

A Study and a Modified Instrument for Investigating E-Banking Quality Dimensions

Ali Ahmad Alawneh¹, Fawzi Al-Taani², Ahmad Al-Azzam³, Ramzi Al-Radaideh⁴

¹Department of MIS

Faculty of IT

Philadelphia University

Amman, Jordan

²Irbid National University

Irbid, Jordan

³Jadara University

Irbid, Jordan

⁴King Saud University

Saudia Arabia

aalawneh@philadelphia.edu.jo, {fawzitaani, radadi2008}@yahoo.com, azzamahmad6@gmail.com



ABSTRACT: As a result to the accelerated developments in Internet and information technologies, banks worldwide and in Jordan are relying on the services allowed by these technologies to ease the use of e-banking. Nowadays the use of electronic banking has prevailed the traditional banking. This paper is dedicated to propose an instrument for investigating factors that affect e-banking services quality offered by the commercial banks worldwide and in particularly in Jordan. Based upon many e-services quality scales and metrics and an extensive revision of the related literature, five e-banking quality dimensions are identified and modified to be able to apply them on national Jordanian context. These dimensions for measuring e-banking quality are: efficiency, reliability, responsiveness, privacy/security, and communication. The aim of the work presented in this paper is to allow and enhance awareness among bank managers on the importance of e-banking service quality, and assist them to publicize usage of e-banking channel in a bid to improve banks performance and effectiveness. This is achieved through assisting in formulating appropriate marketing strategies for e-banking services. The findings of this study provide useful information which is helpful for the banks providing e-banking services, how they can improve their bank's strategic position for longer period of time through satisfying customers, establishing, developing and maintaining successful and strong relationships which in turn will results in increased business performance of banks. The study discusses the importance of these findings for practitioners and for future research on e-banking service quality in Jordan and abroad.

Keywords: E-banking, Service Quality, Instrument, Measurement, Scale

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1. Introduction

By using the Internet as a communication and delivery channel by banks, customers can receive financial services and perform transactions through the web site of a bank from anywhere any time where Internet access is available. Banks can provide their services to reach far more customers without the restrictions of physically located delivery facilities, like branches or ATMs, making it easier to cross-sell products and services as well as achieving scale economies. In turn, this has enabled many banks to deliver innovative, competitive and added value financial services.

Delivery of bank's services, information, products and payments to a customer at his office or home by using electronic technologies can be termed as e-banking. The quality, range and price of these e-services decide a bank's strategic competitive position in the sector and its differentiation. Due to the fact that his sector requires more face-to-face interaction and customized service, delivering a high quality service is considered a key for success and survival. Thereby electronic retailers realized that regardless of their business type and product offerings, they are requested to deliver superior service quality over the web

Under the environment of crucial competition, in order to make customers proceed with transactions on the web site, Internet banking not only should provide traditional functions of operations but also distinguish their electronic service quality. It is known that service quality has played a critical role for policy and decision making especially in the electronic commerce applications [Tseng, 2009], and the improvement of service quality can enhance customer trust, satisfaction, commitment, loyalty, and retention [Su, and Lin 2008]. In order to adapt to the threats and take the opportunities of drastic competition, banks should realize which dimensions are determinants for evaluating electronic service quality, and then pay attention and advances the performance on these critical dimensions.

The importance of this research in quality of e-service stems from the increasing number of studies on e-service quality in different domains of e-business and e-commerce applications. As for this study on e-banking service quality, the focus has been on investigating service quality dimensions and measuring customer's perceived performance of these dimensions.

Broadly speaking, there is adequate empirical support indicating that service quality does exert a significant positive and strong effect on customer satisfaction, loyalty and commitment. However, these dimensions of service quality do seem to vary according to customers' cultural environment, behavioral intentions and demographics. Improving e-banking service quality may be the key to long-term sustainable relationships among banks and customers in the web economy, and therefore, identifying and measuring e-banking service quality has become crucial issue for sustaining that relationship.

A set of notable problems have been found in e-service quality scales where a little commonality exists among the scales developed for measuring electronic system website features. Some scales focus exclusively on the website design and interface, while others attempt to measure the aspects of purchase transactions. This study aims to understand quality of e-service systems in the context of e-banking where customers conduct intangible banking services and products that need to be created, tailored and delivered online. In this context, e-banking quality is a function of how the bank's website facilitates efficient and effective transacting, conducting and delivery of services. Therefore, measuring the quality of the e-banking services includes cues that occur before, during and after the e-banking transactions. Due to the lack of geographical or other physical restrictions associated with e-banking, attracting and retaining customers may be largely determined by the quality of the service delivered. Therefore, effective measurement of service quality can be very useful in the allocation of resources within banks.

This study has been focused on the quality of e-services in e-banking context. Without identifying the main dimensions of quality e-banking services, it is not clear whether e-banking applications would succeed or not. Thus, this study seeks to propose a theoretical scale to measure e-banking service quality by exploring e-service quality dimensions in different domains and based on a comprehensive review of the current state of knowledge regarding e-service quality in online environments. This study conceptualizes and measures service quality as perceived by customers. Additionally, it treats dimensions related to e-service quality as antecedents of e-service quality. As a result of these considerations, this paper investigates the more salient service quality dimensions for online banking; and develops an instrument that can utilized to measure e-service quality as perceived by e-banking service customers. It is anticipated that this instrument will serve as a blueprint for applications in other Internet delivered

The structure of the paper proceeds as follows: section Two is a review of the key dimensions of e-banking quality as found in the literature; in section Three, an overview of e-banking service quality; section Four provides the proposed scale dimensions for measuring e-banking service quality. The paper concludes with discussing the key findings and their conclusions, suggesting future research directions.

2. Literature Review

The measurement of e-service quality in e-commerce domain has received the bulk of the attention in the recent years.

Consequently, there has been a range of studies that had attempted to identify the key dimensions of e-service quality associated with online environment. Those studies have been conducted in various contexts, including e-service area, e-government, e-learning, e-health, online banking, online travel agency, online public library, online retailing, and online shopping. The table 1 shows the majority of e-service quality dimensions that have been used in online environment.

The authors of the present study reviewed a mass of publications about online banking quality. These publications come from European, North American, and Asian countries. As a result, a suitable conceptual research model was build to guide data collection (See figure 1). The purpose of this model is to build an appropriate conceptual framework for identifying and verifying the factors that may affect the quality of e-banking in Jordan. These factors are inter-connected and may affect each other. Based on the literature review and the theorization made in the present study, the dependent variable (i.e., e-banking

Determinants of E-Service Quality	References in Literature
Website design, <u>reliability</u> , <u>responsiveness</u> , <u>Security/privacy</u> , personalization, information, and ease of use.	Alanezi et al. (2010)
Website design, <u>communication</u> , information, customization.	Kim et al. (2009)
<u>Efficiency</u> , fulfillment, <u>privacy</u> , <u>responsiveness</u> , compensation, <u>contact</u> , information, system availability, graphic style.	Kim et al. (2006)
Ease of use, <u>efficiency</u> , <u>privacy</u> , <u>security</u> , accessibility, information, interactivity.	Obi 2009
<u>Reliability</u> , courtesy.	Shachaf et al. 2008
<u>Efficiency</u> , fulfillment, <u>privacy</u> , availability.	Sahadev and Purani 2008
<u>Responsiveness</u> , information, trust, personalization.	Nusair and Kandampully 2008
Delivery, fulfillment, <u>responsiveness</u> , <u>security</u> , <u>communication</u> , accessibility, availability, information, system integrity, customization, interactivity, personalization, functionality.	Surjadaja et al. 2003
Website appears, <u>reliability</u> , <u>responsiveness</u> , <u>security</u> , performance, features, service ability, system integrity, trust, service differentiation, customization, web store police, reputation, assurance, empathy.	Madu and Madu 2002
Ease of use, <u>privacy</u> , <u>responsiveness</u> , <u>security</u> , information, usability.	Zeithaml et al. 2002
<u>Reliability</u> , <u>efficiency</u> , fulfillment, <u>privacy</u> , compensation, <u>contact</u> .	Zeithaml 2002
<u>Reliability</u> , <u>efficiency</u> , fulfillment, <u>privacy</u> , <u>responsiveness</u> , compensation, <u>contact</u> , trust.	Zeithaml et al. 2000
Website designs, <u>communication</u> , accessibility, <u>credibility</u> , understanding, availability.	Cox and Dale (2001)
<u>Reliability</u> , ease of use, content, linkage.	Sukasame 2004
<u>Reliability</u> , ease of use, <u>efficiency</u> , <u>security</u> , <u>communication</u> , customer service, structure, content, linkage, incentive.	Santos 2003
Website designs, reliability, ease of use, <u>responsiveness</u> , <u>security</u> , <u>communication</u> , accessibility, credibility, courtesy, convenience, competence, personalization, collaboration.	Yang et al. (2003)
<u>Reliability</u> , ease of use, <u>responsiveness</u> , <u>security</u> , accessibility, credibility, information.	Yang 2001
Web site speed, content design, navigation, interactivity and <u>security</u> .	Jayawardhena and Foley(2000)
Functional based service quality of online banking.	Lassar et al. (2000)
Ease of use, Aesthetic design, <u>reliability</u> , <u>communication</u> , accessibility, credibility, information, courtesy, competence and usefulness.	Yang and Fang (2004)
System use, system design quality, information quality and playfulness.	Liu and Arnett (2000)

Content, ease of use and accuracy.	Pikkararinen et al. (2006)
Website design, fulfilment/ <u>reliability</u> , <u>privacy</u> / <u>security</u> , and customer service.	(Keating, Rugimbana, &Quazi, 2003).
Tangibles; a combined dimension of <u>responsiveness</u> , <u>reliability</u> , and assurance; and empathy.	Gefen (2002)
<u>Contact</u> , <u>responsiveness</u> , <u>reliability</u> , and tangibles.	O’Niell et al. (2001)
Ease of use, aesthetic design, processing speed, and <u>security</u> .	Yoo and Donthu (2001)
Technical adequacy, specific content, content quality, and web appearance.	Aldwani and Palvia (2002)
Usability, design, information; trust, and empathy.	Barnes and Vidgen (2002)
Web store functionality, product attribute description, ownership conditions, delivered products, customer service, and <u>security</u> .	Francis and White (2002)
Performance, access, <u>security</u> , sensation, and information.	Janda et al. (2002)
<u>Responsiveness</u> , competence, quality of information, empathy, web assistance, and call-back systems.	Li et al. (2002)
Informational Fit-to-task, interactivity, trust, <u>response</u> Time, ease of understanding, intuitive operations, visual appeal, innovativeness, flow-emotional appeal, consistent image, on- line completeness, and better than alternative channels.	Loiacono et al. (2002)
Information content, design, <u>security</u> , and <u>privacy</u> .	Ranganathan and Ganapathy (2002)
<u>Reliability</u> , access, ease of use, personalization, <u>security</u> , and credibility.	Yang and Jun (2002)
Web site design/content, trustworthiness, prompt/ <u>reliable</u> service, and <u>communication</u> .	Cai and Jun (2003)
Customer care and risk reduction benefit, information benefit, and interaction facilitation benefit.	Gounaris and Dimitriadis
Website design, fulfilment/ <u>reliability</u> , <u>security</u> / <u>privacy</u> , and customer service.	Wolfenbarger and Gilly (2003)
<u>Reliable</u> / prompt <u>responses</u> , attentiveness, ease of use, access, <u>security</u> , and credibility.	Jun et al. (2004)
Web appearance, entertainment, informational fit-to-task, transaction capability, <u>response</u> time, and trust.	Kim and Stoel (2004)
Tangibility, assurance, <u>reliability</u> , purchasing process, and <u>responsiveness</u> .	Long and McMellon (2004)
<u>Reliability</u> , <u>responsiveness</u> , competence, ease of use, <u>security</u> , and product portfolio.	Yang et al. (2004)
Web site design, <u>reliability</u> , <u>responsiveness</u> , trust, and personalization.	Lee and Lin (2005)
<u>Efficiency</u> , system availability, fulfilment, and <u>privacy</u> , <u>responsiveness</u> , compensation and <u>contact</u> .	Parasuraman et al. (2005)
Usability, usefulness of content, adequacy of information, accessibility, and interaction.	Yang et al. (2005)
Functionality/design, enjoyment, process, <u>reliability</u> , and <u>responsiveness</u> .	Bauer et al. (2006)
Process dimension: functionality, information accuracy, design, <u>privacy</u> , and ease of use. – Outcome dimensions: order accuracy, order condition, and <u>timeliness</u> ; – Recovery dimension: interactive fairness, procedural fairness, and outcome fairness.	Collier and Bienstock (2006)
Second-order factors: environment quality, delivery quality, and outcome quality first order-factors: graphic quality, clarity of layout, attractiveness of selection, information quality, ease of use, technical quality, <u>reliability</u> , functional benefit, and emotional benefit.	Fassnacht and Koese (2006)

Convenience/accuracy; accessibility/ <u>reliability</u> ; good queue management; personalization; friendly/ <u>responsive</u> customer service; targeted customer service.	Ibrahim et al. (2006)
Customer service, web design, assurance, and order management.	Cristobal et al. (2007)
Information quality, <u>security</u> , website functionality, customer relationships, and <u>responsiveness</u> .	Ho and Lee (2007)
Trust, customized <u>communication</u> , ease of use, website content and functionality, <u>reliability</u> , and speed of delivery.	Sohn and Tadisina (2008)
<u>Reliability</u> , Convenience, <u>Efficiency</u> , Comfort, Serviceability, <u>Security</u> , <u>Privacy</u> , Assurance, Reputation, Customer Service, Product Differentiation and Customization.	Zhengwei et al 2011
Service quality, banking service product quality, and online systems quality.	Jun and Cai 2001
Information quality, website usability, <u>reliability</u> , <u>responsiveness</u> , assurance and personalization.	Swaid and Wigand 2009
Core services, supplementary services and user interface.	van Riel et al. (2001)
Access, Website interface, trust, attention and <u>credibility</u> .	Chanaka Jayawardhena 2004
Tangibles, <u>reliability</u> , <u>responsiveness</u> , assurance, empathy, <u>communication</u> , fulfillment.	Long & McMellon 2004
Website design, information, trust, <u>responsiveness</u> , familiarity.	Gounaris et al 2005
<u>Responsiveness</u> , <u>security</u> , <u>efficiency</u> , cost, personalization.	Rexha 2004
Trust, ease of use, availability, <u>responsiveness</u> .	Li et al 2009.
<u>Reliability</u> , <u>responsiveness</u> , <u>security</u> , empathy, tangibles.	Nupur 2010

Table 1. E-Services Quality Dimensions in the literature

quality) was developed. All of other independent variables (i.e., dimensions) are adapted from several well known scholars. The variables used in the analysis are presented in Table 1.

3. E-banking Service Quality

E-Service quality is defined as being “*the extent to which a website facilitates efficient and effective shopping, purchasing, and delivery of products and services*” [39]. It is multidimensional in nature, insofar as it can mean different things to different people. Online service quality is important to firms as it can result in increased hit rates for websites, high levels of customer retention and stickiness.

Research has often referred to e-banking service quality as the degree to which an e-banking web site facilitates the competent delivery of efficient e-services to help customers, businesses and financial institutions in achieving their financial, commercial and banking transactions.

All of the studies in Table 1 have found the construct of e-service quality to be multidimensional, with the number of reported dimensions ranging from one Lassar et al. (2000) to 15 Madu and [51]. It is apparent that there is no consensus on the number and the nature of the dimensions of the e-service quality construct identified in previous research. It is true that some dimensions (such as ‘*reliability*’ and ‘*ease of use*’) appear consistently in the various models, which indicates that there are some common dimensions used by customers in evaluating e-service quality regardless of the type of service being delivered on the Internet (Fassnacht and Koese, 2006; Zeithaml et al., 2000).

Among the various dimensions the literature review cites in Table 1, five appear most common consistently: (1) reliability; (2) responsiveness; (3) efficiency; (4) privacy/security, and (5) communication.

The first of these, reliability/fulfilment, which is also one of the prominent dimensions in the traditional SERVQUAL instrument, refers to the performance of a promised service in an accurate and timely manner and to the delivery of intact and correct

products (or services) at times convenient to customers (Yang and Jun, 2002). In the studies reviewed here, this dimension is a significant determinant of overall service quality, satisfaction, perceived value, intention to purchase, and repurchase intentions.

The second of the dimensions that appears consistently in the studies reviewed here is responsiveness, which refers to a willingness to help users, prompt responses to customers' enquiries and problems, and the availability of alternative communication channels. In this regard, Lee and Lin (2005) report that responsiveness influences overall service quality and satisfaction.

Efficiency dimension refers to the ease and speed of accessing and using the site (Zeithaml et al. (2002), Zhilin et al. (2004), Pedro Pinheiro Cruz, (2005)). The fourth dimension, privacy/security, refers to the protection of personal and financial information (Yoo and Donthu, 2001) and the degree to which the site is perceived by consumers as being safe from intrusion (Parasuraman et.al. 2005). This dimension is relevant because of the perceived risk of financial loss and fraud in the online environment (Parasuraman et.al. 2005). Security has been identified as the most important factor in determining e-service quality for consumers of online banking services (White and Nteli, 2004). Security is the most important influence on intentions to revisit a site and make-purchases (Ranganathan and Ganapathy, 2002; Yoo and Donthu, 2001). The fifth common dimension, communications, refers to the availability of assistance through telephone number or available channels Sohn and Tadisina (2008) and Cai and Jun (2003).

However, these dimensions are not necessarily generic and exhaustive. Scales for measuring service quality have to vary depending on service industry and web site offerings. In addition, individual characteristics may influence the e-service quality dimensions considered by users. The common dimensions we report in this review could be used as a starting point for developing e-service quality measurement scales and instruments.

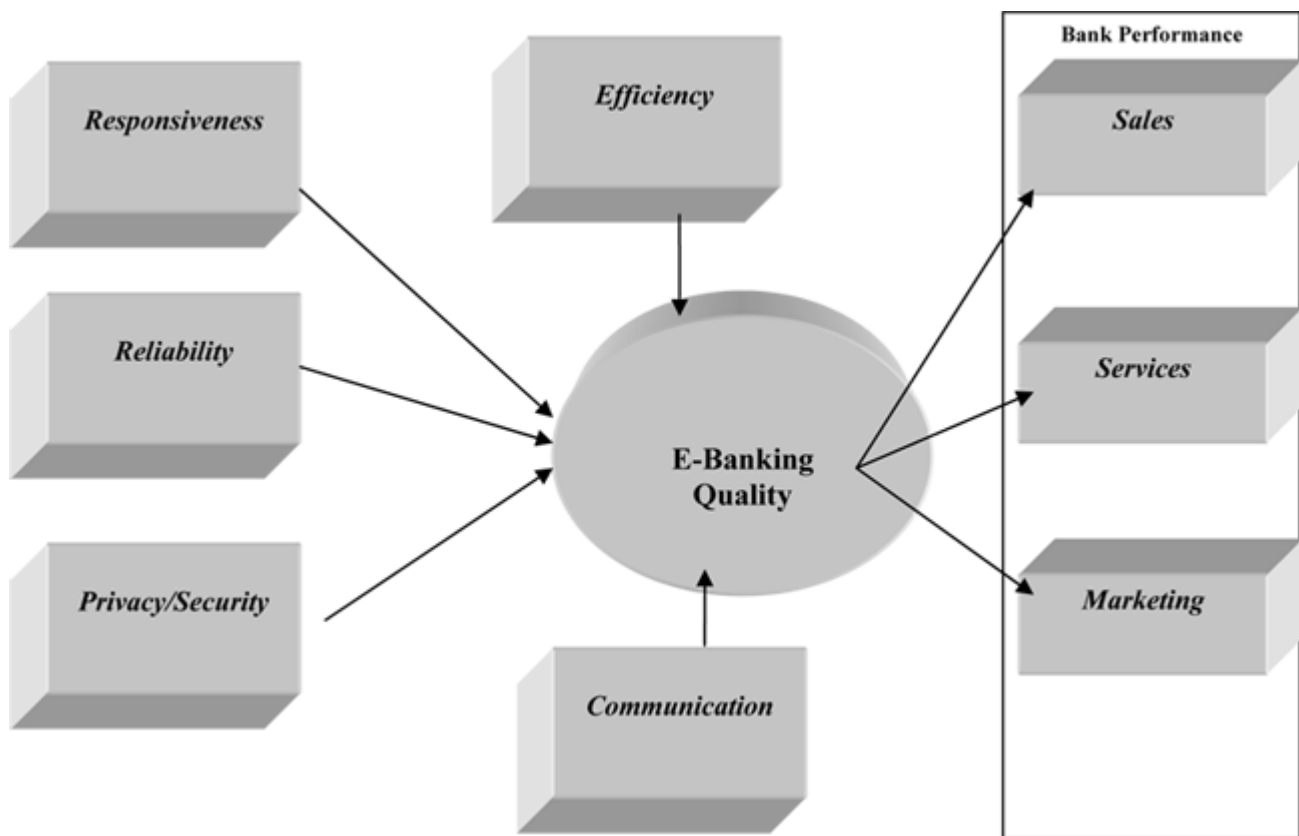


Figure 1. A Proposed Conceptual Framework for Measuring E-banking Service Quality (By Researchers)

	Definition	Instrument Measurement Items	Inclusive Dimensions from Previous Literature	References in Literature
Reliability	The degree to which a promised service provided by an e-banking web site is going to perform by the promised time, such as emailing or calling a customer by the promised time as well as providing the confidence of delivering the right products, and accurate information.	<ul style="list-style-type: none"> - The electronic banking service Characterized as easy to use.- Electronic banking service reliable and dependable. - Use of electronic banking service provides me achieve top control in completing my banking services. - I am a believer that the electronic banking service provider can deliver on his promises. - Bank offers free support to customers who deal with electronic services of the bank. - I have high confidence with the electronic banking service of the bank. - Information available on the bank website is a well-organized and easy to follow. - This site doesn't always live up to it promise. - You never know what is happening on this site. 	Fulfillment, trust, delivery, reputation, credibility, accuracy.	Kettinger and Lee (1997), Pitt et al. (1999), Zeithaml et al. (2001), Zhilin et al. (2004), Alanezi et al. (2010). Yang and Jun 2002, Shachaf et al. 2008, Madu and Madu 2002, Zeithaml 2002, Zeithaml et al. (2000), Sukasame 2004, Santos 2003, Yang 2001, Yang and Fang 2004, (Keating, Rugimbana, & Quazi, 2003, Gefen 2002, O'Niell et al. 2001, Yang and Jun 2002, Cai and Jun 2003, Wolfenbarger and Gilly (2003), Jun et al. 2004, Long and McMellon (2004), Yang et al. (2004), Lee and Lin (2005), Bauer et al. (2006), Fassnacht and Koese (2006), Ibrahim et al. (2006), Sohn and Tadisina (2008), Zhengwei et al 2011, Swaid and Wigand 2009, Long & McMellon 2004, Nupur 2010.
Efficiency	The ease and speed of accessing and using the site.	<ul style="list-style-type: none"> - Electronic banking service provides accurate information without errors. - Electronic banking service saves time and effort required to complete the service. - Electronic banking service provides feedback information about the performance of the service and operations. - Electronic banking service provides services in various languages. - Electronic banking service characterized by 	Website design, ease of use, system availability, graphic style, accessibility, availability, system integrity, functionality, website appears, performance, features, service ability, Information, content, structure, convenience, competence, web site speed, navigation, aesthetic design, usefulness, system use, system design quality, information	Zeithaml et al. (2002), Joseph et al. (1999), Zhilin et al. (2004), Pedro Pinheiro Cruz, (2005), Kim et al. (2006), Obi 2009, Sahadev and Purani 2008, Zeithaml 2002, Zeithaml et al. (2000), Santos 2003, Parasuraman et al. (2005), Zhengwei et al 2011, Rexha 2004.

		<p>consistently high accuracy and validity of transactions.</p> <ul style="list-style-type: none"> - Electronic banking service fulfills and meets my banking needs with high efficiency.- -Based on my experience and my previous practices I feel high quality with electronic banking service. - All my previous experiences were positive in dealing with the electronic banking service. - Easy access to information relating to the banking service provided by the bank. 	<p>quality, processing speed, technical adequacy, transaction capability.</p>	
Security/ Privacy	<p>The level of safety and protection of customer's personal information provided by the e-banking web site.</p>	<ul style="list-style-type: none"> - Electronic banking service does not allow misuse of personal information. - Electronic banking service do not allow others access to my personal information - Electronic banking service provides high protection for my banking transactions. - Electronic banking service is secure in the completion of banking operations. - I'm scared to give this site personal information. - Information security is a concern at this site. 	<p>Assurance.</p>	<p>Zeithaml et al. (2002), Zhilin et al. (2004), Sasdullah Khan (2007), Alanezi et al. (2010), Parasuraman et al.(1985), Madu and Madu (2002), Wolfmbarger and Gilly (2003), Alanezi et al. (2010). Yoo and Donthu 2001, Sahadev and Purani 2008, Kim et al. (2006), Obi 2009, Sahadev and Purani 2008, Surjadaja et al. 2003, Madu and Madu 2002, Zeithaml 2002, Zeithaml et al. (2000), Santos 2003, Yang et al. 2003, Yang 2001, Jayawardhena and Foley 2000, (Keating, Rugimbana, &Quazi, 2003, Francis and White (2002), Janda et al. 2002, Ranganathan and Ganapathy (2002), Yang and Jun 2002, Wolfinbarger and Gilly (2003), Jun et al. 2004, Yang et al. (2004), Parasuraman et al. (2005), Collier and Bienstock (2006), Ho and Lee (2007), Zhengwei et al 2011, Rexha 2004, Nupur 2010.</p>

<p>Responsive-ness</p>	<p>The degree to which services provided by the e-banking web site is helpful, Effective handling of problems and returns to customers and there is no delay in responding to citizens.</p>	<ul style="list-style-type: none"> - Electronic banking service is available 24 hours a day. - Electronic banking service meets all my needs. - Electronic banking service Always available in the time that I need. - Electronic Service meets a rapid response to the service request. - Use of electronic banking service does not require a lot of effort. - Electronic banking service can not be relied upon. - Electronic banking service Providing confirmation of orders. - Availability of help if there is a problem. - Electronic banking service Provid answers to your questions. - Bank treated promptly with any problems I face in completing the electronic banking. 	<p>Personalization, customization, compensation, courtesy, service differentiation, empathy, understanding, customer service, incentive, playfulness, prompt response, attentiveness, timeliness, customer relationships, attention,</p>	<p>(Pikkarainen et al 2004), (Karunasena and Deng, 2012), (Tung and Rieck, 2005), (Chang and Chen, 2008), (Kang and Lee, 2010), (Yoon, 2010), (Lee and Chung, 2009), (Lee et al. 2009). Alanezi et al. (2010). Lee and lin 2005, Kim et al. (2006), Kandampully 2008, Surjadaja et al. 2003, Madu and Madu 2002, Zeithaml et al. (2002), Zeithaml et al. (2000), Yang et al. 2003, Yang 2001, Gefen 2002, O’Niell et al. 2001, Li et al. 2002, Loiacono et al. 2002, Jun et al. 2004, Kim and Stoel (2004), Long and McMellon (2004), Yang et al. (2004), Lee and Lin (2005), Parasuraman et al. (2005), Bauer et al. (2006), Collier and Bienstock (2006), Ibrahim et al. (2006), Ho and Lee (2007), Swaid and Wigand 2009, Long & McMellon 2004, Gounaris et al 2005, Rexha 2004, Li et al 2009, Nupur 2010.</p>
<p>Communica-tion</p>	<p>The availability of assistance through keeping customers in contact with the e-banking website through various means and methods of communication such as telephone number, e-mail, SMS, WAP, social networking and newsletters telephone number or available channels.</p>	<ul style="list-style-type: none"> - Bank deals gently with customer complaints about electronic service through various means. - It’s easy access to the bank through electronic banking services.- My bank’s web site provides a telephone number to reach the bank. - My bank’s web site offers the ability to speak to a live person if there is a problem. 	<p>Contact, interactivity, linkage, collaboration.</p>	<p>Kim et al. (2009), Kim et al. (2006), Surjadaja et al. 2003, Zeithaml 2002, Zeithaml et al. (2000), Cox and Dale 2001, Santos 2003, Yang et al. 2003, Yang and Fang 2004, O’Niell et al. 2001, Cai and Jun 2003, Parasuraman et al. (2005), Sohn and Tadisina (2008), Long & McMellon 2004.</p>

Table 2. A proposed scale dimensions in the current study

4. A Proposed Scale Dimensions for Measuring E-banking Service Quality

After a rigorous survey of a literature relevant to e-service quality, and based on the previous research on e-service quality, the following table (Table 2) illustrates the most common dimensions of e-service quality dimensions, measurement items, definitions of dimension, inclusive dimensions from literature and the references in literature. The items of the proposed scale dimensions for measuring e-banking service quality have been investigated from relevant previous research and modified to consider e-banking service quality context. The dimensions and items included in the proposed scale have been used and validated extensively in most measures of e-service quality research in e-commerce contexts (See Table 1). Figure 1 depicts the casual relationships among the five dimensions and the e-banking quality construct. It also outlines the expected effect of attaining e-banking service quality on bank performance in terms of enhancing sales, services and marketing.

5. Conclusions and Future Works

The purpose of this study is to propose an appropriate measurement instrument for measuring e-service quality dimensions in e-banking context. An extensive literature review of relevant research works in this area has been conducted to determine the most common dimensions that have been used in measuring e-service quality. The proposed scale is based on revising the literature and modifying the E-S-QUAL and E-RecS-QUAL scale. There are five dimensions and 38 items in this proposed instrument. The five dimensions in this instrument are: efficiency, reliability, responsiveness, security/ privacy, and communication. These dimensions have been used in the scale since they are the most commonly used, and the most inclusive of other dimensions used in previous literature. These dimensions have been used in the instrument since they are important for ensuring customers' satisfaction, trust, commitment and loyalty.

A high quality e-banking service is the determinant factor toward the success of Banking and financial organizations. By understanding the attributes of quality e-banking services that enhance customers' satisfaction, banking service managers and financial organizations can avoid investing valuable resources in offering e-service quality characteristics that may not work effectively and efficiently. The proposed instrument will allow the financial organizations to understand which aspect in e-banking services that should be emphasized.

As a continuation of this work, the proposed scale will be validated and a model will be developed to examine the relationship between the scale dimensions, customer's trust, satisfaction, loyalty and commitment in Jordanian banking sector. it is critical to confirm empirically the proposed e-service quality instrument for online banking in Jordan through explore and evaluate Jordanian customers' perceptions of e-banking and to investigate the dimensions of e-banking services from a user-based perspective, which is deemed essential for superior e-service delivery; and determine the relative importance of each identified service quality dimensions in producing overall online banking service quality in Jordan. Further study should empirically explore the interrelationships among the five dimensions themselves.

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Author Biography

Dr. Ali Alawneh is an assistant professor and head of the Management Information Systems department at Philadelphia University, Jordan. He got his PhD from Arab Academy for Banking and Financial Sciences, 2008. His PhD involved a study in e-business in which he investigated e-business value creation at Jordanian Banking Sector through developing a model named e-TOEECLN. His research interests include technology diffusion, e-business models and management, e-commerce, e-banking, e-learning and knowledge management. Dr. Alawneh has more than 20 publications in Conferences and Journals in the above research areas. He is a member of the technical, steering, organizing committees and Editorial board of many conferences and journals worldwide.