The Mediating Role of E-Satisfaction on the Relationship between E-Service Quality and Customer E-Loyalty in Internet Banking

Rand H. Al-Dmour¹, Muhammed Alnafouri², Ali Al-Alwan³

ABSTRACT

This study aims at examining the impact of e-service quality on e-loyalty and the mediating role of e-satisfaction in this relationship among Jordanian customers of internet banking. A pre-designed questionnaire was distributed to 500 full-time working adults who worked in Amman by e-mail and hand. The response rate was 79.40%. The empirical findings of the study confirmed that there was a positive significant relationship between the e-service quality and e-loyalty and proved the role of e-satisfaction as a mediator in the internet banking industry. These findings may aid future researchers in understanding the inherent relationships that lie between the constructs’ question and may provide a platform for banking managers in their efforts to improve internet customer banking service.

Keywords: Electronic Service Quality (E-SQ), Electronic Satisfaction (E-Satisfaction), Electronic Loyalty (E-Loyalty).

INTRODUCTION

The provision of high quality banking services has become fundamental and essential to compete and survive in today's banking environment (Al-Ajam and Md, 2015). With the emergence and spread of electronic commerce, the adoption of modern method settlements of commercial operations has become the cornerstone of the success and development of this type of trade. In light of these developments, electronic banking services have emerged (Amin, 2016). Because of the rapid development of today's information technology, the development of e-service quality has accelerated.

It is an important issue for all service organizations because quality has become the first concern for organizations to achieve stability and development in light of global competition (Zehira et al., 2014). Many Jordanian banks have simulated these developments which offer e-banking services for their individual customers or their companies. The online banking services provided by these banks include enquiries for account balances, interest and exchange rates, applications for credit facilities or account statements, requests for credit cards, payment of bills, and transfers between accounts (Angelakopoulos and Mihiotis, 2011). To ensure customer loyalty in online transactions, businesses must focus on service quality (Ladhari, 2010). In terms of online banking context, e-service quality is the key determinant of differentiating service offering from the competitors and building competitive advantage. However, what is the e-service quality degree of e-banking in Jordan? Previous studies in Jordan have not yet answered this question. Furthermore, several researchers recognized that the approach of customers’ perception of the service quality of website-based

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settings is not quite the same as traditional services. Therefore, understanding how customers evaluate the service quality in the process of internet banking is essential. In addition, understanding the main relevant dimensions and measures of service quality in internet banking is of great importance (George and Kumar, 2014; Kaura et al., 2015; Ranaweera and Sigala, 2015; Amin, 2016).

Zeithaml, et al. (2000) developed E-SERVQUAL model to measure electronic service quality in the setting of the Internet. This model consists of seven dimensions: efficiency, system availability, fulfilment, privacy, responsiveness, compensation, and contact. High e-SQ levels have enabled companies to improve efficient relations with customers and to have more ability to attract potential customers, higher competitiveness and higher long-term profit levels (Barrutia et al., 2009). Therefore, many researchers (Janita and Miranda, 2013; Paschaloudis and Tsourela, 2014) have found that e-SQ levels have a positive effect on e-loyalty in e-banking. On the other hand, it may have a negative impact as a result of lack of e-SQ. Given the limited studies on the success of e-banking in Jordan, this study has focused on the impact of e-service quality on customers’ e-loyalty in electronic banking and raising the role of e-satisfaction as a mediating role in this relationship. A better understanding of this relationship might help the internet banking industry in setting appropriate marketing strategies, building and keeping a long-term relationship with their customers, and enhancing their competitive advantages locally and globally.

1. Theoretical Background and Literature Review

2.1 E-Service Quality

The concept of e-service quality means the extent to which the website facilitates sales and purchases and delivers the service with high effectiveness (Ziethaml, et. al, 2013). It indicates the client’s evaluation of the services provided for them through interacting with the services (Preage and Spath, 2010). Furthermore, it was defined as the comprehensive customer’s evaluation and decision regarding the quality of e-services provided in the virtual space (Loonam and O'Loughlin, 2008), in addition to being considered one of the factors of the success or failure of e-commerce (Santos, 2003). It also means an interactive service that provides organizations with the ability to distinguish their products and achieve a competitive advantage (Herington and Weaven, 2009). To measure the e-service quality, Parasuraman et al. (2005) have developed E-S-QUAL that consists of four dimensions:

1. **Efficiency**: Ease and speed of accessing and using the website.
2. **Fulfilment**: The degree to which the website fulfils its promises and service delivery on time.
3. **System Availability**: The correct technical operation of the website.
4. **Privacy**: The degree to which the website protects the clients’ personal information.

Herington and Weaven (2009) found four dimensions of e-ServQual: personal needs, site organization, user friendliness, and efficiency. All factors are rated important to determine the e-service quality. Similarly, Jayawardhena (2004) proposed three dimensions to measure e-service quality: access, web attention and credibility. He concluded that customers specified the notion that service quality of e-banking is largely determined by web elements. Ariff et al. (2013) found that the dimensions of E-S-QUAL constitutes the quality of the website in the area of e-banks, which are considered important factors affecting customer satisfaction and loyalty to the website, in addition to having an impact on the perceived quality by clients, and, in turn, on achieving a positive impact on e-loyalty. E-S-QUAL can be used to measure the quality of e-services, and is related to the customer’s perception of the quality of the e-service when they do not encounter
any problems while browsing the website (Kim and Kim, 2010).

The dimensions of E-S-QUAL have been designed to solve problems and change the negative situation resulting from customers’ dissatisfaction due to the service failure, in order to maintain those customers to the end (Sousa and Voss, 2009). E-S-QUAL is considered an important aspect of the e-service since it tackles the issues and questions that customers face while browsing the website. In spite of that, this subject received limited attention in the context of e-services, maybe because it is a new concept, or because there is a drop or lack of any human interaction. It becomes unclear whether or not the understanding of the concept from a traditional service point of view is applicable to e-services (Marimon et al., 2012). Therefore, there is a need for an effective tool to measure this aspect of the e-service. One of the most commonly used tools to achieve this objective is the E-REC-QUAL measure developed by Parasuraman et al. (2005). This measure includes three dimensions, which are:

1. **Responsiveness**: The effective interaction with issues through the website.
2. **Compensation**: The degree to which the website compensates the customers for the issues.
3. **Contact**: The available assistance through a phone number or a customer service representative.

Such failures might cost the company a lot, such as negative word of mouth (Wong, Lo and Ramayah, 2014). Therefore, service recovery gained the attention of researchers since they considered that the company does not have to perceive such failures as issues, but as an opportunity to achieve customer satisfaction. Therefore, recovery strategies have an impact on the company’s revenues and profitability (Zavareha et al., 2012). Marimona, et al., (2012) showed that solving customers’ issues has a strong impact on customer satisfaction and loyalty. In addition, the findings showed that customer’s behavioural intentions towards the company are favourable intentions when they think that the company consistently applies the policies of service recovery upon failure. Ariff et al. (2013) found that dealing well with problems strongly affects customer loyalty. In this research, two of the E-REC-QUAL dimensions will be used, which are contact and responsiveness, and the dimension of compensation will be neglected due to the lack of its use by many researchers in the area of e-banking services.

### 2.2 E- Customer Satisfaction

Satisfaction is a key factor in achieving success in the competitive market (Evanschitsky et al., 2012). Aguila-Obra et al. (2013) emphasized the importance of understanding e-satisfaction because it is considered a pivotal factor and due to being related to an important factor which is loyalty in the virtual space (e-loyalty). Satisfaction in the traditional field is defined as the client’s evaluation of his/her previous experiences and their emotional reactions regarding the experience of a certain service of product (Abdul-Muhmin, 2011). E-satisfaction is defined as the customer’s contentment regarding their previous purchasing experience with an e-commercial company (George and Kumar, 2014). In addition, the results of the client’s perceptions of the e-purchase, include factors such as information, offers, suitability, website design and financial and personal security (Bachleda and Selmouni, 2014). Therefore, e-satisfaction is an introduction to the client’s commitment, and is a result of the client’s evaluation of the products. Moreover, it is considered the main element of the repurchasing decision (Ziaullah et al, 2014). It also refers to the customer’s overall feeling regarding e-shopping and their attitude towards the website. This is affected by the efficiency of delivering the services to customers to make them feel comfortable and to achieve positive attitudes in the end. In addition, satisfaction with the website can be achieved when the features of the website exceed the client’s expectations.
Satisfied clients are inclined towards more use of the service (Sharma and Lijuan, 2014), and have a stronger purchasing intentions, plus they are more willing to recommend the product or service to their peers than dissatisfied clients (Bachleda and Selmouni, 2014).

2.3. E-Loyalty

The concept of loyalty on the internet was explained as e-loyalty. It is a relatively recent concept and was considered as a part of the loyalty concept that had been applied in traditional trade. E-loyalty has been defined as the willingness to browse and revisit the website, or conduct transactions in the future (Bougoure and Lee, 2009). Therefore, e-loyalty differs from non-electronic loyalty. Thus, the focus is on the loyalty of those customers who do trade over the internet. E-loyalty was defined as the perceived tendency to visit or reuse the website and to purchase through the website in the future (Finn, 2010). It also indicates the preferred attitudes and the client’s commitment towards e-businesses, which result from the behaviour of repurchasing and re-shopping (Flavian, Gunaliu and Guerra 2006). Oliver (1997) defined four phases of loyalty: cognitive, affective, conative and action loyalty. When these levels were applied to customers’ behaviour in the virtual space, they become indicative of the existence of a customer’s preference for the website, and his/her development of positive attitudes towards the website (affect phase). Regarding the conative phase, the customer is expected to revisit the website and find the most preferred products available on the website, but not necessarily engage in a purchasing behaviour. Finally, the highest phase of loyalty takes place in the action phase, in which the customer is ready to revisit the website and purchase products on the internet (Gefen and Straub 2000).

Oliver (1999) points out that in order to achieve the customer loyalty, the company has to meet and exceed the needs of the customer better than any known competitor. E-loyalty is considered an important concept, and it has a positive effect on the long-term profitability and on the word of mouth (Headara and Yacout, 2013). WOM refers to the advice given by a loyal customer to the customer asking for a piece of advice (Van Riel et al., 2001). Due to the low cost of switching between websites in the virtual space, represented by clicking and browsing, organizations have to understand how to achieve the e-loyalty of customers (Anderson and Srinivasan, 2003). Loyalty to the website that is represented by frequent visits can be built and enhanced by identifying and understanding service quality which in turn will increase the success of the website in the e-business environment (Chiou, 2004). Therefore, in this study, e-customer loyalty refers to a consumer’s intention to revisit the website for internet banking and to consider repurchase of a preferred product and service consistently in the future (Amin et al., 2013; Ramseook-Munhurrurun and Naidoo, 2011).

2.4 Literature Review

Barrutia et al. (2009) have found that although service quality and customer satisfaction are concepts with different structures, they are greatly connected. Basias et al. (2013) supported this suggestion through considering quality to be one of the service dimensions that are taken into consideration upon reaching the judgement of customer satisfaction. Bernardoa et al. (2013) suggested that the service quality precedes customer satisfaction. Most marketing researchers agreed on the framework that quality leads to satisfaction, which in turn affects the purchasing behaviour (Barrutia et al., 2009). Villa and Kuster (2011) revealed that e-satisfaction could be attributed mainly to the system’s efficiency and availability, in addition to the fulfilment of the website. These elements were considered by Ho and Lee (2007) to be the main motives of e-satisfaction regarding online travel purchasing. Yen and Lu (2008) also showed that the design features, information content and privacy had a
strong relationship with e-satisfaction. In addition, system availability and privacy in e-banking services had a correlation and a positive effect on e-satisfaction. However, in spite of the fact that system availability is a needed requirement for e-service quality, it can be a source of dissatisfaction when the webpages of the website malfunction (Marimona, et al., 2012).

Evanschitsky et al., (2012) found that E-REC-QUAL strategies have a positive effect on e-satisfaction. Yen and Lu (2008) maintained that the fulfilment and responsiveness were vital for satisfaction, while the dimension of contact was less important. Pizzutti, and Fernandes (2010) found that interactive aspects of e-recovery improved customer satisfaction in e-commerce in general. According to their point of view, interactive aspects include how e-companies deal with customers through a certain breakdown while there is no face-to-face communication between the company and the customers. Basically, the interactive functionalities provide information about how to deal with the breakdown. Therefore, the efforts that aim at solving problems have been considered essential to make customers feel some sort of satisfaction and fair treatment.

Many studies have showed that there was a positive relationship between e-service quality and e-loyalty. For example, Wang, et al., (2005) tested the effect of service quality on customer satisfaction and loyalty. The researchers concluded the existence of a positive correlation between service quality and customer satisfaction and loyalty. Liang and Lai (2002) also showed that the quality of the website’s design has positively affected the purchasing decision of customers. Results showed that customers having a positive evaluation of the service quality were more likely to purchase products in an electronic environment. Van Riel, et al., (2001) illustrated that due to the higher difficulty and cost of acquiring virtual customers compared to offline customers, the quality of the website is a necessary factor in attracting and maintain e-customers. Marimon, et al., (2012) concluded that the dimensions of E-SERVQUAL represented by (efficiency, privacy and system availability) had a positive effect on e-loyalty. The efficiency dimension was the most important in achieving customer satisfaction in the field of E-banking, followed by the dimensions of privacy and system availability. They also found that the dimension of (responsiveness) in E-RECQUAL had a direct positive impact on e-loyalty in the area of e-banking, while the dimension of (contact) had no direct impact on E-loyalty. Researcher maintained that the method through which the website solves problems will restore customers’ trust, while the presence of a real person did not achieve loyalty. Zehira et al. (2014) have found that the dimensions of E-SERVQUAL (efficiency, fulfilment and privacy) were prominent initiatives in maintaining the customer’s tendency to keep his promises to the websites, while emphasizing the importance of privacy during service provision.

Raitani and Vyas (2014) also pointed out that the customer’s loyalty to the bank’s website results from several factors. The quality of the website was the most important in achieving loyalty, followed by the perceived security by the customer. The bank’s website must also be well interactive, informative and continually updated with the bank’s services. The research highlighted the importance of making the client aware of the security provided by the website. The bank must also take into consideration customer feedback to improve services. Kuo and Benjamin (2013) assumed that a customer’s loyalty to a certain company on the web increases with the perception of a better service, whether directly or through excessive trust. Thus, it was concluded that: The service quality is positively correlated with affective and behavioural e-loyalty. The relationship between loyalty and satisfaction may seem trivial. Herington and Weaven (2009) made conformation of this idea: Which satisfaction affects the customer’s behaviour and service evaluation, and which
in turn affects loyalty? In addition, many researchers have studied this relationship in the e-field (e-loyalty and e-satisfaction).

For example, Anderson and Srinivasan (2003) found that the impact of satisfaction on loyalty is affected by factors such as trust and perceived value. Ltifi and Gharbi (2012) also showed that the relationship between satisfaction and loyalty in the e-field is stronger than the traditional field and costlier. According to Flavian, Gurnal and Guerra (2006) achieving e-loyalty requires that e-services meet or exceed customers’ expectations. Satisfaction is considered a mediator between service quality and satisfaction, because if there were no relationship between service and satisfaction, there would be no relationship between service and loyalty. Accordingly, Ribbink et al. (2004) found that service dimensions like ease of use and reliability affect e-loyalty through e-satisfaction. Lee and Lin (2005) also found that the e-service quality affected satisfaction, which in turn affected the customer’s purchasing intention.

Marimon, et al., (2012) showed that satisfaction has a strong correlation with the future purchasing intention. In addition to the effect of satisfaction on the purchasing behaviour, it increases the behavioural outputs on the internet such as visiting webpages, and the time spent on a webpage. Aguila-Obra et al. (2013) found that e-satisfaction positively affected the behavioural loyalty, while he did not find any effect on the attitude loyalty. Ltifi and Gharbi (2012) found a direct positive relationship between e-satisfaction and e-loyalty represented by three dimensions, which are (complaint behaviour, repurchasing intention and WOM). In spite of that, Kim and Kim (2010) considered the relationship between service quality, satisfaction and loyalty. They found that it was positive but varying according to the regions. Many researchers (Pizzutti and Fernandes, 2010; Rafiq et al., 2012) pointed out that in the context of e-services, satisfaction generates loyalty, and they found that dissatisfied customers tend to search for other alternatives through information and browsing other companies, and that they are more resistant to developing a relationship with the company.

4. Research Model and Hypotheses

The research proposed model is illustrated in Figure 1.

![Figure 1 Research's Proposed Model](image-url)
Based upon theoretical background and literature review, the following hypotheses are developed and examined in this study:

H1: E-service quality has a significant relationship with e-loyalty in the internet banking.

H2: E-service quality has a significant relationship with e-satisfaction in the internet banking.

H3: E-satisfaction has a significant relationship with e-loyalty in the internet banking.

H4: E-satisfaction mediates a relationship between e-service quality and e-loyalty in the internet banking.

5. Research Methodology

4.1 Sampling and Data Collection

The data for this research were collected through self-administered questionnaire. The questionnaire was randomly distributed to 500 full time working adults who worked in Amman by e-mail and by hand and the response rate was 79.40% (397). The sample size decisions were primarily based on cost considerations and in line with studies on consumer adoption of electronic banking (Ahanger, 2011), where the used sample sizes were between 114 to 1,167 respondents. In this survey, some variables are factual (for example, individuals' demographic characteristics such as sex, age, income and education), whereas others are perceptual (i.e., e-service quality, e-satisfaction, and e-loyalty). A five-point Likert scale was used. The questionnaire's content (constructs and measures) were mainly selected from previous studies; internet banking service quality was measured using the items from Marimon, et al., (2012); Headara et al., (2013) Amin, (2016). E-customer satisfaction was measured using four items previously used by Herington and Weaven (2009), Ramseook-Munhurrun and Naidoo (2011) and five e-loyalty measures that were selected from Amin et al. (2013), Ariff et al. (2012),Ahanger, (2011); Parasuraman et al. 2005; and Headara and Yacout, (2013) . All these selected measures were modified to the Jordanian environment context based on the results of a pilot study and feedback from five professional academic staff in this filed. Simple statistical tools like, mean, standard deviation and multiple regression analysis were applied.

4.2 Respondents’ Demographic Profile

In this study, the respondents comprised 65.0% males and 35.0% females. The majority of the respondents in this study, that is, 55%, were in the age group between 30 to 45 years old. In terms of their education levels, 76.5% of the respondents have obtained a Bachelor degree and in terms of their per capita income, about 45% of the respondents have income between 500 JD to 1500 per month. Also, the majority of respondents that participated in this survey had experience in using internet banking. In fact, 77.0% of the respondents had used internet banking on fund transfers. Most of the respondents used internet banking on fund transfers because it can be done at anytime and anywhere. The data showed that only 12% of the respondents have used the other Internet Banking functions such as submission of new accounts, application of credit cards, loan, placements of fixed deposits, and creating change and cancellation of standing orders.

4.3 Descriptive Statistics

All the items scale (e-service quality, e-satisfaction and e-loyalty) included in the study were tested for their means, standard deviations, skewness, and kurtosis. The descriptive statistics presented below in Table 1 indicate a positive disposition towards the items. While the standard deviation (SD) values ranged from 0.74571 to 1.1466, these values indicate a narrow spread around the mean. Also, the mean values of all items were greater than the midpoint (3) and ranged from 3.159 to 4.219. However, after careful assessment by using skewness and kurtosis, the data were found to be normally distributed. Indeed, skewness and kurtosis were normally distributed since most of the values were inside the adequate ranges for normality (i.e. -1.0 to +1.0) for skewness, and less than 10 for kurtosis (Byrne, 2013).
### Table (1) Mean, Standard Deviation, and Normality of Scale Items

<table>
<thead>
<tr>
<th>Construct/items</th>
<th>Mean</th>
<th>S.D</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>E-service quality</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) Efficiency</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFF. 1 The bank website makes it easy to find what I need</td>
<td>3.8942</td>
<td>.83720</td>
<td>-0.499-</td>
<td>-0.213-</td>
</tr>
<tr>
<td>EFF. 2 It is easy to get anywhere on the website of the bank</td>
<td>3.7254</td>
<td>.82430</td>
<td>-0.513-</td>
<td>0.258</td>
</tr>
<tr>
<td>EFF. 3 The bank website enables me to complete a transaction quickly</td>
<td>3.7128</td>
<td>.88086</td>
<td>-0.230-</td>
<td>-0.441-</td>
</tr>
<tr>
<td>EFF. 4 Information on the bank website is well organized</td>
<td>3.7128</td>
<td>.83373</td>
<td>-0.497-</td>
<td>-0.230-</td>
</tr>
<tr>
<td>EFF. 5 The bank website is simple to use</td>
<td>3.7909</td>
<td>.83733</td>
<td>-0.368-</td>
<td>-0.441-</td>
</tr>
<tr>
<td>EFF. 6 The bank website enables me to get on to it quickly</td>
<td>3.6952</td>
<td>.80422</td>
<td>-0.330-</td>
<td>-0.127-</td>
</tr>
<tr>
<td>EFF. 7 The bank website is well organized</td>
<td>3.7935</td>
<td>.80570</td>
<td>-0.394-</td>
<td>-0.052-</td>
</tr>
<tr>
<td>(2) System availability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYS. 1 The bank website is always available for business</td>
<td>3.6096</td>
<td>.90521</td>
<td>-0.525-</td>
<td>0.351</td>
</tr>
<tr>
<td>SYS. 2 The bank website launches and runs right away</td>
<td>3.5693</td>
<td>.84588</td>
<td>-0.282-</td>
<td>-0.037-</td>
</tr>
<tr>
<td>SYS. 3 The bank website does not crash</td>
<td>3.1662</td>
<td>.94418</td>
<td>0.061</td>
<td>-0.223-</td>
</tr>
<tr>
<td>SYS. 4 The bank website pages do not freeze after I enter my order information</td>
<td>3.5970</td>
<td>.85504</td>
<td>-0.390-</td>
<td>0.098</td>
</tr>
<tr>
<td>(3) Fulfilment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FUL. 1 The bank website delivers orders when it promise</td>
<td>3.6222</td>
<td>.88381</td>
<td>-0.066-</td>
<td>-0.629-</td>
</tr>
<tr>
<td>FUL. 2 The bank website quickly delivers what I order</td>
<td>3.6423</td>
<td>.81527</td>
<td>-0.325-</td>
<td>-0.201-</td>
</tr>
<tr>
<td>FUL. 3 The bank website is truthful about its offerings</td>
<td>3.5970</td>
<td>.96336</td>
<td>-0.141-</td>
<td>-0.715-</td>
</tr>
<tr>
<td>(4) Privacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRI. 1 The bank website doesn’t misuse customers personal Information</td>
<td>4.2191</td>
<td>.81019</td>
<td>-0.850-</td>
<td>0.472</td>
</tr>
<tr>
<td>PRI. 2 In the bank website, feel safe in internet banking transactions</td>
<td>3.8086</td>
<td>.92312</td>
<td>-0.560-</td>
<td>-0.098-</td>
</tr>
<tr>
<td>PRI. 3 The bank website does not share my personal information with others</td>
<td>4.2051</td>
<td>.78163</td>
<td>-0.820-</td>
<td>0.615</td>
</tr>
<tr>
<td>PRI. 4 The bank website protects information about my credit card</td>
<td>4.1864</td>
<td>.74571</td>
<td>-0.904-</td>
<td>1.834</td>
</tr>
<tr>
<td>PRI. 5 In the bank website, there appear symbols and messages that signal the site is secure</td>
<td>3.7330</td>
<td>.84342</td>
<td>-0.274-</td>
<td>-0.113-</td>
</tr>
<tr>
<td>(5) Responsiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RES. 1 The bank website offers a meaningful guarantee</td>
<td>3.5793</td>
<td>.89999</td>
<td>-0.239-</td>
<td>-0.231-</td>
</tr>
<tr>
<td>RES. 2 The bank website tells me what to do if my transaction is not processed</td>
<td>3.6650</td>
<td>.94072</td>
<td>-0.329-</td>
<td>-0.438-</td>
</tr>
<tr>
<td>RES. 3 The bank website takes care of problems promptly</td>
<td>3.4836</td>
<td>.86038</td>
<td>-0.272-</td>
<td>0.125</td>
</tr>
<tr>
<td>(6) Contact</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CON. 1 The bank website provides a telephone number to reach the company</td>
<td>4.2036</td>
<td>.87440</td>
<td>-1.144-</td>
<td>1.354</td>
</tr>
<tr>
<td>CON. 2 Customer service representative via the website provides assistance in case of problems</td>
<td>3.1597</td>
<td>1.00674</td>
<td>-0.053-</td>
<td>-0.331-</td>
</tr>
<tr>
<td>CON. 3 The bank website offers the ability to speak to a real person if there is a problem</td>
<td>3.1967</td>
<td>1.06691</td>
<td>-0.044-</td>
<td>-0.440-</td>
</tr>
</tbody>
</table>
Construct /items | Mean | S.D | Skewness | Kurtosis
--- | --- | --- | --- | ---
**E-Satisfaction**
SAT. 1 | 3.7179 | .8593 | -0.118 | -0.688
SAT. 2 | 3.6121 | .8794 | -0.099 | -0.693
SAT. 3 | 3.6902 | .8716 | -0.274 | -0.352
SAT. 4 | 3.6977 | .8670 | -0.238 | -0.475
**E-Loyalty**
LOY. 1 | 3.5365 | .9275 | -0.308 | -0.054
LOY. 2 | 3.4610 | 1.1466 | -0.475 | 0.461
LOY. 3 | 3.3275 | 1.0771 | 0.437 | -0.318
LOY. 4 | 3.5970 | .9448 | -0.543 | 0.220
LOY. 5 | 3.7607 | .9378 | -0.854 | 1.022

6. Data Analysis
6.1 Factor Analysis and Reliability
For the analysis, the collected data was coded into SPSS Version 20. The analysis part consists of several different statistical analyses and tests including factor analysis and multiple regression analysis. The main purpose behind the use of factor analysis techniques is to reduce the large number of variables that underlie each construct of the study (i.e., e-service quality, e-loyalty and e-satisfaction) into orthogonal indices for further regression analysis. Furthermore, by employing the principle component analysis techniques, it may be possible to explore the patterns of factors that underlie each major construct. It was considered an appropriate method to overcome the potential problems of multicollinearity among the variables that pertain to each construct.

<table>
<thead>
<tr>
<th>Factors</th>
<th>No. of items</th>
<th>No. of factors</th>
<th>Eigenvalue</th>
<th>% of Variance</th>
<th>Cronbach's alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td>7</td>
<td>1</td>
<td>63.361</td>
<td>4.435</td>
<td>.905</td>
</tr>
<tr>
<td>System Availability</td>
<td>4</td>
<td>1</td>
<td>61.839</td>
<td>2.474</td>
<td>.796</td>
</tr>
<tr>
<td>Privacy</td>
<td>5</td>
<td>1</td>
<td>48.402</td>
<td>2.420</td>
<td>.766</td>
</tr>
<tr>
<td>Fulfilment</td>
<td>3</td>
<td>1</td>
<td>69.207</td>
<td>2.076</td>
<td>.865</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>3</td>
<td>1</td>
<td>65.178</td>
<td>1.955</td>
<td>.882</td>
</tr>
<tr>
<td>Contact</td>
<td>3</td>
<td>1</td>
<td>86.600</td>
<td>1.732</td>
<td>.832</td>
</tr>
<tr>
<td>E-satisfaction</td>
<td>4</td>
<td>1</td>
<td>81.752</td>
<td>3.270</td>
<td>.870</td>
</tr>
<tr>
<td>E-loyalty</td>
<td>5</td>
<td>1</td>
<td>71.641</td>
<td>3.582</td>
<td>.901</td>
</tr>
</tbody>
</table>

A pre-analysis was conducted to examine the appropriateness of the data for factor analysis, and then the results of the factor analysis were examined using multiple criteria, including eigenvalues, interpretability and internal consistency, as recommended by Hair et al. (2010). Therefore, items determined to have eigenvalues greater than one and factor loadings less than .40 had little or no relationship with one another, hence they
were discarded (Hair et al., 2010). The results of the principle components analysis in Table 2 indicate that 8 factors can be extracted from all the constructs and reliability estimates indicated that all scale items were appropriate and valid for further statistical analysis. Finally, Cronbach’s alpha reliabilities were examined for each variable. Each coefficient greater than .60 for adapted scales and .70 for existing scales was considered a reliable indicator of the constructs under study (Hair et al., 2010). Reliability analysis was carried out for each construct. As shown above that Cronbach's Alpha coefficient value for independent variables were ranging from (0.766 to 0.905), and for e-customer satisfaction variable 0(.870), and 0(.901) for e-loyalty variable, while the total value of cronbach alpha was (0.911) which means that Cronbach's Alpha coefficient value is accepted and reliable.

5.2 Testing Hypotheses

The multiple regression analysis technique is used to examine the first three hypotheses. Table (3) summarizes the results of multiple regression analysis, with the F-ratio test, for the study hypotheses (H1, H2 and H3). The results indicate that each of these hypotheses is accepted at $\alpha \leq 0.000$. Accordingly, it may be concluded that there is a significant relationship between the e-service quality and e-loyalty, between the e-service quality and e-satisfaction, and between e-satisfaction and loyalty. This result empirically proved that e-service quality has a positive direct impact not only on the e-satisfaction but also on e-loyalty.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Multiple R</th>
<th>R. Square</th>
<th>Adjusted R Square</th>
<th>DF</th>
<th>F</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho1</td>
<td>0.762</td>
<td>0.581</td>
<td>0.580</td>
<td>1</td>
<td>546.740</td>
<td>0.00</td>
</tr>
<tr>
<td>Ho2</td>
<td>0.736</td>
<td>0.542</td>
<td>0.541</td>
<td>1</td>
<td>467.751</td>
<td>0.00</td>
</tr>
<tr>
<td>Ho3</td>
<td>0.814</td>
<td>0.663</td>
<td>0.662</td>
<td>1</td>
<td>775.980</td>
<td>0.00</td>
</tr>
</tbody>
</table>

To test the fourth hypothesis (H4), a combination of simple and multiple regression analyses was conducted as proposed by Baron and Kenny (1986). The results of the regression tests can be seen in table 4. It is worth noting that the Baron and Kenny (1986) model of mediation focuses on the unstandardized regression coefficients, therefore, the coefficients mentioned in the table below represent the unstandardized betas. In order to determine whether e-satisfaction acts as a mediator in the relationship between the e-service quality and e-loyalty, the following rule should be followed: some form of mediation is supported if the effect of the expected mediator remains significant after controlling for the independent variable. If the independent variable is no longer significant when the expected mediator is controlled, the finding supports full mediation. If the independent variable is still significant (i.e., both the independent variable and the expected mediator significantly predict the exists since e-service quality and e-satisfaction both significantly predict e-loyalty (p-values= 0.000).
Furthermore, the strength of the independent variable in predicting the dependent variable should be reduced in the presence of the mediator variable in order to support partial mediation. In this case the unstandardized beta for e-service quality was reduced from .788 to 0.316 which supports the condition for partial mediation. According to Baron and Kenny (1986), having a partial mediation model is more realistic in most social science research because a single mediator cannot be expected to completely explain the relationship between the independent variable and the dependent variable.

Although Baron and Kenny (1986) provide an appealing approach to follow in order to determine the presence or absence of a mediation effect, it is considered necessary to conduct a formal significance test of the indirect effect if the Baron and Kenny criteria have to be met (Preacher and Hayes, 2004). This is important for two reasons. First, there are shortcomings related to the Baron and Kenny method. According to Holmbeck (1997) it is possible to observe a change from a significant X → Y path to a non-significant X → Y when adding a mediator to the model with a very small change in the absolute size of the coefficient. This result may lead a researcher to erroneously conclude that a mediation effect is present (Type I error). Conversely, it is possible to observe a large change in the X → Y path when adding a mediator to the model without observing a change in statistical significance (Type II error).

This situation is likely to occur when large samples are employed as those are the conditions under which even small regression weights may remain statistically significant. Second, testing the hypothesis of no difference between the total effect (path c) and the direct effect (path c’) addresses the mediation hypothesis more directly than does the series of regression analyses recommended by Baron and Kenny (1986). In the case of simple mediation, the indirect effect of X on Y through M is measured as the result of the X → M and M → Y path (ab), which is equivalent to (c – c’) in most cases. Thus, a significance test associated with (ab) should address mediation more directly than a series of separate significance tests that do not directly involve (ab) (Preacher and Hayes, 2004). There are more statistically rigorous methods by which mediation hypotheses may be tested (Preacher and Hayes, 2004). Baron and Kenny (1986) describe a procedure developed by Sobel (1982) that assesses more directly the indirect effect of mediation. According to Preacher and Hayes, 2004 the Sobel test is considered a superior test in terms of power and intuitive appeal. The Sobel test is performed by comparing the strength of the indirect effect of X on Y to the point that null hypothesis is equal to zero. The indirect effect of X on Y in this situation is defined as the product of the X → M path (a) and the M → Y path (b), or (ab). In most situations, ab = (c - c’), where c is the simple (i.e., total) effect of X on Y, not controlling for M, and c’ is the X → Y path coefficient after the addition of M to the model. Standard errors of a and b are represented, by sa and sb, respectively. The standard error of the indirect effect (sab) is given by the following equation:

\[ \text{Standard Error of the Indirect Effect} = \sqrt{(s_a)^2 \times (b)^2 + (a)^2 \times (s_b)^2} \]
In order to conduct the test, ab is divided by $s_{ab}$ to yield a critical ratio that is compared with the critical value from the standard normal distribution appropriate for a given alpha level. One of the assumptions necessary for the Sobel test is that the sample size is large, so the critical value for the two-tailed version of the test, assuming that the sampling distribution of ab is normal and that $\alpha = 0.05$, is $\pm 1.96$ (Preacher and Hayes, 2004). Thus, it can be concluded that a more powerful strategy for testing mediation may be to require only (1) that there exists an effect to be mediated (i.e., $c \neq 0$) and (2) that the indirect effect be statistically significant in the direction predicted by the mediation hypothesis (Preacher and Hayes, 2004). To calculate the indirect effect according to Sobel (1982), the unstandardized regression coefficient obtained from regressing the mediator to predict the dependent variable (adjusting for the independent variable) ($\beta = 0.541$) should be multiplied by the unstandardized regression coefficient obtained from regressing the independent variable to predict the mediator ($\beta = 0.788$). Thus, the indirect effect of service quality on e-loyalty through e-satisfaction = $0.541*0.788 = 0.426$. In order to ensure that the indirect effect is significant, it is recommended to run Sobel test (Sobel, 1982). The Sobel test requires the computation of the raw regression coefficient (unstandardized coefficients) and the standard error for this regression coefficient for the association between the independent variable and the mediator (path a), and the association between the mediator and the dependent variable (adjusting for the independent variable, path b). The unstandardized $\beta$ for path (a) = 0.580 and the standard error = 0.022, and for path (b) unstandardized $\beta = 0.541$ and the standard error = 0.021. The data are then entered into the following program to calculate the Sobel test value (Table 5).

<table>
<thead>
<tr>
<th>Input</th>
<th>Test Statistics</th>
<th>Std. Error</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 0.580</td>
<td>Sobel test</td>
<td>15.76322406</td>
<td>0.01617102</td>
</tr>
<tr>
<td>B 0.541</td>
<td>Arolan test</td>
<td>15.95586362</td>
<td>0.01617845</td>
</tr>
<tr>
<td>Sa 0.022</td>
<td>Goodman test</td>
<td>15.9705941</td>
<td>0.01616353</td>
</tr>
<tr>
<td>Sb 0.021</td>
<td>Rest all</td>
<td>Calculate</td>
<td></td>
</tr>
</tbody>
</table>

The results revealed that hypothesis (Ho4) should be accepted since the p-value for the Sobel test (< 0.001) falls below the established alpha level of 0.05, indicating that the association between the independent variable (e-service quality) and the dependent variable (e-loyalty) is reduced significantly by the inclusion of the mediator (e-satisfaction) in the model. In other words, there is evidence of mediation.

7. Results and Discussions

This study aims to understand the relationship of e-service quality to e-loyalty in internet banking. Besides, this study tries to examine the mediating effect of e-satisfaction in this relationshipin the context of Jordanian internet banking. The results of the analysis support the hypotheses stating that e-service quality will have a direct significant positive influence on e-loyalty and e-satisfactions in internet banking. These results are consistent with the findings of prior studies reached by various scholars. For instance, Amin (2016) concluded that the relationship between e-service quality and e-loyalty is significant and positive. Significant effort has also been made to understand the relationship between e-satisfaction and e-loyalty. This study revealed that a
positive significant relationship exists between e-satisfaction and e-loyalty. Other studies proposed similar findings. For example, Liang, (2012) finds that there is a positive effect of the e-satisfaction on the e-loyalty in internet banking. Christodoulides and Michaelidou, (2011) also suggested that banks can get benefits of having the high service quality, because it has a positive effect on e-satisfaction and e-loyalty. In addition to the relationships between internet banking service quality and e-customer satisfaction, prior research suggested that internet banking service quality has a positive relationship with e-customer satisfaction (Herington and Weaven, (2009); Ho et al., (2012); Kaura et al., (2015). For example, Thaichon et al. (2014) suggests that by enhancing service quality, firms can influence customers’ satisfaction, value, trust and commitment, which are important for the firms’ long-term sustainability. Further, the results showed a significant relationship between e-service quality and e-loyalty through e-satisfaction. These results concerning the partially mediator role of e-satisfaction between e-service quality and e-loyalty is consistent with Ariff et al., (2013). That is e-satisfaction had indirect effect on e-loyalty, which means that the satisfied customers with quality of E-SQ will have a higher intention of e-loyalty. Rajaobelina et al. (2014) and Yu et al. (2015) suggest that to encourage e-customer satisfaction and e-customer loyalty, the banks should enhance the quality of e-service.

8. Managerial and Practical Implications

The present study has important implications for internet banking industry in developing countries. Banks could increase customer loyalty and satisfaction directly by improving E-SQ in internet banking. For example, if the banks' website is always available for business and launches and runs right away and do not crash, delivers orders when promised and does so quickly, the customers' e-satisfaction will increase. On the other way round, the marketing managers should pay their attention on all E-SQ dimensions, particularly efficiency and system availability. Specifically, they should make their banks' website much easier to find what their customers want, and enable them to complete their financial transactions very quick in an appropriate way, in addition to the well-functionality of the website. That will increase the customers’ e-loyalty in internet banking. This study identifies the mediating role of satisfaction between E-SQ and e-loyalty. Thus, banks should not only focus on improving the E-SQ aspects, but must also continuously measure the customers’ e-satisfaction, because the satisfied customers have higher intention to be loyal, which in turn will incite them to speak well of the website, recommend it, and remain faithful, whereas their intentions to voice complaints will decrease.

This situation leads customers to develop a psychological commitment to the site, including positive feelings and affections towards it. Banks can also perform site audits to check for accuracy and track site activity to determine frequency of customer return visits. Customer surveys can also be conducted to monitor customer expectations and other details such as whether the customer received or made a recommendation for the site. Follow-up phone calls can further be made to get more detailed feedback from customers.

However, several limitations should be considered when evaluating and generalizing the study's conclusions. The study was conducted in one country, Jordan. Although Jordan is a valid indicator of prevalent factors in the wider Middle East region and developing countries, the lack of external validity of this research means that any generalizations of the research findings should be taken with caution. Future research can be orientated in other national and cultural settings and compared with the results of this study.
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الدور الوسيطي لعامل الرضا الإلكتروني للعلاقة بين جودة الخدمات الإلكترونية وولاء العملاء الكتروني في سياق الخدمات المصرفية عبر الإنترنت

 Rand Al-Dmour, Muhammed Alnafouri, Ali Alwan

ملخص

يهدف هذا البحث إلى دراسة تأثير جودة الخدمة الإلكترونية على الولاء الإلكتروني ودور الرضا الإلكتروني كعامل وسيط في هذه العلاقة بين العملاء الأردنيين للخدمات المصرفية عبر الإنترنت. تم توزيع استبانة على 500 من البالغين العاملين بدوام كامل في مدينة عمان عن طريق البريد الإلكتروني واليد. كان معدل الاستجابة 79.40٪. أكدت النتائج التجريبية للدراسة أن هناك علاقة ذات دلالة إحصائية إيجابية بين جودة الخدمة الإلكترونية والولاء الإلكتروني وأثبتت دور الرضا الإلكتروني كعامل وسيط في تحسين هذه العلاقة في الصناعة المصرفية عبر الإنترنت. قد تساعده هذه النتائج الباحثين المستقبليين في معرفة هذه العلاقات المتصلة بين هذه العناصر الثلاثة أهميتها، وربما توفر منصة لمديري البنوك في جهودهم لتحسين الخدمات المصرفية لعملاء الإنترنت.

الكلمات الدالة: الرضا الإلكتروني، الولاء الإلكتروني، جودة الخدمة الإلكترونية.

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