modified IS success model will determine the level at which the users are happy with the online services provided. Model depicts in figure 1. There are four factors for each dimension, information quality, system quality, and service quality for measuring user's satisfaction construct.

Information quality

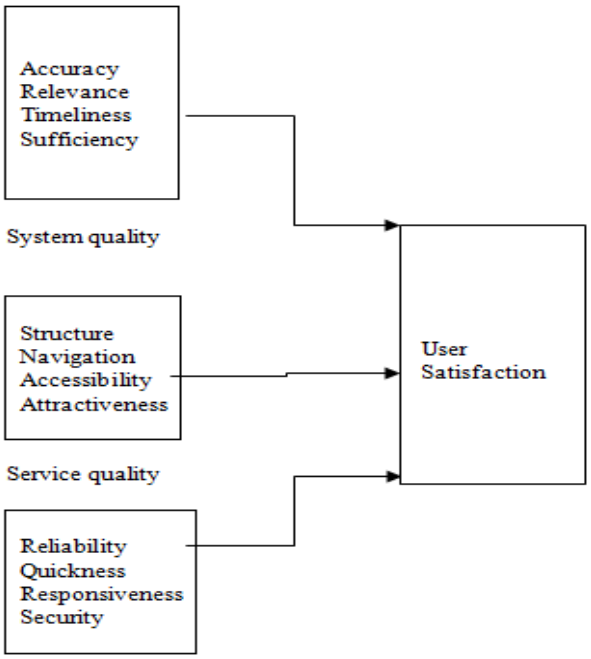

Figure-1. Model for measuring user satisfaction.

The questionnaire was used 5-point likert scale (1Strongly Disagree - 2 Somewhat Disagree - 3 Neutral - 4 Somewhat Agree - 5 Strongly Agree) consists of five sections: demographic, information quality, service quality, system quality, and user satisfaction. The targeted population of this study is university students, employees of oil companies, bankers, and others who work or study in environment technology, those users have more capability of using online services with more proficiency of English and the ability of the author to reach them and test questionnaire with them. The questionnaire printed and distributed during the period from 1st-April to 15th of May. The questions related to factors information quality, service quality, system quality and user satisfaction where 47 questions and reliability Cranbach's Alpha is 94%; which is a measure of internal consistency considered reliability as a significant measurement. Next section is the finding of this study.

RESULTS OF SURVEY

To do research a 500 set of questionnaires were distributed to university students, financing organizations and oil industry employees out of 500 the valid 398, response were shortlisted, the remaining were discarded due to incomplete or extreme answers after a thorough checking. The demographic is presented in table 2. It can be seen that male participant's represented53.3% and female represented 46.7% which is almost fair distribution. In terms of age, participations within age 18-29 are 59.8%, while 30-39 are 24.1% and 16.1% are above 40. On another hand; undergraduate participants were 59.5% while postgraduate 16.8%. Participants from oil sector were 28.1%; the remaining is students (34.4%), bankers (22.4), or others (15.1%). Others category is participants who have adopted technology and consequently tend to use online service of mobile communication companies.

In terms of mobile subscription, participants who reported their subscription to Zain mobile operators were 41.7%, others reported their subscriptions to Ooredoo and Viva by 29.6% and 28.6 respectively. Participants are more adapted with new technology Smart phone and Tablet which is reached at 85.4% as a dominated access device while PC/Laptop with 41.16% and comes after as become traditional device. Service usage of online service is daily service by consumers with almost 40% of participants of this survey, weekly and monthly services are much closed percentage of participants which is 23% approximately whereas occasionally service that subscribers used was registered the last list of serving online service with 13.1%. Payment method is consider very important for customers and the findings considered as Knet service is the first favorite approach that encourage customers to pay online as debt account, participants are registered with almost 74% others paid through Card-card service and other approaches by 15.8%, 10.3% respectively. Features of participants are explained accurately with a percentage of the population sample that has been examined in this questionnaire survey, after that, the discussion comes next section to test the sample through T-test and ANOVA to find out where the differences among subscribers of mobile communication companies' online service in terms on quality of information, quality of system, quality of service quality, and user satisfaction.

Table-2. Demographic data of participants.

Features	N (=398)		%
Gender	Male	212	53.3
	Female	186	46.7
Age	18-29	238	59.8
	30-39	96	24.1
	+40	64	16.1
Nationality	Kuwaiti	248	62.3
	Egyptian	39	9.8
	Indian	46	11.6
	Others	65	16.3
Education	Secondary School	94	23.6
	Undergraduate	237	59.5
	Postgraduate	67	16.8
Job	Student	137	34.4
	Oil Sector	112	28.1
	Bank sector	89	22.4
	others	60	15.1
Access devices	PC/Laptop	58	14.6
	Smart phone/tablet	340	85.4
Internet/mobile provider	Zain	166	41.7
	Ooredoo	118	29.6
	Viva	114	28.6
Service usage	Daily	159	39.9
	Weekly	91	22.9
	Monthly	96	24.1
	Occasionally	52	13.1
Payment Method	KNET Services	294	73.9
	Credit-Card	63	15.8
	Others	41	10.3

DISCUSSIONS

In terms of differences among respondents, t-test and ANOVA were used. It is found there were no differences among the gender groups in terms on information quality, system quality, service quality, and user satisfaction. Both genders agree about the importance of those factors to user satisfaction.

In another hand; when the differences among age groups investigated using ANOVA test, it was found no differences among them. Similarly, the differences among the education groups found only with system quality. There was a statistically significant difference between groups as determined by one-way ANOVA ($F(2,395) = 3.808$, $p = .023$).A Tukey post-hoc test revealed that the difference between respondents with high school and postgraduate was statistically significant. High school participants were more supporting system quality (M=65.78) than postgraduate (61.70). System quality was seen by postgraduate less significant, while high school saw it more significant. Other groups have no differences in this investigated.

There was a statistically significant difference between workgroup as determined by one-way ANOVA (F (3,394) = 2.914, p = .034). A Tukey post-hoc test

revealed that the difference between university students and others as a group was statistically significant. University students participants are more supporting for information quality (M= 41.62) than others group (38.45).Similarly, there was difference between bankers and others, bank employees are more considerable for information quality (M= 41.65) than others group (38.45).

There were as well statistical differences among work group revealed by ANOVA (F (3,394) = 3.17, p = .024). A Tukey post-hoc test revealed that the difference between university students and others was statistically significant. University students participants were more supporting for system quality (M= 64.62) and its influence on user satisfaction than others group (60.25).Another difference was found between bank sector participants and others group. Bankers (M= 64.56) saw system quality is considerable than others group (M= 60.25). ANOVA showed another difference in terms of service quality (F (3,394) = 3.26, p = .021). Bank sector employees as well have differences with other group in terms of service quality, as Tukey post-hoc test revealed. Bank people (M=53.12) saw service quality is considerable for user satisfaction, in contrast to others group (M= 48.61) which perceived service quality less significant with user satisfaction.

Knowing that the differences among the subscribers of three mobile networks in Kuwait are considerable issue; however, the ANOVA test has not found any differences among the participants whether they subscribed in Zain, Ooredoo, and Vivain terms of information quality, system quality, service quality, and user satisfaction. In other words, participants of this survey have been registered that no difference among operators.

CONCLUSIONS

User satisfaction is quite important key indicator of success for organizations, in this research a multidimensional model, consisting of three aspect; information quality, system quality, and service quality is proposed and telecom service user's satisfaction is measured. This study identified several quality of information quality of system, and quality service features, and investigated the influence of service quality, system quality and information quality on user satisfaction from the perspective of mobile users in Kuwait. It was found few differences among the groups of users particularly towards system quality and information quality. Some groups of (bank sector, university sector) emphasized on the importance of system quality and service quality as a critical factors of satisfaction. Overall users who have been investigated in this study are supported that user satisfaction is influenced by information, system, and service qualities. Basically, all subscribers are satisfied and impacted positively by factors; no difference emerged in essential construct of this study which is user satisfaction. This empirical research has unveiled some ambiguity regarding customer satisfaction with online services in Kuwait in terms of information, system, and service qualities. The comparison of these online operators namely (Zain, Ooredoo, and Viva) by satisfaction has investigated the same attitudes of participants in this study. The present study will serve as guidelines for good will help online services operators in evaluating their online services' performance to improve based on customer requirements.

LIMITATION

The scope of this study is limited to users sample was collected from oil sector, banking sector, and university. That may not reflect the diversity in the entire society in Kuwait. A multidimensional approach has been developed the study in three specific dimensions in which identified to grip customers' satisfaction through the perspective of users. The research was designed in which inserted factors and items of belonging dimensions. Additionally, the adopted methodological approach was a rigorous test of theory for confirming measurement of adequacy. Thus, it is potentially add more dimensions with their factors that it needs to be conceived in the model proposed, because there is no technique available for addressing the issues relating to the completion of the measurement model in adequately method. Sampling was based on time and capabilities of researcher and could be synchronized with promotion by some companies over others which are considered as a bias.

FUTURE WORK

User satisfaction is quite essential key indicator of success for organizations, this study developed factors to measure user satisfaction among the mobile subscribers in Kuwait regarding online services introduced by mobile providers. The developed factors were information quality, system quality and service quality. This study presented different perceptions of factors that influencing user satisfaction. The contribution of this paper is presented by developing factors to measure user satisfaction towards online services provided in Kuwait by mobile communication providers. The significant growth of mobile communication and severe competition between providers make this study important for providers and researchers as well to increase the quality of their services. Besides that, this paper tried to bring factors for multidimensional model for user satisfaction with online service usage.

This research successfully manage to identify the most significant quality of information, quality of system, and quality of service features and factors that influence on customer satisfaction with online services. The study can still provide valuable ground for future work. The overall results indicated that affect many advantages for customers to use online services to conduct transactions and seeking to obtain information. The empirical model results provide good indicators for the future research direction, and suggest the guidelines of successful development which adopted of online mobile services by

customers. In accordance of that, the study has investigated the different perceptions of factors that influencing user satisfaction in Kuwait. And this investigated is supported that user satisfaction is influenced by information, system, and service qualities. In fact, all subscribers are satisfied and impacted positively by factors; no difference emerged in essential construct, user satisfaction. Researchers and practitioners may depend on the results as guideline of studying user satisfaction and confirming the finding with some modification in various aspects of dimensions.

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