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**A Mediation Analysis of E-Service Quality and E-Loyalty in Pakistani E-Commerce Sector**

**Abstract:**

*This study focuses on understanding the influence of innovative service quality measures on creating the loyalty among customers; with a mediating role of satisfaction among the online buyers. The research was conducted in the e-commerce sector of Pakistan. The study examines how to retain the online buyers and the online buying intents of customers in Pakistani e-market. The research studies the effect of e-service quality measures including efficiency, system availability, fulfillment and privacy on generating the customers' loyalty among the online buyers. The respondents included the individuals who frequently interact with Internet, social media sites, and other online buyer groups. The findings of the study depict a strong relationship between e-service quality and e-loyalty through the mediating role of e-satisfaction.*

**Keywords:** online buying; electronic commerce; e-satisfaction; e-loyalty, e-service quality

### I. Introduction

A sustainable success in businesses is strongly attributed to the customer loyalty. The level of customer satisfaction generated through the service quality offered by a company is an integral requisite of loyalty because it retains the customers for repeat buying (Fels, Falks, & Schmitt, 2017). However, the electronic service (e-service) is different from the conventional service because the flow of information between the online service provider and online buyers happens in a virtual environment. Strategically, e-service quality (ESQ) enhances the operational efficiency and profitability of a company. Santos (2003) has recommended that in this era of digitalization, the companies can be in a better position to gain competitive advantage by providing superior e-services to their consumers. Thus, persistent efforts in providing high level of ESQ measures to retain and delight the consumers are becoming a challenge for the companies. Moreover, ESQ has been studied in many important researches in relation to its positive perceived impact on the monetary output of the companies (Kim & Lennon, 2017).

The e-commerce activities which may include the buying, selling and reviewing the companies' offers, have become much widespread among the online buyers. The use of Internet such as on different social websites and online portals provides the consumers a place to share their experiences of consuming a product or a service. These platforms with customer reviews not only act as an e-service support to the other consumers but also provide marketing opportunities to the companies (Sharma, Alavi, & Ahuja, 2017). The successful e-commerce interactions may generate the e-loyalty (EL) which has an important role in engaging the consumers into repetitive buying, thus, positively impacting the financial performance of the companies (Ergün & Kuşcu, 2013).

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It has been observed that the customers have different levels of satisfaction with the companies that determine the buying behaviors (Amin, 2016). The customer satisfaction begins with a buying experience and lasts up to the post-purchase service (Casaló, Flavián, & Guinalíu, 2008). The level of customer satisfaction is, thus, an accumulated result of all those experiences and interactions that a customer has during a buying process. There are many tools mentioned in the literature that elaborate the EL, but satisfaction is significant among all (Cheng, Wu, & Chen, 2018). Although, satisfaction is a vital element for a customer to be loyal but it does not ensure the loyalty among customers. For the online buyers, ESQ measures can be the major determinants of their e-satisfaction (ES) level that may consequently generate the EL among such customers. Therefore, there is a dire need to study the impact of ESQ on generating the EL among online buyers of a growing market such as Pakistan which is progressively inclined towards e-commerce.

## II.  Literature Review

Service quality is highly significant for both the online and offline retailers. Many companies use Internet to grow their businesses and offering their products and services through electronic markets. The customer loyalty for e-businesses is costly and difficult to manage because of varied factors such as easy comparisons. Therefore, companies must maintain the superiority of online service quality measures to satisfy their customers (Riel, Liljander, & Jurrie¨ns, 2001). However, the features of ESQ are different due to a different nature of the market (Riedl, Leimeister, & Krcmar, 2009). ESQ involves reliability, communication, order fulfillment, security, efficiency, support and incentives as its dimensions (Santos, 2003). Moreover, ESQ concept has been examined in different e-businesses and clearly defines the loyalty intentions of the customers, such as visiting the website again (Rao & Rao, 2013). Additionally, Zhou, Yaobin and Wang (2009) found that ESQ strongly affects the customers' online repurchase behavior as compared to the overall web structure quality.

Loyalty is an attitude which depicts the favorable perception of a brand leading to the repeat buying behavior (Yuen & Chan, 2010). Importance of creating loyalty is allowing a customer's retention in lucrative ways while focusing on assuring the satisfaction for the buyer (Quach, Thaichon, & Jebarajakirthy, 2016). Loyal customers are known from their repeat buying and positive attitudes to promote the products/services of the companies (Casaló, Flavián, & Guinalíu, 2008). Thus, in a competitive business environment, customer satisfaction is not sufficient for the endurance of the companies (Ha & Jang, 2010) unless it is used to create loyalty among the customers.

The conventional retailers have designed their procedures to maximize the customer loyalty. However, those procedures are incapable in the online conditions for which a relevant study has showed that the retailers must focus on generating the buyer's EL (Christodoulides & Michaelidou, 2010). EL broadens the predictable loyalty by incorporating digital knowledge with intermediation of the relationship between a company and its customers. Pee, Jiang and Klein (2018) explained EL as the customer's loyalty towards a website with a purpose to return to that website for some transactional purpose and later, endorse it to other potential buyers. Strategies that can generate EL may establish a strong customer-company relationship, while giving long term benefits to the e-retailers (Rafiq, Heather, & Xiaoming, 2013).

Wang and Liao (2007) define ES as an emotional state when customer is most likely to come back to the online buying site due to engaging e-commerce measures including service quality, information quality and the overall system quality. According to Martin and Catalan (2013), affirmative word of mouth for the companies is mostly driven by the customer satisfaction. It has been observed in the findings of different researches that customer satisfaction is a significant factor for companies that refers to one's general assessment about buying and consumption of a product or service (Chong, 2013; Shiau & Luo, 2012). According to Yuksel and Yuksel (2007) there is a strong relation between loyalty and satisfaction in which satisfaction always positively influences the loyalty. Moreover, it has been observed that satisfying experiences that are accumulated over time have an immense impact on forming a customer's satisfactory attitudes. In this regard, ES may be created by focusing on the provision of positive online buying experiences for the online buyers, by all means (Cyr, Kindra, & Dash, 2008). Furthermore, fulfillment of the expectations causes ES as well as an emotional and positive state developed over multiple interactions with the websites.

ESQ measures of online retailers are key factors in making e-commerce activities rewarding, mainly because of easy comparisons, time saving and cost saving; on contrary to the traditional markets (Ahmad, Rahman, & Khan, 2016). Fotiadis (2019) studied the Greek customers' behaviors on the basis of perceived value of ESQ and ES for online buying. It was found that the elements of ESQ such as privacy, customer service, reliability and emotional benefits strongly influence the satisfaction level of the customers. According to Fotiadis, companies which are engaged in e-commerce activities spend most of their efforts to build and sustain a strong relationship with their customers. This relationship causes ES which is influenced by the emotions, perceived value, information quality and the social interaction provided by the online retailers, thus, resulting in EL. Similarly, Yuen, Wang, Wong and Zhou (2018)

concluded that sustainable customer loyalty is created through the trust, commitment and perceived value which are the defining elements of customer satisfaction.

The above mentioned literature clearly highlights the importance of ESQ in generating the EL among online buyers. The role of ES is also an important consideration to succeed in the field of e-commerce. Thus, this paper will try to find the impact of ESQ on creating the EL among Pakistani online buyers; while including ES as a mediating variable of the study. No significant research has been found in this area, considering Pakistan as novel context, which makes this research useful for the e-retailers operating in Pakistani market.

**Conceptual Model**
Following conceptual model has been derived from the above discussion of the literature. The model tries to build a relationship between ESQ and EL through ES as a mediating variable. The dimensions of ESQ include fulfillment, privacy, efficiency and system availability, whereas, the dimensions of EL include trust and commitment for this particular research.

This framework will be used to study both the direct and indirect impact of ESQ on EL. The direct impact will include the relationship of ESQ with EL without considering the ES. On other hand, an indirect relationship will be studied between ESQ and EL with a mediating role of ES. Individual dimensions of the variables will not be included in the findings for the purpose of having a core focus on the mediation analysis.

The description of the variables for this study is as follows:

Independent Variable:      ESQ

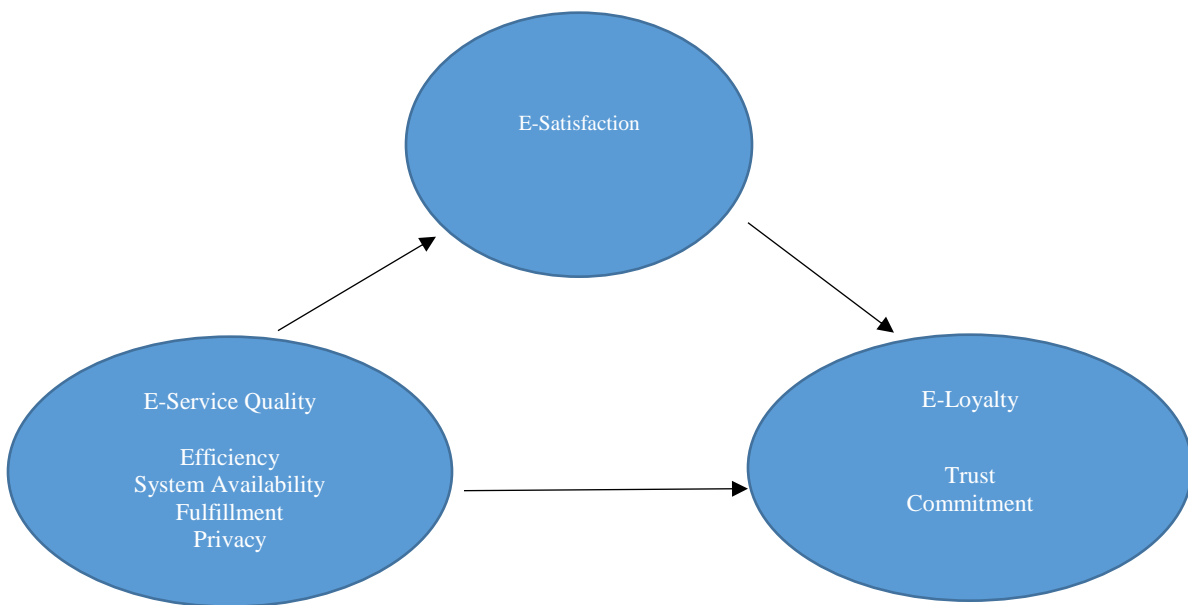Dependent Variable:        EL

Mediator:                  ES



*Figure 1: Conceptual Framework of the Study*

### III.    Methodology
This cross-sectional exploratory research adopted the deductive approach and was conducted by using the self-administered questionnaires. Quantitative approach was used to collect and analyze the data. The questionnaire to measure the EL, ES and ESQ among Pakistani online buyers was adapted from a study by Chang, Wang and Yang (2009). Furthermore, the responses were measured by using five-point likert scale ranging from Strongly Disagree (1) to

Strongly Agree (5). The respondents were randomly selected educated people who knew about online buying. The sample size was N=270. Lastly, SPSS was used as a data analysis tool to find the results of the study.

## IV.    Data Findings

Several tests were performed on the data collected from 270 respondents. The reliability of data was calculated using Cronbach Alpha test. Table 1 shows the reliability results of different variables.

Table 1: Reliability Test

| Variables | Cronbach's  (α) | No. of Items |
|---|---|---|
| E-Satisfaction (ES) | 0.968 | 8 |
| E-Loyalty (EL) | 0.968 | 10 |
| E-Service Quality (ESQ) | 1.0 | 10 |

**Hypothesis Testing:**

Pearson's Correlation was applied to check relationship among all the three variables. Table 2 shows the results of the correlation test for understanding the significance of the relationships to test the hypothesis.

Hypothesis 1:
H1: There is a significant relationship between ES and EL.
H0: There is no significant relationship between ES and EL.

According to the results shown in Table 2, there is a significant relationship between ES and EL at significance level 0.01 as the value of p is equal to 0.000. Moreover, there is a perfect relationship between ES and EL with correlation value of 1.000.

The results clearly depict that EL among online buyers cannot exist without creating the ES among such customers. The companies have to focus on how to develop such strategies that may lead to generate satisfaction among their online customers. Consequently, only satisfied customers can then be pursued to build loyalty on long-term basis.

Thus, H1 is accepted and H0 is rejected.

Hypothesis 2:
H2: There is a significant relationship between ESQ and EL.

H0: There is no significant relationship between ESQ and EL.

According to the results shown in Table 2, there is a significant relationship between ESQ and EL at significance level 0.01 as the value of p is equal to 0.000. Moreover, there is a strong relationship between ESQ and EL with a correlation value of 0.941.

These results can be interpreted by emphasizing on providing a high level of service quality to the online buyers for creating EL. The ESQ must be efficient with accurate fulfillment process, provision of system availability through proper website functionality and ensuring the privacy concerns of the online buyers. Therefore, only an efficient and effective ESQ can lead to generating EL among the customers.

Thus, we accept H2 and reject H0.

Table 2: Correlation Analysis

|  |  | ES | ESQ | EL |
|---|---|---|---|---|
| ES | Pearson Correlation | 1 | .941** | 1.000** |
|  | Sig. (2-tailed) |  | .000 | .000 |
|  | N | 270 | 270 | 270 |
| ESQ | Pearson Correlation | .941** | 1 | .941** |
|  | Sig. (2-tailed) | .000 |  | .000 |
|  | N | 270 | 270 | 270 |
| EL | Pearson Correlation | 1.000** | .941** | 1 |
|  | Sig. (2-tailed) | .000 | .000 |  |
|  | N | 270 | 270 | 270 |

**. Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 3:
H3: There is a significant relationship between ESQ and ES.

H0: There is no significant relationship between ESQ and ES.

According to the results shown in Table 2, there is a significant relationship between ESQ and ES at significance level 0.01 (p= 0.000). Moreover, there is a strong relationship between ESQ and ES with a correlation value of 0.941.

The results show that the satisfaction level of the online buyers is strongly dependent on the level of the ESQ measures. A better provision of ESQ measures such as website functionality, privacy assurance and accurate fulfillment increase the satisfaction level among the online buyers. Therefore, the companies that are involved in e-commerce activities must focus on enhancing their level of ESQ to produce more satisfaction among their customers.

Thus, we accept H3 and reject H0.

**Mediation Analysis:**
The mediation analysis was performed by applying the Hayes PROCESS in SPSS, to understand the intercession impact of ES on the relationship between ESQ and EL. The mediation hypothesis for the study is as follows:

H4: ES mediates the relationship between ESQ and EL.
H0: ES does not mediate the relationship between ESQ and EL.

Figure 2 displays the conceptual model for the mediation analysis. The model includes: **Pathway a**: ESQ predicting ES, **Pathway b**: ES predicting EL, **Pathway c**: Indirect impact of ESQ on EL (through ES) and **Pathway d**: Direct impact of ESQ on EL.

Table 3 mentions the results of the Hayes PROCESS for Pathway **a**. The results show a significant relationship between ESQ and ES with value of p equals to 0.000. The value of b=1.000 shows a direct relationship between ESQ and ES which means that higher is the level of ESQ, the more will be the ES among customers. Furthermore, the $R^2$ value suggests that 88.55% of the variation caused in ES level is attributed to the level of ESQ provided to the online buyers.
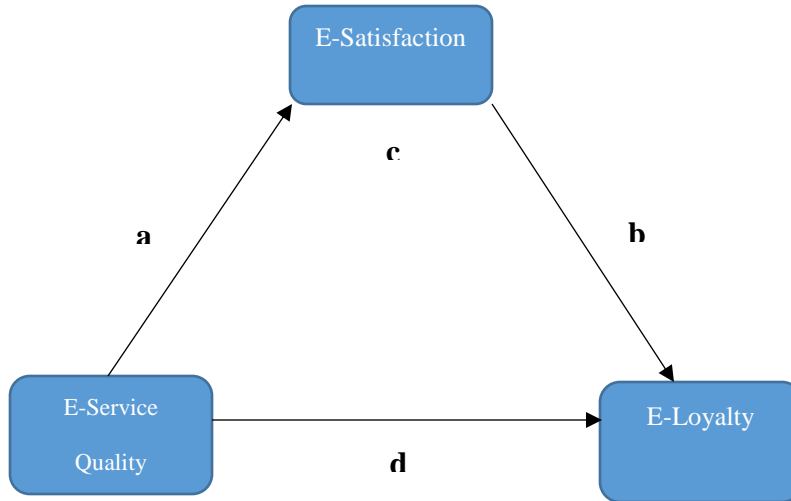
*Figure 2: A Model for Mediation Analysis*

Table 3 depicts a significant relationship between ES and EL (pathway b) with value of p equals to 0.000. The value of b=1.000 shows a positive relationship between the two variables. Moreover, the value of R square i.e. 1.000 shows a perfect relationship which may infer that EL cannot be created without making the customers satisfied for their online experiences. Thus, only ES can cause the EL among online buyers. The results of Hayes PROCESS also confirm the correlation analysis performed between these variables.

Further, Table 3 shows the results for the pathway c with an indirect impact of ESQ on EL through ES. The results show a significant relationship between ESQ and EL in the presence of ES among online buyers with a value of p=0.000. The value of R square 1.000 shows that variation in EL is totally dependent on the ES caused by the ESQ measures. Since, the results prove the mediating role of ES to determine the relationship between ESQ and EL, therefore, we accept H4 and reject H0.

However, Table 3 further confirms the acceptance of H4 by showing an insignificant impact of ESQ and EL, if ES is excluded, with a value of p=0.8800. The value of R square is equals to 0.000 which shows that no variation in EL can be attributed to ESQ without considering the ES.

Table 3: Summary Table of Mediation Analysis

|  | b | p | $R^2$ |
|---|---|---|---|
| **Pathway a** | 1.000 | 0.000 | 0.8855 |
| **Pathway b** | 1.000 | 0.000 | 1.000 |
| **Pathway c** | 1.000 | 0.000 | 1.000 |
| **Pathway d** | 0.000 | 0.880 | 0.000 |

Finally, it can be interpreted from the above mentioned results that no relationship can exist between ESQ and EL without considering ES. It means that the companies need to focus on increasing the satisfaction level of their online buyers by providing high level of ESQ measures. Consequently, the companies can enjoy the benefits of EL generated among the satisfied customers, on a long-term basis.

## V. Discussion & Conclusion

It can be concluded from the discussion of the above results that the provision of high quality service measures to the online buyers can make them satisfied with their online experience; consequently, leading to creating the loyalty among such customers. The companies need to ensure the efficiency of their online system along with

its availability as and when needed by their customers. The accuracy of the order fulfillment and addressing the privacy concerns of the customers also add to the ESQ measures.

It is important to mention that e-commerce activities are growing rapidly in the developing economies such as Pakistan. The companies operating in e-markets are facing intense competition due to the technological advancement and the increased access to the Internet by Pakistani customers. The only way to deal with this competition is to provide the customers with unique and high quality experiences that can make them satisfied over the long period of time. Continuous efforts to ensure the elevated ES level among online buyers can lead to the creation of EL. Moreover, the changing socio-demographical dimensions such as increasing female working class in Pakistani society may have a strong impact on the use of e-services in Pakistan. Understanding the environmental factors on continuous basis will enable the e-commerce sector to gain competitive advantage through sustained e-satisfaction.

Lastly, the findings of the results corroborate the discussion of the literature which enhances the significance of this study while conducted in a Pakistani e-market. The mediating role of ES to determine the relationship between ESQ and EL may have a significant implication in multiple online business sectors of Pakistan. Thus, entrepreneurs doing online business must focus on adopting progressive e-commerce strategies which would help them to engage the customers on long-term basis. In future, this relationship can also be studied by doing cross-industrial analysis for a better understanding of these variables. Moreover, variables such as word of mouth, perceived value and search cost can also be studied in Pakistani e-market to generate EL among the online buyers.

**References**

Ahmad, A., Rahman, O., & Khan, M. N. (2016). Consumer's perception of website service quality: An empirical study. *Journal of Internet Commerce*, 125 - 141.

Amin, M. (2016). Internet banking service quality and its implication on e-customer satisfaction and e-customer loyalty. *International Journal of Bank Marketing*, 280 - 306.

Casaló, L. V., Flavián, C., & Guinalíu, M. (2008). The role of satisfaction and website usability in developing customer loyalty and positive word-of-mouth in the e-banking services. *International Journal of Bank Marketing*, 399 - 417.

Chang, H. H., Wang, Y.-H., & Yang, W.-Y. (2009). The impact of e-service quality, customer satisfaction and loyalty on e-marketing: Moderating effect of perceived value. *Total Quality Management & Business Excellence*, 423 - 443.

Cheng, F.-F., Wu, C.-S., & Chen, Y.-C. (2018). Creating customer loyalty in online brand communities. *Computers in Human Behaviors*.

Chong, A. Y. (2013). Understanding mobile commerce continuance intentions: An empirical analysis of Chinese consumers. *The Journal of Computer Information Systems*, 22 - 30.

Christodoulides, G., & Michaelidou, N. (2010). Shopping motives as antecedents of e-satisfaction and e-loyalty. *Journal of Marketing Management*, 181 - 197.

Cyr, D., Kindra, G. S., & Dash, S. B. (2008). Web site design, trust, satisfaction and e-loyalty: The Indian experience. *Online Information Review*, 773 - 790.

Ergün, H. S., & Kuşcu, Z. K. (2013). Innovation orientation, market orientation and e-loyalty: Evidence from Turkish E-commerce Customers. *Procedia Social and Behavioral Sciences*, 509 - 516.

Fels, A., Falks, B., & Schmitt, R. (2017). User-driven customization and customer loyalty: a survey. *Procedia CIRP*, 410 - 415.

Fotiadis, T. (2019). Customer Participation, e-Service Quality, Satisfaction :( e) Service Dominant Logic Trinity. *Journal of Promotion Management*, 394 - 418.

Ha, J., & Jang, S. (2010). Effects of service quality and food quality: The moderating role of atmospherics in an ethnic restaurant segment. *International Journal of Hospitality Management*, 520 - 529.

Kim, J., & Lennon, S. (2017). Descriptive Content Analysis on E-service Research. *International Journal of Service Science, Management, Engineering and Technology*, 18 - 31.

Martin, S. S., & Catalan, B. L. (2013). How can a mobile vendor get satisfied customers? *Industrial Management and Data Sytems*, 156 - 170.

Pee, L., Jiang, J., & Klein, G. (2018). E-store loyalty: Longitudinal comparison of website usefulness and satisfaction. *International Journal of Market Research*, 1 - 17.

Quach, T. N., Thaichon, P., & Jebarajakirthy, C. (2016). Internet service providers' service quality and its effect on customer loyalty of different usage patterns. *Journal of Retailing and Consumer Services*, 104 - 113.

Rafiq, M., Heather, F., & Xiaoming, L. (2013). Building customer loyalty in online retailing: the role of relationship quality. *Journal of Marketing Management*, 494 - 517.

Rao, A. S., & Rao, V. G. (2013). Service quality in e-commerce and strategic advantage: An empirical assessment. *The IUP Journal of Business Strategy*, 50 - 66.

Riedl, C., Leimeister, J. M., & Krcmar, H. (2009). New service development for electronic services: A literature review. *In Proceedings of the Fifteenth Americas Conference on Information Systems (AMCIS 2009).* Atlanta, GA: Association of Information Systems.

Riel, A. V., Liljander, V., & Jurrie¨ns, P. (2001). Exploring Consumer Evaluations of E-services: A portal site. *International Journal of Service Industry Management*, 359 - 377.

Santos, J. (2003). E-service quality: A model of virtual service quality dimension. *Managing Service Quality: An International Journal*, 233 - 246.

Sharma, R., Alavi, S., & Ahuja. (2017). Generating Trust using Facebook: A study of 5 online apparel brands. *Procedia Computer Science*, 42 - 49.

Shiau, W.-L., & Luo, M. M. (2012). Factors affecting online group buying intention and satisfaction: A social exchange theory perspective. *Computers in Human Behavior*, 2431 - 2444.

Wang, Y. S., & Liao, Y. W. (2007). The conceptualization and measurement of m-commerce user satisfaction. *Computers in Human Behaviors*, 381 - 398.

Yuen, E. F., & Chan, S. S. (2010). The effect of retail service quality and product quality on customer loyalty. *Journal of Database Marketing and Customer Strategy Management*, 222 - 240.

Yuen, K. F., Wang, X., Wong, Y. D., & Zhou, Q. (2018). The effect of sustainable shipping practices on shippers' loyalty: The mediating role of perceived value, trust and transaction cost. *Logistics and Transportation Review*, 123 - 135.

Yuksel, A., & Yuksel, F. (2007). Shopping Risk Perceptions: Effects on Tourists' Emotions, Satisfaction and Expressed Loyalty Intentions. *Tourism Management*, 703 - 713.

Zhou, T., Yaobin, L., & Wang., B. (2009). The relative importance of website design quality and service quality in determining consumers' online repurchase behavior. *Information Systems Management*, 327 - 337.