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Online Service Quality of M-Commerce: Effect on user Satisfaction

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ABSTRACT: In an era of 4th industrial revolution, online service quality of m-commerce is used as an essential innovator strategy to accomplish public and private organizations' strategies and goals. This latest development reflects the importance of this research. The primary objective of this study is to evaluate the correlation between online service quality of m-commerce and user satisfaction. Survey questionnaires were used to collect data from Grabcar's users in Malaysia. The Statistical Package for Social Science (SPSS) was used to determine the quality of research instrument and test the research hypotheses. The results of linear regression analysis proved that user satisfaction is an important outcome of the online service quality of m-commerce. This result can be used as essential recommendations by practitioners to understand diverse perspectives of online service quality of m-commerce and formulate online service quality operations based on user demands to maintain and enhance the organizational competitiveness and performance in times of global competition and economic instability.

Keywords: Malaysia, m-commerce, online service quality, user satisfaction.

I. INTRODUCTION

Rapid development of digital technology advancement in an era of industrial revolution 4.0 has tremendously changed the complexity of business transaction to easier, faster and more convenient for businesses in domestic and international markets [1-3]. Most organizations have taken opportunities from the technological advancement to plan and implement online service quality of m-commerce (mobile commerce) where users may easily buy and sell products and/or services via handheld wireless devices at all places [4, 5]. For examples, online service of m-commerce is commonly practiced through mobile shopping (e.g., Amazon mobile app), mobile banking (e.g., access bank accounts and pay bills) and mobile payments (e.g., e-wallet) [3, 6]. Implementation of such online service systems may provide mutual advantages for users and organizations. For example, users obtain benefits in terms of they do not need to travel in searching a good or service, may compare the variety of good and service prices, read reviews and do purchases, search wider variety of good and service in open marketplace, and automate a businesses' point between users contact and sales [7, 8]. While, organizations will get benefits by promoting and enhancing their goods and services, as well as increase their revenues through exchanging of information, services and/or goods with domestic and international users [52, 53, 55].

An in-depth examination on the present e-service quality literatures shows that the success and failure of online service quality of m-commerce is dependent to the users view whether the online system meet their quality standards [9]. The effectiveness of online service quality of m-commerce (OSQMM) consists of five significant features, namely ease of use, security, usability, website design and interactivity [10-12]. First, ease of use refers to the adoption and use of m-commerce system will ease users to fulfill their needs, such as effectiveness, efficiency, engagement, error tolerance, easy to learn, meet user's specification, and evaluate usability objectives and methods [13, 14]. The role of ease of use has been recognized as a significant factor that may increase user positive impression, decrease user support requirements, obtain positive recommendations, upgrade a wider range of connection to more users, create a long-term user satisfaction and retain users within the systems [13, 15].

Second, security is normally understood as users believe that the security policies, software tools and IT services are adequate to protect their online deals, privacy affairs, internal and external, as well as irrelevant and malicious threats [6, 16]. The ability of online service systems to appropriately handle any types of possible attacks, to be aware of the motivations for attacks and connections to those motives may raise their confident to the online systems [17, 18]. Third, interactivity typically relates to providers, users and other users who interact comfortably on the m-commerce portal through e-mail and group activities [19, 20]. For example, users' mobile devices can smoothly and comfortably communicate with the online service systems in searching for information, delivering complaints, making exploration and doing transactions. These activities may strengthen users' commitment with the online systems [3, 21].

Fifth, website design is normally referred to as a digital environment initiation that accommodates voices and content; simplifies and stimulates human activities; as well as changes and maintains their identities at different times [1, 20]. If users perceived that website

interface (e.g., online service) is attractive and innovative (e.g., modern, dynamic and unique) this situation may motivate users to correspond with physical commercial companies and do variety of commercial transactions [3, 22]. Finally, accessibility is the availability of online service systems that allow users to connect their mobile applications with websites at anywhere and anytime [24, 25]. This connection involves visual, auditory, physical, speech, cognitive, and neurological abilities. If the network service support systems (e.g., wireless networks and network coverage) provides reliable speedy access to users, this may fulfill users' demands for the service [3, 26].

Undeniably, online service quality of m-commerce has widely been acknowledged as an impressive technology in commercial and non-commercial organizations. Some e-service quality research findings discovered that OSQMM's ability to meet customer needs and requirements could have a significant impact on user satisfaction [3]. In a m-commerce perspective, user satisfaction is generally interpreted as the results of customers evaluating the performance, validity, essential and/or substantial of OSQMM offered by an organization. If customers perceived that transactions done in the online service systems as positive, this situation can lead to an enhanced concept of user satisfaction [3, 27, 28, 29]. Although the relationship has been widely examined, the role of OSQMM as an important predictive variable has not been adequately discussed in the existing literature of online service quality [30].

Many researchers argue that lack of OSQMM as an important predictive variable may be caused several reasons: Firstly, numerous previous researches have much discussed the characteristics of OSQMM (e.g., disconfirmation approaches, practices and significance of the online systems) [10, 11]. Second, many past researches have much assessed the degree of association between single construct of OSQMM and/or certain components of OSQMM with particular user outcomes (e.g., perceived value, trust, behavioral intentions and organization image) in commercial and non-commercial sectors [7, 17, 31]. Conversely, the results of this evaluation did not adequately emphasize the magnitude and nature of OSQMM as an important predictive variable in the quality research literature on online service [3, 52, 55]. As a result, the study has only found general approach and may not offer appropriate approaches for practitioners to use as guidance to understand the complexity of the definition of OSQMM and to formulate strategic action plans. This is important for maintaining and enhancing the competitiveness and efficiency of knowledge-based organizations in times of globalization and uncertainty. This situation thus stimulates the researchers to fill the literature gap by investigating the effect of OSQMM on user satisfaction. The structure of this paper thus discusses five major aspects: review of the literature, methodology, finding, discussion, and conclusion.

II. LITERATURE REVIEW

Relationship between e-service quality of website and user attitudes has been a major focus in e-service quality models, such as SITEQUAL Model [32], WebQual™ Model [33], WebQual 4.0 Model [34], e-SERVQUAL Model [35], PIRQUAL [36], comQ Model [37], eTAilQ Model [11], Incubative and Active Dimensions of E-Service Quality Model [38], E-S-QUAL and E-RecS-QUAL Dimensions of E-Service Quality Model [39], eTransQual Model [40], E-Commerce Business Model [41], and OA-SQ Model [42]. The notion of these models addresses two significant aspects, namely system quality (information retrieval and delivery in a service provider portal is a form of technical quality, i.e., ease of use, security, accessibility and web design) and online service quality (i.e., relationship between the customers and provider in a service provider portal is a form of functional quality i.e., interactivity). Application of this notion in the e-service quality models shows that the usability of online service quality of m-commerce in meeting user requirements may strongly enhances their satisfaction with the systems [3].

Numerous studies have provided compelling evidence to support the effect of OSQMM in different organizational samples on user satisfaction. For example, Jun, Yang & Kim [43] conducted a survey with 260 university students and professionals on online services at the Southwest and Midwest region of US; Ozer, Argan & Argan [44] assessed 1000 user perceptions on mobile online services at the province of Eskisehir, Turkey; Bharti [9] surveyed 1000 users of mobile banking in India; Kaur [30] assessed 452 user reactions toward e-retailing firms in India; Salameh, Ahmad, Zulhumadi & Abubakar [3] investigated 618 university students and staff perceptions of m-commerce based online service quality in Jordan; Kusdibyo & Februadi [53] evaluated 283 users of online shopping in Indonesia; Cristobal-Fransi, Hernández-Soriano, Ferrer-Rosell & Daries [54] surveyed 309 users of online shopping in Spain; Chung [52] evaluated 237 shoppers at m-commerce industry in Taiwan; and Ganapathi [55] assessed 263 users of online food ordering and delivery in Qatar. These surveys reported that the ability of OSQMM dimensions, namely ease of use (e.g., navigation, and understandable contents), security (e.g., personal information and card credit transactions), accessibility (e.g., cover a wide range of navigation), interactivity (e.g., mobile device able to interact with online systems) and web design (e.g., attractive interface) in fulfilling user needs and expectations had enhanced their satisfaction with the online systems [3, 9, 30, 43, 44,52-55].

The literature was used as a basis for creating a conceptual scheme for this research, as shown in Fig. 1.

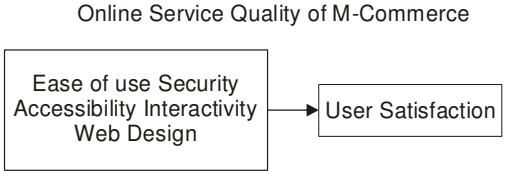

Fig. 1. Conceptual schema.

III. METHODOLOGY

This research is done with the Grabcar company in Malaysia. This company uses an E-hailing service to enable users hailing a ride via smartphone-based ride-hailing. In this system, users may reduce searching, obtain transparent price, do flexible payment method and faster ride booking, as well as improve the

efficiency of communication between users and drivers. Although this service system has brought many advantages, its effect on user satisfaction is not empirically studied in the company. Therefore, the paucity of previous studies has motivated the researcher to further explore this relationship.

This study has used a cross-sectional research design as an effective method of collecting data, as it can help researchers collect less biased data, accurate data, and high-quality data [45]. A survey questionnaire was drafted at the early stage of this research, based on the quality of m-commerce literature's online service. A back-translation technique was then used to translate the questionnaire into English and Malay languages to preserve and enhance the quality of the results of the study.

The survey questionnaire consists of seven sections: Firstly, ease of use had 7 items adapted from the online service quality of m-commerce related ease of use literature [43, 44]. Secondly, security had 6 items adapted from the online service quality of m-commerce relate security literature [43, 44]. Thirdly, accessibility had 5 items adapted from online service quality of m-commerce related accessibility literature [43,46]. Fourthly, interactivity had 7 items adapted from the online service quality of m-commerce related interactivity literature [25, 47]. Fifth, website design had 7 items adapted from the online service quality of m-commerce related website design literature [43]. Lastly, user satisfaction had 7 items adapted from the online service quality of m-commerce related user satisfaction literature [3, 43]. All items were assessed using a scale of five points from (1) "Strongly Disagree" to (5) "Strongly Agree." Respondent characteristics were used as a variable for controlling, as this study focused on user attitudes.

A convenient sampling technique was used to distribute Google survey forms to Grabcar's users in Malaysia through social media channels, such as Facebook and Instagram. This sampling technique was selected because the researchers in Malaysia did not have a complete list of Grabcar users and this situation could not allow the researchers to select participants using a random technique. From the distributed survey questionnaires, only 220 usable questionnaires were returned to the researchers. Participants answered the survey questionnaires based on their consents, voluntary and anonymous.

The sufficiency of this sample is assessed based on 10 times rule [48]. The largest number of formative indicators in the self-administered questionnaires had 7 items. According to this rule, the sample size should be at least 70 participants. This result shows that the sample size is adequate. The Harman's single factor test should be used to detect biases in the survey method. Results from this test indicated that the variance percentage was 38.638 and this value was smaller than 50 percent of the variance, indicating that bias is not present in the survey method. The Social Science Statistical System (SPSS) was used to determine instrument validity and reliability and thus to test the study hypotheses.

IV. FINDINGS

The most respondents are female (66%), aged from 18 years to 27 years old (53%), single users (71%), Malay ethnic (42%), degree holders (55%), college and university students (44%), and users that used Grabcar once in a week (57%).

Table 1 shows the results of validity and reliability analysis for the measurement scale. The self-administered questionnaire consists of 39 items, which related to the six constructs: ease of use (7 items), security (7 items), accessibility (5 items), interactivity (6 items), web design (7 items) and user satisfaction (7 items). Validity and reliability of measurement scale were assessed using data analysis procedure [49]. The results of data analysis showed four important findings: First, items that represent each construct had loadings more than 0.40. This indicate that the items meet the acceptable standards of validity analysis. Second, the values of Kaiser-Mayer-Olkin for all constructs were 0.8, and the values of Bartlett's test of sphericity were significant. This indicate the sample is adequate to be used in this research. Third, the eigenvalues for all constructs were larger than 1.0, and the values of variance explained for all constructs were more than 45 percent.

This result indicates that the constructs meet the acceptable standards of validity analysis. Eventually, for all constructs the Cronbach alpha values were more than 0.70, suggesting high internal reliability in the constructs. This finding indicates that the instrument used in this research has met the validity and reliability analytics standards satisfactorily.

Table 2 shows the results of descriptive statistics and Pearson correlation analysis. The mean values for all constructs are between 4.000 and 4.193, indicate that the degree of ease of use, security, accessibility, interactivity, web design and user satisfaction ranging from high (4) to the highest level (5). The correlation coefficients for the relationship between the independent variable (i.e., ease of use, security, accessibility, interaction, and web design) and dependent variable (i.e., user satisfaction) were smaller than 0.90 [49], indicating that the data are free from serious collinearity problems. Therefore, this result further confirms that the instrument has fulfilled the criteria of validity and reliability analyses.

Table 1: The results of validity and reliability analyses for measurement scale.

Measure	Item	Factor Loadings	KMO	Bartlett's Test of Sphericity	Eigenvalue	Variance Explained	Cronbach Alpha
Ease of Use	7	0.689 to 0.834	0.831	952.240, p=0.000	4.278	61.121	0.887
Security	7	0.671 to 0.860	0.884	1053.707, p=0.000	4.720	67.426	0.917
Accessibility	5	0.486 to 0.524	0.808	463.620, p=0.000	3.136	62.719	0.848
Interactivity	6	0.449 to 0.841	0.860	513.725, p=0.000	3.455	57.580	0.849
Web Design	7	0.523 to 0.798	0.883	951.650, p=0.000	4.474	63.912	0.905
User Satisfaction	7	0.666 to 0.856	0.893	943.673, p=0.000	4.536	64.797	0.908

Table 2: Pearson correlation analysis and descriptive statistic.

Variables	Mean	Standard Deviation	Pearson Correlation (r)					
			1	2	3	4	5	6
1. Ease of use	4.117	0.605	1					
2. Security	4.000	0.694	0.434**	1				
3. Accessibility	4.115	0.604	0.636**	0.489**	1			
4. Interactivity	4.193	0.540	0.497**	0.407**	0.615**	1		
5. Web Design	4.126	0.629	0.488**	0.540**	0.577**	0.550**	1	
6. User satisfaction	4.083	0.640	0.568**	0.554**	0.570**	0.459**	0.595**	1

Note: ** Correlation is significant at p<0.01 (2-tailed

Table 3 shows the results of linear regression analysis. The entry of OSQMM (ease of use, security, accessibility, interactivity, and web design) in the analysis had explained 51 percent of the variance in user satisfaction.

This result indicates that this model has large effect [50]. The values of variance inflation factor for OSQMM features and user satisfaction had were less than 10.0, indicating that multicollinear problem does not present in the constructs [49].

Table 3: Results of linear regression analysis.

Independent Variables	Dependent Variable (User Satisfaction)
Ease of Use	0.242***
Security	0.232***
Accessibility	0.145***
Interaction	0.011***
Web Design	0.261***
R Square	0.509
Adjust R Square	0.498
F	44.435***
F Δ R Square	89.827***

Note: Significance at ***p<0.001

The results of the testing of the study hypotheses reveal five main findings: Firstly, ease of use was positively and significantly correlated with user satisfaction (β=0.242, p<0.001), hence H1 was supported. Secondly, security was positively and significantly correlated with user satisfaction (β=0.232, p<0.001), hence H2 was supported. Thirdly, accessibility was positively and significantly correlated with user satisfaction (β=0.145, p<0.001), hence H3 was supported. Fourthly, interactivity was positively and significantly correlated with user satisfaction (β=0.011, p<0.001), hence H4 was supported. Lastly, web design was positively and significantly correlated with user satisfaction (β=0.261, p<0.001), hence H5 was supported. This finding confirms that level of user satisfaction is determined by online service quality of m-commerce.

V. DISCUSSION

The findings of this research show that online service quality of m-commerce does act as an important determinant of user satisfaction. The majority participants perceived that the levels of online service quality of m-commerce (ease of use, security, accessibility, interactivity, and web design) and user satisfaction are high. This situation explains that the ability of online service quality of m-commerce in assisting users to achieve their objectives may lead to higher user satisfaction.

This study provides important implications: theoretical contribution, robust research methodology and practical contribution. With regard to the theoretical contribution, the results of this research are consistent with the notion of SITEQUAL Model [32], WebQual™ Model [33], WebQual 4.0 Model [34], e-SERVQUAL Model [35], PIRQUAL [36], .comQ Model [37], eTAilQ Model [11], Incubative and Active Dimensions of E-Service Quality Model [38], E-S-QUAL and E-RecS-QUAL Dimensions of E-Service Quality Model [39], eTransQual Model [40], E-Commerce Business Model [41], and OA-SQ Model [42], which posit that the usability of online service quality of m-commerce (system quality and online service quality) will fulfil user demands and this may lead to an enhanced user satisfaction.

The notion of the above theories has received strong support from previous empirical studies, which reveal that the ability of online service quality of m-commerce dimensions, namely ease of use (e.g., navigation, and understandable contents), security (e.g., personal information and card credit transactions), accessibility (e.g., cover a wide range of navigation), interactivity (e.g., mobile device able to interact with online systems) and web design (e.g., attractive interface) in meeting user demands had been an important determinant of user satisfaction with the online service systems [3, 9, 30, 43, 44, 53, 54].

In terms of the robustness of research methodology, the survey questionnaire has satisfactorily met the criteria of validity and reliability analysis. This achievement may lead to accurate and reliable outcomes. With respect to practical contribution, the outcomes of this research can be used as important guidelines by management to improve the online service quality of m-commerce in taxi companies. First, recruitment policies and procedures should be properly established to select skilled and experienced individuals to fill critical positions. They may act as mentors, coaches, and counsellors to facilitate and guide junior managers, supervisors and frontline employees in appropriately practicing service quality based on international standard organizations.

Second, levels of monetary and non-monetary rewards should be increased to motivate, attract, and retain good people to work with taxi companies. This situation may motivate them to support their stakeholders' goals.
Third, performance evaluations should be strengthened to accurately assess drivers' traits, behavior, and outcomes. The results from the evaluation can be used to develop drivers' competencies and positive attitudes, as well as remain as high performing drivers. This condition may help users to fulfil their needs and motivate them to reuse the company service. Eventually, short courses for taxi drivers should be designed to improve their openness to contact and ethical standards when communicating with different user characters and expectations. Such practice could encourage customers to use the service again. If these recommendations are strongly implemented, this could lead users in a globally competitive era to support corporate business goals and vision.

VI. LIMITATION AND RECOMMENDATION

This work has some drawbacks, both methodologically and conceptually. First, the study examined only the association between composite constructs of the hypothesized model. Second, the association between different measurements for the interest variables has not been tested in this study. Third, this research has used a cross-sectional research design, which may prevent researcher from making inferences about causality among the variables of interest. Fourth, respondent demographic variables are only used as controlling variables in this study. Five, self-administered questionnaire is not able to control participant responses. Lastly, this research is only done at a private transportation company in Malaysia. This situation could restrict the generalizability of the results of the research to other settings for service organizations.
Furthermore, this research offers valuable suggestions for improving future studies. First, some essential demographic information of the respondents (e.g., gender, age, employment, and type of user) should be examined because they may have different views of the association between interest variables. Next, this study will assess the relation between the particular feature of the independent variable, and the dependent variable in order to improve the test results. Third, longitudinal study can be viewed as an alternative to cross-sectional research design, as it can provide a high degree of validity when analyzing changes and evaluating the relationship pattern between interest variables over time. Furthermore, to improve our perception of m-commerce's online service efficiency in business organization models, more than one organization should be used to determine this. Fifth, a larger sample size should be used to minimize traditional method bias and thus it may conform to the characteristics of the population. Sixth, to consider other specific features of online service quality of m-commerce such as engagement, threat, conversation, friendly design, and practicable application because they are known as key predictors of user satisfaction. Finally, other dimensions of consumer outcomes such as perceived value and reuse intention should be included in the hypothesized model, as they are commonly recognized as essential outcomes of the quality of online service offered by m-commerce.

VII. CONCLUSION

This research tested a conceptual schema developed based on e-service quality research literature. The study instrument had satisfactorily fulfilled the criteria of validity and reliability analysis. The results of linear regression analysis confirmed that the online survey quality of m-commerce (ease of use, security, accessibility, interactivity, and web design) was positively and significantly correlated with user satisfaction. Hence, H1, H2, H3, H4 and H5 were therefore supported and the result shows that the ability of service providers to effectively plan and maintain the quality of m-commerce online service in the performance of daily work was an important determinant of user satisfaction in the organization being examined.

VIII. FUTURE SCOPE

Therefore, present research and practice within e-service quality need to view the ease of use, security, accessibility, interactivity, and web design as crucial components of the online service quality of m-commerce domain. This study further suggests that the ability of service providers to practice online service quality of m-commerce that match to diverse user desires and expectations will strongly induce their positive attitudes and behavior (e.g., perceived value, commitment, trust and intent to reuse). Thus, these positive results could lead to increased competitiveness and success in an era of knowledge-based economy and global competition.

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Conflict of Interest. No.

REFERENCES

[1]. Ali, F. (2016). Hotel Website Quality, Perceived Flow, Customer Satisfaction and Purchase Intention. *Journal of Hospitality and Tourism Technology*, *7*(2): 213-228.
[2]. Alfawaer, Z. M., Awni, M. and Al-Zoubi, S., (2011). Mobile E-Ticketing Reservation System for Amman International Stadium in Jordan. *International Journal of Academic Research*, *3*(1): 848-852.
[3]. Salameh, A. A. M., Ahmad, H., Zulhumadi, F. and Abubakar, F. M. (2018). Relationships between System Quality, Service Quality, and Customer Satisfaction: M-Commerce in The Jordanian Context. *Journal of Systems and Information Technology*, *20*(1): 73-102.
[4]. Prabhaker, P. R. (2000). Who Owns the Online Consumer? *Journal of Consumer Marketing*, *17*(2): 158-171.
[5]. Suki, N.M. (2011). A Structural Model of Customer Satisfaction and Trust in Vendors Involved in Mobile Commerce. *International Journal of Business Science and Applied Management*, *6*(2): 17-30.
[6]. Yarimoglu, K. E. (2014). A Review of Service and E-Service Quality Measurements. *Previous Literature and Extension Journal of Economic and Social Studies*, *5*(1): 169-200.

[7]. Deb, M. and Agrawal, A. (2017). Factors Impacting the Adoption of M-Banking: Understanding Brand India's Potential for Financial Inclusion. *Journal of Asia Business Studies, 11*(1): 22-40.
[8]. Mallat, N., Rossi, M., Tuunainen, V.K. and Oorni, A. (2009). The Impact of Use Context on Mobile Services Acceptance: The Case of Mobile Ticketing. *Information and Management*, *46*(3): 190-195.
[9]. Bharti, M. (2016). Impact of Dimensions of Mobile Banking on User Satisfaction. *Journal of Internet Banking and Commerce*, *21*: 1-22.
[10]. Yang, Z. and Jun, M. (2002). User Perception of E-Service Quality: From Internet Purchaser and Non-Purchaser Perspectives. *Journal of Business Strategies*, *19*(1): 19-41.
[11]. Wolfinbarger, M. and Gilly, M. C. (2003). E-tailQ: Dimensionalising, Measuring and Predicting E-tail Quality. *Journal of Retailing*, *79*(3): 83-98.
[12]. Lee, G. G. and Lin, H. F. (2005). User Perceptions of E-Service Quality in Online Shopping. *International Journal of Retail and Distribution Management*, *33*(2): 161-176.
[13]. Abbas, T. (2016). Social Factors Affecting Students' Acceptance of E-Learning Environments in Developing and Developed Countries A Structural Equation Modeling Approach. *Journal of Hospitality and Tourism Technology*, *7*(2): 200-212.
[14]. Ribbink, D., Van Riel, A.C.R., and Liljander, V. (2004). Comfort Your Online User: Quality, Trust and Loyalty on The Internet. *Managing Service Quality*, *14*(6): 446-456.
[15]. Lin, J. S. C. and Hsieh, P. L. (2011). Assessing the Self-Service Technology Encounters: Development and Validation of SSTQUAL Scale. *Journal of Retailing*, *87*(2): 194-206.
[16]. Cheng, E., Lam, Y. and Yeung, C. (2006). Intention to Use of Internet Banking: An Empirical Study in Hong Kong. *Decision Support Systems*, Vol. *42*(3): 1558-1572.
[17]. Anouze, A. L. M. and Alamro, A. S. (2019). Factors Affecting Intention to Use E-Banking in Jordan. *International Journal of Bank Marketing*, *38*(1): 86-112.
[18]. Gupta, A. and Arora, N. (2017). Understanding Determinants and Barriers of Mobile Shopping Adoption using Behavioral Reasoning Theory. *Journal of Retailing and Consumer Services*, *36*: 1-7.
[19]. Ding, D.X., Hu, P. J. and Sheng, O. R. L. (2011). e-SELFQUAL: A scale for measuring online self-service quality. *Journal of Business Research*, *64*(5): 508-515.
[20]. Papadomichelaki, X. and Mentzas, G. (2012). E-Govqual: A Multiple-Item Scale for Assessing E-Government Service Quality. Government Information Quarterly, *29*(3): 98-10.
[21]. Liang, T.P. and Wei, C.P. (2004). Introduction to The Special Issue: Mobile Commerce Applications. International Journal of Electronic Commerce*, 8*(3): 7-17.
[22]. O'Cass, A. and Carlson, J. (2012). An E-Retailing Assessment of Perceived Website-Service Innovativeness: Implications for Website Quality Evaluations, Trust, Loyalty and Word of Mouth. *Australasian Marketing Journal*, *20*(3): 28-36.
[23]. Jeon, M. and Jeong, M. (2017). Customers' Perceived Website Service Quality and Its Effects on E-Loyalty. *International Journal of Contemporary Hospitality Management*, *29*(1): 438-457.
[24]. Ktoridou, D., Epaminonda, E. and Kaufmann, H. (2008), Technological Challenges and Consumer Perceptions of the Use of Mobile Marketing: Evidence from Cyprus. *International Journal of Mobile Marketing*, *3*(2): 34-43.
[25]. Papanikolaou, K. and Mavromoustakos, S. (2006). Critical Success Factors for the Development of Mobile Learning Applications. *Paper presented at the 24th IASTED International Multi-Conference Internet and Multimedia Systems and applications, Innsbruck, Austria,* 13-15.
[26]. Lu, Y., Zhang, L. and Wang, B. (2009). A Multidimensional and Hierarchical Model of Mobile Service Quality. *Electronic Commerce Research and Applications*, *8(*5): 228-240.
[27]. Sharma, G. and Lijuan, W. (2015). The Effects of Online Service Quality of e-Commerce Websites on User Satisfaction. *The Electronic Library*, *33*(3): 468-485.
[28]. Khalil, K. M. (2011). Online Service Quality and User Satisfaction: A Case Study of Bank Islam Malaysia Berhad. *MPRA Paper No. 30782, University Science Islam Malaysia.* Retrieved from http://mpra.ub.unimuenchen.de/30782/2/MPRA_paper_30782.pdf
[29]. Ojo, O. (2010). The Relationship between Service Quality and User Satisfaction in the Telecommunication Industry: Evidence from Nigeria. *Broad Res. Account Negotiation Distrib*, *1*: 88-100.
[30]. Kaur, M. (2018). Exploring the Determinants of E-Service Quality in E-Retailing, *Journal of Arts, Science and Commerce*, *9*(1): 1-17.
[31]. Chong, A. Y. L. (2013). Understanding Mobile Commerce Continuance Intentions: An Empirical Analysis of Chinese Consumers. *The Journal of Computer Information Systems*, *53*(4): 22-30.
[32]. Yoo, B. and Donthu, N. (2001). Developing A Scale to Measure the Perceived Quality of an Internet Shopping Site (SITEQUAL). *Quarterly Journal of Electronic Commerce*, *2*(1): 31-45.
[33]. Loiacono, E. T., Watson, R. T. and Goodhue, D. L. (2002). WEBQUAL: A Measure of Website Quality. *Marketing Theory and Applications*, Vol. *13*(3): 432-438.
[34]. Barnes, S. J. and Vidgen, R. T. (2002). An Integrative Approach to the Assessment of e-Commerce Quality. *Journal of Electronic Commerce Research*, *3*(3): 114-127.
[35]. Zeithaml, V. A., Parasuraman, A. and Malhotra, A. (2002). Service Quality Delivery Through Web Sites: A Critical Review of Extant Knowledge. *Journal of the Academy of Marketing Science*, *30*(4): 362-375.
[36]. Francis, J. E. and White, L. (2002). PIRQUAL: A Scale for Measuring Customer Expectations and Perceptions of Quality in Internet Retailing. *In Proceedings of the 2002 American Marketing Association winter educators' conference: marketing theory and applications*, *13:* 263-70.
[37]. Wolfinbarger, M. and Gilly, F. M. C. (2003). Comq: Dimensionalizing, Measuring and Predicting Quality of the E-Tail Experience. *Marketing Science Institute*, Working Paper No. 02- 100, Cambridge, MA.

[38]. Santos, J. (2003). E-service Quality: A Model of Virtual Service Quality Dimensions. *Managing Service Quality*, *13(*3): 233-246.
[39]. Parasuraman, A., Zeithaml, V. A. and Malhotra, A. (2005). ES-QUAL a Multiple-Item Scale for Assessing Electronic Service Quality. *Journal of Service Research*, *7*(3): 213-233.
[40]. Bauer, H. H., Falk, T. and Hammerschmidt, M. (2006). eTransQual: A Transaction Process-Based Approach for Capturing Service Quality in Online Shopping. *Journal of Business Research*, *59*(7): 866-875.
[41]. Zhang, J. (2006). The Roles of Players and Reputation: Evidence from eBay Online Auctions. *Decision Support Systems*, *42*(3): 1800-1818.
[42]. Liu, C. T., Guo, Y. M. and Hsieh, T. Y. (2010). Measuring User Perceived Service Quality of Online Auction Sites. *The Service Industries Journal*, *30*(7): 1177-1197.
[43]. Jun, M., Yang, Z. and Kim, D. (2004). Users' perceptions of online retailing service quality and their satisfaction. *International Journal of Quality & Reliability Management*, *21*(8): 817-840.
[44]. Ozer, A., Argan, M. T. and Argan, M. (2013). The Effect of Mobile Service Quality Dimensions on User Satisfaction. *Procedia-Social and Behavioral Sciences*, *99*: 428-438.
[45]. Cresswell, J. W. (2014). Qualitative Inquiry and Research Design: Chosing among Five Traditions. *London: Sage Publications*.
[46]. Cho, N. and Park, S. (2001). Development of Electronic Commerce User–Consumer Satisfaction Index (ECUSI) for Internet Shopping. *Industrial Management and Data Systems*, *101*(8): 400-405.
[47]. Yang, Z., Cai, S., Zhou, K. Z. and Zhou, N. (2005). Development and Validation of an Instrument to Measure User Perceived Service Quality of Information Presenting Web Portals. *Information & Management, 42*(4): 575-89.
[48]. Hair, J. F., Hult, G. T. M., Ringle, C.M. and Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling. *London: Sage Publications*.
[49]. Hair, J.F. Black, W.C., Babin, B.J.and Anderson, R.E. (2010). Multivariate Data Analysis (7th ed.). *New Jersey: Pearson Prentice Hall*.
[50]. Cohen, J. (1988). Statistical Power Analysis for the Behavioural Sciences. *NJ: Hillsdale*.
[51]. Onn, L. W. and Soon, W. L. (2016). Determinants of Mobile Commerce Loyalty in Malaysia. *Procedia-Social and Behavioral Sciences*, *224*: 60-67.
[52]. Chung, K. C. (2019). Transaction Utility Perspective of Customer Satisfaction Towards M-Commerce in Taiwan. ACM International Conference Proceeding Series, Feng Chia University Taichung, *5*: 1-5. https://doi.org/10.1145/3332324.3332335**.**
[53] Kusdibyo, L. Februadi, A. (2019). The Effect of Electronic Quality Service on Customers Satisfaction and Loyalty in Online Shopping. IOP Conference Series: Material Science and Engineering, *662*(2): 22-36. https://doi:10.1088/1757-889x/662/2/022036.
[54]. Cristobal-Fransi, E., Hernandez-Soriano, F., Ferrer-Rosell, B. and Daries, N. (2019). Exploring Service Quality among Online Sharing Economy Platforms from an Online Media Perspective, Sustainability. *MPDI Open Access Journal*, *11*(13): 3690. https://doi.org/10.3390/su11133690.
[55]. Ganapathi, P., and Abu-Shanab, E. A. (2020). Customer Satisfaction with Online Food Ordering Portals in Qatar. *International Journal of E-Services and Mobile Applications, 12*(1): 57-79.

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