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Mediating Effect of Electronic Banking Application on the Relationship Between Electronic Islamic Banking Services' Quality and Customers Satisfaction in Jordan

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Abstract

Advances in wireless communication technology has created high competition amongst the service industries that need to keep attracting new customers. Jordan's Islamic banks operate in accordance with Islamic Sharia laws because Jordan is an Islamic nation, However, they also attract big numbers of customers from traditional banks who regard them as viable financial institutions. In past studies, it has been proved the impact of traditional or electronic service quality on commercial or Islamic banks on side customer satisfaction in other side, since in Jordan there is no Jordanian studies examined the relationship between electronic Islamic banking service quality and customer satisfaction with mediating variable electronic banking application, so there is a research gap in this area as to date no research has examined that specific relationship in the Islamic banks of Jordan as background. The study purpose is to suggest a model that will be the first study testing this relationship. The main objective of this study to examine the factors that affect the satisfaction of customers to their banks through the mediation of electronic banking application. This study will apply a quantitative research methodology, which includes a numerical measurement and analysis of the factors which influence acceptance. In this study, a survey questionnaire which will involve 498 respondents will be adopted to aggregate the results. The investigation seeks to construct a model of six independent variables which are Ease of use, Reliability, Responsiveness, Assurance, Interface design, Privacy, the mediating variable (electronic banking application) and the dependent variable (customer satisfaction). The study found that Electronic Banking Application directly impacted customer satisfaction and that this effect is statistically significant. The study also showed that there are indirect effects

for most of the mentioned variables on customer satisfaction to the bank, mediated by Electronic Banking Application and that these effects are statistically significant. It establishes that only assurance has not indirectly significantly impacted customer satisfaction through the mediation of Electronic Banking Application. In addition, it was found that only Responsiveness and Assurance have not directly significantly influenced customer satisfaction. The study highlights the importance of the degree of electronic banking application on the degree of customer satisfaction as it showed that there is another effect for all the factors through the mediation of electronic banking application, although not all of them are statistically significant. In fact, the inclusion of electronic banking application as a mediator is a new development and achievement in the study of customer satisfaction, especially in the Jordanian context and specifically in Islamic banks. It is recommended to comparative studies between Islamic and commercial banking sectors and outside Jordan with other countries to measure this impact. Promoting the Jordanian Islamic banking sector towards further progress using electronic technology and facilitating the customer's dealings with the bank. It is also strongly recommended that future studies be carried out in various sectors such as hotels, electronic purchases over internet and many more. According to the Corona virus epidemic, the research directs banks to adopt electronic dealings in their banking services at the coming stages due to the social distancing, safety, privacy and speed of performance without any congestion and gatherings that may negatively affect the health of customers.

Keywords: Electronic banking services quality, Ease of use, Reliability, Responsiveness, Assurance, Interface design, Privacy, Customer satisfaction, Electronic banking application.

1. Introduction

Since Jordan is an Islamic country, the country practices Islamic banking as an obligation. The population of reference are the Islamic banks' customers. In marketing, customer satisfaction is a key concept and indicates whether the goods and services provided live up to customer expectations. It holds the key to business success and sustainability. Failure to meet customer's expectations or needs will adversely affect business profitability and make the business organization unpopular or unsustainable in the long run (Hassan, Chachi, & Latiff, 2008).

Notably, the concept of service quality has attracted much attention in marketing practice. Like any other business enterprise, banks too face stiff competition from their counterparts and a key feature that separates them from the rest is the quality of service they provide. Due to strong and open competition, customers now have an array of service providers and banks to choose from. Customers, therefore, are the banks' most vital assets. Understanding and adjusting to the requirements of their customers is critical for banks in formulating strategies for their goods and services. Providing the required services and focusing on the customer will have a behavioural impact in that it will affect customer satisfaction.

Advances in wireless communication technology has created high competition amongst the service industries that need to be bringing new customers. Consequently, these industries have to develop aggressive technology-based marketing strategies and

innovate new services so as to attract new customers whilst maintaining old ones. Such services include internet banking which are advantageous because they are cheaper and faster than the traditional branch transactions. (Zhu, Wymer, & Chen, 2002). Such developments make it imperative for researchers and practitioners to fully understand the effects of technology on banking services in terms of business efficiency, lowering costs, customer satisfaction (Siith, Deshmokh, & Vrate, 2005). The link between customer satisfaction and traditional service quality was previously documented (Parsuraman, Zeithaaml, & Berry, 2004), but relatively few research has tested the impact of electronic service quality on customer satisfaction and behavioural intentions in banking (Ramseok & Naid, 2011).

2. Problem Statement

The productivity and benefits of electronic banking are numerous. Firstly, it offers banks the opportunity to provide customers with channels for convenient banking at any time without incurring the cost and time of going to a bank branch. Second, it also eliminates physical and geographical boundaries, therefore allowing access to a wider customer base and the opportunity to attract more customers. With growing competition and increasing focus on the effects of technology on quality and customer satisfaction, it is imperative for banks to enhance service quality, customer satisfaction, confidence and trust in the bank's capabilities in providing secure systems through these means. Additionally, banks need to formulate good, promotional strategies incorporating the mentioned factors so that customers will take up electronic banking. Rising effectively to these technological challenges requires banks to redefine the value of the services they offer and to build their competitive advantage.

Some of the identified factors that affect customer's acceptance of electronic banking include ease of use, reliability, responsiveness, assurance, interface design and privacy. Any improvement in the understanding of these factors and what customers desire in electronic banking services must surely result in service providers who are able to serve their customers better and in so doing, increase profitability, satisfaction.

Due to the increasing interest and demand in electronic business, banks too face stiff competition and therefore, are keen to better understand and provide an excellent electronic service. The Islamic banks in Jordan have revealed a keen interest to gain insight into all aspects of electronic service quality in determining which of these elements is the primary focus of their satisfied customers.

Islamic banking has been widely promoted by the Jordanian government and embraced by its people. The development of technology-based banking has further brought this industry into another dimension. Therefore, management needs to better understand this trend especially in current times when banking relies heavily on information and communications technology. These advancements have forced banks into deploying technology to serve customers and satisfy their needs. In short, banks cannot ignore technology due to its pivotal role in enhancing efficiency that consequently leads to improved service quality and competitive advantage. The overall enhanced image of the bank then leads indirectly to higher customer acceptance and satisfaction.

A study by (Robinson, 2000) suggests that internet banking services enable banks to further improve customer relationships. Similarly, (Easingwood & Storey, 1993) highlights the rising significance of internet banking, and the bank-corporate customer relationship as being the key contributor to the success of electronic businesses. Popular

electronic transactions include electronic banking payments such as paying for utilities via the ATM, conducting online banking, or transactions via SMS, from offices/ residences or from foreign locations at any time.

As customers become more sophisticated, are more financially literate and become increasingly comfortable with information technologies, they also expect high standards of convenience in all areas of social life including the banking sector. They are also increasingly technology savvy and demand for more sophisticated products. Moreover, due to the pervasive spread of internet banking, it is even more difficult for banks to retain customers because they can easily switch to other banks that offer additional services. Customers have many choices and if a bank fails to deliver in terms of service or meet specific needs, they may defect to the bank's business rivals. Thus, banks face competitive pressure in the electronic services sector. In sum, customers want more control, besides expecting better, faster service; and this presents a practical issue for banks as understanding and satisfying such customer needs are key success factors in internet banking.

A bank's relationship with its customers can be a key success factor in creating competitive advantage (Arokiasamy, 2013) and (Larsson & Viitaoja, 2017) as to retain existing customers is less costly than creating new ones (Alsheikh, Abd Halim, Ayassrah, Alnawafleh, & A Tambi, 2018). As customers become increasingly aware of their rights and growing demands within the financial sector, it has become vital for banks to create satisfaction amongst customers (Arokiasamy, 2013) Satisfied customers often create satisfaction, generate positive word-of-mouth and these customers are often less price sensitive. (Kumar & Gangal, 2011) and (Arokiasamy, 2013) argue that dissatisfaction is one main reasons for switching banks. The employees interacting with the bank customers are in the position to increase or decrease customer satisfaction, therefore it is crucial that such employees display awareness of customer needs and can quickly respond to such needs (Hansemark & Albinsson, 2004).

Customer satisfaction can be achieved through meeting customer demands (Kumar & Gangal, 2011) and (Arokiasamy, 2013) needs, which will result in long relationships and repurchasing behaviour (Arokiasamy, 2013). According to (Arokiasamy, 2013) and (Kheng, Mahamad, Ramayah, & Mosahab, 2010) satisfaction is created by continuous encounters through a period of time and when the service exceeds customers' expectations.

In studying patterns of customer satisfaction with quality services in Islamic banks, it was found that respondents from Pakistan, UK, and UAE are satisfied. The CARTER (Islamic SERVQUAL) model serves as a good model for measuring service quality and improving it, if gaps exist. This research can be extended further by expanding the sample size to cover major cities in other countries, besides looking at the demographic factors that influence the results (Tenenhaus, Vinzi, Chatelin, & Lauro, PLS path modeling, 2005).

Specifically, by examining the demographic factors of the respondents and how they may influence results, may point to future directions for development. For example, this kind of study may provide pointers about the type of customers that are more sensitive to electronic banking service satisfaction. Current account holders should be encouraged to use electronic banking as the frequency of transactions in these accounts can increase revenue. The range of services can be expanded, and other electronic banking service channels can be for example in performing cash and cheque deposits and encouraging

customers to use POS just as they use the ATM. Expanding electronic banking services also demands banks to mitigate the challenges involved (Worku, Tilahun, & Tafa, 2016).

Also (Alkayed, 2014), (Al-Azzam, 2015) and (Al-riyadi, 2016) agreed with the results.

The following discusses different units of analysis in customer banking research: A study involving a sample of university students showed their preference for mobile devices that are compatible with other dimensions such as ease of use and entertainment. (Ozer, Argan, & Argan, 2013).

Facilitating access to bank websites and services was determined as a crucial factor in improving the banks' competitive advantage. Speed in performing transactions can be improved by providing a multimedia directory as many are unsure as to how to use the services. (the sample was on users of the post). (Tuwayer & Al-Hawari, 2012). Similar results were found on a sample of tourist restaurants. (Abu Alroub, Alsaleem, & Daoud, 2012).

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The researcher supposed the problem in some points as follows:

1) The research gap on the impact of the Electronic Banking Services' Quality on the customers of Jordanian Islamic banks or in a developing country is regarded as serious.
2) There is high business rivalry amongst banks that seek to develop their e-banking offerings and provide acceptable electronic services quality. Moreover, Jordanian Islamic banks are interested in learning from studies that investigate issues of quality and how electronic banking quality impacts customer satisfaction.
3) Management are creating strategies for excellence and overcoming industry competitors to enhance customer satisfaction, and trust in the ability to provide high privacy levels in meeting customer needs and persuading them to use electronic banking application.

The research (Michal, Bredy, & Cron, 2001) from Pakistan talked about Islamic banks using same idea and the result came as: It was proven that two dimensions of Service Quality- Tangibles, Assurance are associated with Customer satisfaction while Empathy and Assurance is positively associated with customer satisfaction. Customer satisfaction plays a mediating role between customer satisfaction and service quality. And he recommended to how to improve other service quality dimensions is required for as service quality improves, this leads to the customer satisfaction. And customer satisfaction will lead to customer satisfaction. So, it is crucial that Islamic banks focus on how to improve Service quality. It is therefore necessary to include these considerations

in the banks' strategies. Otherwise, banks will lose customers due to stiff competition and the emergence of new product offerings from other institutions.

3. Reserch Questions

Leaning on the study background and the problem statement, the present study intends to find answers to the main question as follows:

1) "What is the effect of Ease of use, Reliability, Responsiveness, Assurance, Interface design and Privacy on the customer satisfaction?"
2) "What is the effect of electronic banking application on the customer satisfaction?"
3) "What is the effect of electronic banking application role as mediating variable between Ease of use, Reliability, Responsiveness, Assurance, Interface design and Privacy on the customer satisfaction?"

4. Reserch Objectives

Besides answering the research questions, the aims of this study are:

1. To identify the effect of Ease of use, Reliability, Responsiveness, Interface design, Assurance and Privacy on the customer satisfaction.
2. To identify the effect of electronic banking application on the customer satisfaction.
3. To identify the effect of electronic banking application role as mediating variable between Ease of use, Reliability, Responsiveness, Interface design, Assurance and Privacy on the customer satisfaction.

5. Literature Review

5.1. Banking Service Quality

Emerging studies show that service quality involves the discrepancy in customer expectations and actual experience. In banks, the services provided must include elements of reliability, reputation, and security.

While banking services and procedures between different banks do not differ much, banking service quality includes customer service, speed, privacy, and secrecy.

Some researchers have clarified in this field that quality in the services sector, especially institutions. The bank is based on three dimensions, which are physical quality: relates to the environment surrounding service delivery; Organization quality (bank): It relates to the image of the bank and the general impression on it by customers; Interactive quality: the level of relevance. As some researchers believe that the quality of service is represented in two aspects, quality of operations: in which the customer is judged during the provision of the service; The quality of the outputs: in which the customer is judged after the actual performance of the service.

5.2. Dimensions (Standards) of Quality of Service

Researchers initially investigated the determinants of service quality and the way customers assessed it in the mid-1980s (Gronros, 2000) and (Parsuraman, A; Zeithuml, V; Bery, L, 1985). As a result, its dimensions were determined in the SERVQUAL instrument used to evaluate service quality (Gronros, 2000). The dimensions are:(Tangibles, Reliability, Responsiveness, Competence, Access, Courtesy, Communication, Credibility, Security, Understanding/Knowing the customer).

The five final quality dimensions, reduced from the initial ten dimensions in 1988, are described as (tangibles, reliability, responsiveness, assurance and empathy).

Efforts made by researchers in the past in the field of quality have focused on the quality of goods, tangible without services focusing on quality in all areas, especially, but the prevailing philosophy in the field of services is in view of its importance.

The degree of satisfaction with the quality of service is by comparing what customers expected to have, and (Kotler) in the same field indicates that, and what they get after benefiting from the services, the customer when he gets what he expected to get, he will be satisfied If he did not get What he expected, If he does not get what he expected, he will be dissatisfied, and if he gets more than he expected, and this is of course related to quality.

The quality of service depends on: (reliability and drawing, through identifying and overcoming it, materialism) and working to address gaps and collecting, and studies, through conducting research, strategies to address the quality of service gap. And encourage front-line workers in banks, information about what the customer wants to obtain The bank's successful management must strive to provide the requirements to implement the dimensions of service quality when pushing them to work to bridge the gap from, and to motivate workers, provide banking services and understand the problems they face and get to know, and respond quickly to guests 'requests, during good performance and fulfill the promises made And offer all the appropriate concessions to them, to the objections) and growth and achieving a profit rate that guarantees its survival, market share and continuity in the market. The importance of competitiveness in the quality of service is its ability to achieve three basic needs and their coverage. Creating value that is able to meet customer needs and preserve them and improve the bank's reputation, maintaining a share of the bank's share in the market that would achieve high profitability and ensure that it would stay and continue achieving the bank's strategic distinction from competitors in the services provided by it to customers.

Of late, (Al-khawaja & Bardai, 2018) included the Islamic commitment dimension to the list of traditional Standard Quality Banking Services, as required for Islamic banks, so that high customer perceptions of quality services can be achieved.

5.3. Electronic Services

Electronic services are the provision of services over the Internet. While the internet opens up a world of opportunities to the business owner, providing electronic services also has it inherent challenges. Firstly, the delivery setting is new and is devoid of any direct human contact, with the company website as the only point of contact.

Competition in the field of trade and banking was accompanied by many changes in the types of services, and the traditional system was not the result of the current competitive environment that requires the use of new banking technologies excluded from keeping pace with modern concepts, where Arab banks began to reconsider their traditional business as a result of new economic, social and financial changes on the local and international arenas, and studies confirm that many banks use the Internet to Providing services to its customers and giving them the ability to choose between alternatives, and customers have become using the Internet to conduct their banking transactions as one of their preferred means that electronic banking services or as it is known , services, and that technological development allowed banks not only to provide services based on them a new branch of value-added services available Only via the Internet, but also commerce, the bank via the Internet. Bills are like electricity and other

than the home, and it is obligatory to pay the necessity because the electronic banking is defined as: "conducting banking operations by electronic means, that is S. Using new information and communication technology, whether it is related to traditional or new banking and in order to transfer to the bank if he can do the activities that he wants from this pattern, the customer will not have to bank him from anywhere and at any time, or it is that banks provide services Banking, innovative, or what is known through electronic communication networks.

(Iwaarden, Wiele, Ball, & Millen, 2003). Subsequently, websites determine how service is delivered and customers' evaluations are based on these interactions. Specifically, the websites determine the quality of services offered and whether the electronic interactions are successful. This makes it vital for companies to consider the website design and its navigability as customers may well be discouraged and give up on websites that cannot be easily accessed or has weak connectivity. Furthermore, the website content also influences online evaluations (Grönroos C. , 2000).

The following lists the goals of the electronic algorithm (Al-Hadad, Shoqair, Mahmod, & Al-Zarqn, 2012):

1) Provides the means for enhancing the banks' market share.
2) Expands bank activities in domestically and internationally.
3) Cost reducing strategy.
4) Provides information about the bank's services.
5) Accessibility of banking and non-banking services any time anywhere.

5.4. Electronic Service Quality (E-SQ)

Electronic service quality is seen as the customer's assessment of electronic service delivery in the virtual marketplace (Santus, 2003). Established business organizations that successfully offer these services also stress the importance of electronic service quality as a success factor, besides website presence and competitive pricing (Yeng, 2001) and (Zithaml, 2002). (Santus, 2003) posits that the implications of internet-based services are that customers are able to access and compare different service offerings compared to traditional channels. They also assume that online services to offer equal if not higher levels of service quality (Santus, 2003). Despite interest in delivering high quality electronic services, the challenge for companies lies in defining quality, identifying its determinants and how it can be measured. To date, much research has focused on the methods used to measure quality in conventional services (Cowleng & Newmen, 1995); (Johnstn, 1995); (Bahie & Nantal, 2000); and (Oppewl & Vrins, 2000). However, empirical studies on the quality of e-services are still lacking (Cox & Dale, 2001). Two approaches were highlighted in examining electronic services quality. The first is based on current service quality theory (Grönroos C. , 2000) and (Zeithaml, A; Berry, L; Parasuraman, A, 2000). The second, based on more recent empirical research, identifies other, newer types of electronic services (Szymanske & Hese, 2000). For example, (Van Ril, Lejander, & Jurrien, 2001) observes that the SERVQUAL instrument has been tested in web-based services such as internet shopping and e-banking, questions remain about the instrument's suitability for measuring quality online services. For example, (Parasuraman, A; Grewal, D, 2000) suggest that research needs to examine if the five service quality dimensions are applicable to a technology-enabled environment instead of service personnel". The need to reassess and refine the instrument stems from the view that SERVQUAL was originally developed for traditional services involving personal employee-customer interactions. (Zeithml, Perry, & Barasuraman, 2000)suggest

the addition of newer dimensions so as to capture the full construct of electronic service. (Yeng, 2001) proposed seven other dimensions which are agree with the SERVQUAL scale, including reliability, responsiveness, access, ease of use, attentiveness, credibility and security.

The E-SQ Instrument was specifically developed in 2000 to measure online services (electronic services) quality. It was put to test and refined in 2002 by Parasuraman, Zeithaml and Malhotra who explored the quality perceptions of online shoppers. The E-SQ was developed in three stages, with a qualitative study involving six focus groups conducted at the first stage. (Zeithaml V. A., 2002).

At this stage, eleven dimensions for measuring electronic service quality were uncovered, as described: (Reliability, Responsiveness, Access, Flexibility, Ease of Navigation (use), Efficiency, Assurance/Trust, Security/Privacy, Price Knowledge, Site Aesthetics, Customization/Personalization).

The model above resembles the SERVQUAL instrument (Parasuraman, A; Berry, L; Zeithaml, V, 1991) with additional dimensions specific to online sites. Reliability, responsiveness, access, assurance and customization/personalization represent the main quality dimensions of the SERVQUAL instrument for traditional service settings, as they share similar perceptual attributes found in the quality assessments of conventional services. Besides, the access and reliability dimensions have certain attributes linked to online-specific issues (Zeithaml V. A., 2002).

Second, ease of navigation, flexibility, efficiency, site aesthetics and price knowledge dimensions of perceived E-SQ are new and most are technology related (Zeithaml V. A., 2002). Ease of navigation, efficiency and site aesthetics are shown to be key dimensions in assessing internet network quality in particular (Santos, 2003), (Doll & Torkzadeh, 1988), (Abels, White, & Hahn, 1999), (Jayawardhena & Foley, Changes in the banking sector – the case of Internet banking in the UK, 2000) and (Liu & Arnett, 2000). The Price knowledge dimension, however is not linked to technology and is specific to online shopping as suggested by (Zeithaml V. A., 2002).

5.5. Electronic Banking

According to (Danel , 1999) electronic banking is the provision of banking information and services through digital avenues and easily accessed by personal computers and mobile phones, telephones or digital television. (Abed & Norn , 2006) concur that in electronic banking, banks employ communications technology to interact with stakeholders, enabling digitized transactions. (Magemhe & Shemi , 2002) describe it as electronic business in the banking industry. E-banking is generally used to refer to banking transactions via electronic mediums as mentioned before.

E-banking is still growing and expanding at an incredible rate. Essentially, it has the advantage of speeding payment and accounting systems (Upel & Janten, 2007). (Ovea, 2001) suggests that electronic banking is a banking and financial services by-product of e-commerce, involving traditional banking services such as balance enquiries, cheque book requests, balance transfers and activating accounts amongst others. It provides online payment services for customers who shop in various e-shops. Additionally, (Nsole & Schachtr, 2002) added an array of services provided by electronic as illustrated below. Electronic banking initially began with the introduction of automatic teller machines (ATMs) and telephone transactions, and has in recent years, developed at an intense pace with the use of the internet – the latest delivery channel via communications and media technologies (Nitsure , 2003).

5.6. Electronic Banking Services

Electronic banking services constitute those delivered via the Internet. Internet banking has experienced exponential growth world-wide and has revolutionized old banking practices. Nowadays, it offers almost all the services provided at the branch and offers more opportunities for enhanced customer interaction and customized services. With heavy investments in these channels, banks can provide added value in terms of services such as electronic commerce, real-time brokerage, financial information menus, e-mail alerts and third-party services (tax payment, portals or management of electricity bills), (Centno, 2003).

Electronic user is means the customer who is a consumer who is buying a good or service and communicating with the service provider via the internet or other networks i.e. the customer is to service himself by himself so that he gets the service through the automatic and mutual interaction between the requestor of the service so it is important that the design of the electronic service is appropriate Electronic user needs, desires, aspirations and expectations.

There are several reliable angles and considerations for classifying and accurately identifying the institution's customers in order to give the opportunity to the marketing man to focus his efforts and direct the dealers with the problem. The classification is based on the importance of the customer to the institution, not all clients of the corporation have the same level of importance in their activities. Based on this criterion, the corporation's customers can be classified into three types. Customer strategy: more cost-effective customer is characterized by mostly level of satisfaction high is a product or organization mark; - customer tactical: customers less cost-effective but it occupies an important place in the ladder is the kind priorities of the institution and concerns that lift it seeks to better level; - customer routine: Customer The likelihood that he will continue to deal with the institution is equal to the possibility of severing the relationship. It is defined as the customer formed in the sense that it can represent, for the institution, an opportunity or a threat.

Customers are motivated to use e-banking services for several reasons: time and spatial benefits, speed, convenience, 24-hour availability and cost incentives (Matela, Karjalto, & Pentu, 2002). However, just as there are numerous benefits to both customers and banks, electronic banking holds specific challenges for the service providers. Comparisons are often made between the internet service offerings and as it costs very little to switch, customers can easily do so (Santus, 2003). Banks face the challenge of not only attracting new customers, but also in retaining existing ones. Therefore, in this highly digitized era, it makes it critical for banks to increase their capabilities and ramp up their internet service offerings, in an effort to increase quality and to gain competitive advantage. To do this the bank management needs to have a clearer understanding of the dimensions of quality.

5.7. Research Model Factors

Several factors that will then be incorporated in the final research model are outlined below:

5.8.1) Dimensions of Electronic Banking Services Quality (Independent Variable)

The twelve dimensions of Electronic Banking Services Quality are as described by the (E-SERVQUAL) model that was developed in 2000 and revised in 2005 (Zeitheml, Bery, & Parasurman, 1996).

The table below shows the most important dimensions according to previous studies:

1) **Ease of Use**

How easily customers can use the electronic systems and services of the bank whether in terms of language or interface design, accessibility so that transactions can be done quickly and smoothly (Shattara, 2013).

2) **Reliability**

Measures the bank's dependability and ability to service customers whenever required and consistently meeting their needs and reflects the bank's commitment to honor its promises. (Ghane, Fathian, & Gholamian, 2011).

3) **Responsiveness**

The employees' willingness or readiness to deal with customer requirements besides providing services or solving problems quickly and efficiently (Collier & Bienstock, 2006).

4) **Assurance**

Ensure information security, whether financial or personal and using technology to protect customer information, so that doubts are relieved about the quality of services provided. (Al Ajarmah, 2013).

5) **Interface Design**

The design that the customer encounters on the webpage that personifies the bank that enables direct contact between the bank and customer in conducting electronic activities. (Hamadi, 2010).

6) **Privacy**

The extent to which customer information is secure and protected from intrusion. (Parasuraman, A; Zeithaml, V; Malhot, 2005).

5.8.2) Customer Satisfaction (Dependent Variable)

Attaining customer satisfaction is not easy, especially in current markets that are dominated with modern technology and techniques that have dramatically changed the business landscape. Due to its multidimensional nature, understanding and defining the concept is also difficult (Lodenius, 2011).

Traditionally, customer satisfaction can be defined as the continued purchase of goods and services from the same provider without being swayed by competing marketers (Oliver, 1999). Additionally, (Tracey, Vonderembse, & Lim, Manufacturing technology and strategy formulation: key to enhancing competitiveness and improving performance., 1999) defined it as the customer's belief that the value of the product or service exceeds the price paid. At the same time, other studies show that the value of the customer's perceived difference between assessing future customers for every interest and every cost offers and alternative performances (Kotler P. H., 2000) since future benefits include the total benefits (economic and social benefits) while costs include (price, time, effort, risk, and convenience), (Razavi, Safari, & Shafie, 2012). Several other definitions include (Kotler P. H., 2000) who saw customer satisfaction as the satisfied feeling of getting what one expects from a service or product. It was also defined by (Kotler & Keller, 2006) as

joyful feelings resulting from the customer's comparison between expectations and the actual performance of the product or service.

Customer satisfaction becomes increasingly difficult in the virtual world where electronic services are provided to virtual customers who can easily switch to competing electronic providers (Zavareh, Ariffa, Jusoh, Zakuan, & Bahari, 2012). When buyers make online purchases or use websites, and assess their experience and satisfaction with the website services, this results in electronic satisfaction (AlHawari, Toahir, & Abdul Jalil, 2012).

Thus, it is not only important but also challenging to garner electronic customer satisfaction through electronic service as providers may lose traffic and customers if websites are inefficient, difficult to access or lacking. (Heskett, Jones, Loverman, & Sasser, 1994). It is therefore inevitable that banks raise their efforts and expand their internet presence by improving their websites in order to build quality electronic services (Schaupp & Belange3r, 2005). Accordingly, banks must identify the needs and wants of these electronic service customers.

High quality services lead to increased customer satisfaction (Parasuraman, A; Zeithaml, V; Berry, L., 1985) although some suggest that the service provider needs to first distinguish between having satisfied customers or delivering distinctive and high levels of quality service as their main goal (Palmer, 2005). Arguably, service quality and customer satisfaction have led to success and continuation of work (Daniel & Berinyuy, 2010), customer satisfaction depends on the quality of service provided (Lee, Gow-Guang, Lin, & Hsiu-Fen, 2005). The collective and individual effects of electronic service quality on customer satisfaction have also been discussed (Tarawneh, 2011).

5.8.3) Electronic Banking Application (Mediator Variable)

Electronic banking is a form of banking in which funds are transferred through an exchange of electronic signals rather than through an exchange of cash, checks, or other types of paper documents.

A variety of electronic channels provide banking services, with the most common being ATM, POS, mobile banking and internet banking as discussed below:

1) **Automated Teller Machine (ATM):** An automatic dispensing device that enables customers can withdraw cash anytime without going into the bank. It provides other services like balance enquires, inter-bank transfers and account deposits. Customers have access to ATMS 24 anytime and every day. (Fenuga , 2010).
2) **Internet banking:** It enables customers to interact with their bank accounts from anywhere in the world via the internet. Customers log on to the bank's website, key in their password and access their accounts to conduct various transactions. However, due to limited evidence, it is difficult to make comparisons about the services provided in different countries. (Timothy , 2012).
3) **Point of sale (POS):** Also known as point of purchase (POP), POS specifically keeps track of a customer's purchases made online, with the term "checkout" denoting the location of the transaction. POS systems enable retailers to provide their services online and to accept payments and generally and manage their online business. It also enables creating and printing of receipts. (Olorunsegun , 2010).
4) **Mobile banking:** By definition, (also known as M-banking) it is banking transacted through a mobile phone or Personal Digital Assistant (PDA). It allows customers to perform balance checks, make payments, apply for credit cards,

conduct stock market transactions and access customized information amongst others. One of the earliest forms of mobile banking services was offered over SMS. Although it is now used worldwide, there are still isolated areas where mobile banking is unknown or underutilized. Mobile banking is popular in countries where banks are only found in the major cities and going to the nearest banks involves long travel to faraway locations (Tiwari & Buse , 2007).

5) **Bank Short Messaging Service (SMS):** An electronic banking service where the bank sends SMS via mobile phone, that usually covers routine notices or updates from the bank. This constitutes one of the most important services offered by the Jordanian Islamic Bank: SMS (banking) for clients in cases of withdrawals and deposits (cash or checks), domestic and foreign purchases via Visa Electron, salary swaps, check returns, incoming and outgoing remittances, electronic conversion movements, and the issuing or re-issuing, renewal or cancellation of the Visa electron card.

6. Conceptual Framework

The conceptual framework of this study is developed based on the extensive literature review conducted. The proposed model has six primary quality dimensions for electronic banking services: ease of use, reliability, responsiveness, interface design, assurance, and privacy. In this model it is argued that electronic banking services quality dimensions affect electronic banking application, which in turn, affects customer satisfaction. In addition, electronic banking application is conceptualized as mediating the effects of electronic banking services quality on customer satisfaction.

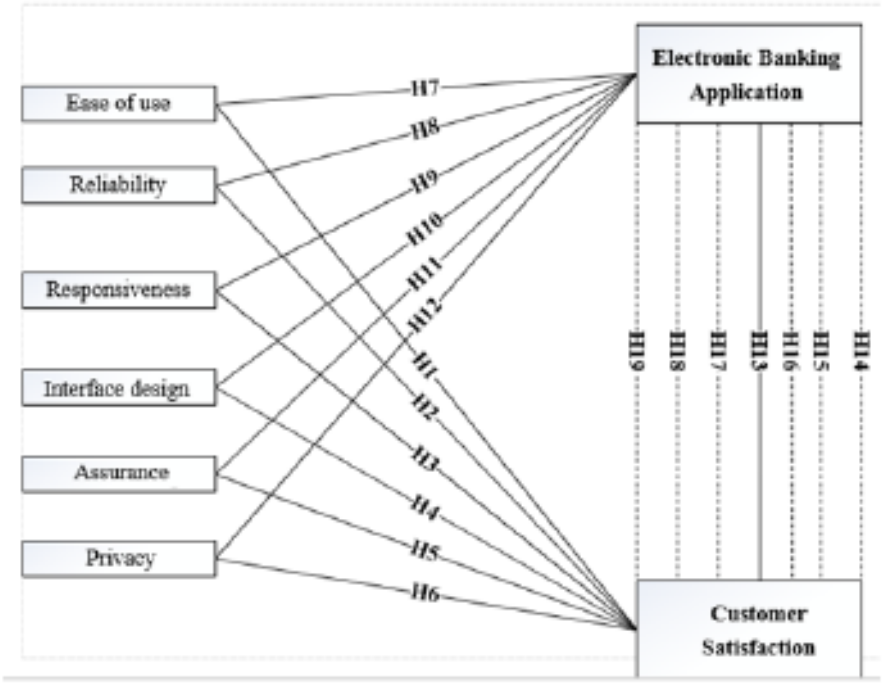

Figure 1.1: conceptual framework

7. Resarch Methodology

This study used the analytical descriptive approach which is suited to the purpose of examining the impact of electronic banking services quality on customer satisfaction in Jordan's Islamic banks.

The data collection method used is the questionnaire survey as it is one of the most effective means of gathering quantitative data. The study questionnaire comprises 46 items that are broken down into two primary sections. The first surveyed the demographic background of customers, the second section about axes.

The study selected 50 Islamic banks customers and the survey questionnaires have been sent to them to get the feedback in terms of the questions. The questionnaires were distributed manually and electronically to customers of Islamic banks who performed electronic banking.

The study population refers to the group of people whom the research wants to make assumptions about and possess common characteristics and is the focus of the research study (Frankel & Walen, 1993). In this study, the population of reference comprises the customers of the Islamic Jordanian banks based in Amman, the capital of Jordan.

This population sample was chosen since 42% or approximately 4.3 million of Jordan's total population reside in Amman (The Institute of Public Administration, 2018), and about half of the branches and ATM machines of the Islamic banks under study are found in the city (banks Association in Jordan, 2018). this study targeted a population of 520, and subsequently received a return rate of 498. They were retrieved from the reports from the (banks Association in Jordan, 2018), considering the following criteria: number of ATMs, Internet banking applications, SMS services, electronic branches, website services and other related electronic services.

The research data, collected via the survey questionnaire, was analysed using Statistical Package for the Social Sciences (SPSS) version 24.0 and Analysis of Moment Structures (AMOS) version 24.0.

8. Hypotheses Testing

The following section discusses the results of the path analysis:

(H1: Ease of use will have a positive significant effect on Customer Satisfaction).

The critical ratio and p-value of Reliability in predicting CuS is-1.137 and p=.030. It means that the probability of getting a critical ratio as large as -1.137 in absolute value is .030. In other words, the regression weight for Reliability in the prediction of CuS is significantly different from zero at the 0.01 level (two-tailed). As such, **H1 is Supported**

(H2: Reliability will have a positive significant effect on Customer Satisfaction).

The critical ratio and p-value of Reliability in predicting CuS is 1.179 and P=.019 respectively. It means that the probability of getting a critical ratio as large as 1.179 in absolute value is .019. In other words, the regression weight for Reliability in the prediction of CuS is significantly different from zero at the 0.01 level (two-tailed). As such, **H2 is Supported**.

(H3: Responsiveness will have positive significant effect on Customer Satisfaction).

The critical ratio and p-value of Reliability in predicting CuS is 1.051 and p=.041. Therefore, **H3 is Supported.**

(H4: Assurance will have a positive significant effect on Customer Satisfaction).

The critical ratio (C.R.) and p-value of Assurance in predicting CuS were -.436 and .020 respectively, meaning that the probability of getting a critical ratio as large as 0.436 in absolute value is .020. Therefore, **H4 is Supported.**

(H5: Interface design will have a positive significant effect on Customer Satisfaction).

The critical ratio and p-value of Interface Design in predicting CuS were -.966 and .042 respectively, meaning that the probability of getting a critical ratio that is as large as -0.966 in absolute value is .042 which means that **H5 is Supported.**

(H6: Privacy will have a positive significant effect on Customer Satisfaction).

The critical ratio (C.R.) and p-value of Privacy in predicting CuS were -.3520 and .011 respectively. This means that the probability of getting a critical ratio that is as large as -.352 in absolute value is .011 which is statistically significant. In other words, **H6 is Supported.**

(H7: Ease of use will have a positive significant effect on Electronic Banking Application).

The critical ratio (C.R.) and p-value of Ease of Use in predicting EbA were -.78 and .021 respectively. It means that the probability of getting a critical ratio as large as -.78 and in absolute value is .021 which is statistically significant. Therefore, **H7 is Supported.**

(H8: Reliability will have a positive significant effect on Electronic Banking Application).

The critical ratio and p-value of Reliability in predicting EbA is 0.649 and p=.004. Therefore, **H8 is Supported.**

(H9: Responsiveness will have a positive significant effect on Electronic Banking Application).

The critical ratio and p-value of Reliability in predicting EbA is 0.299 and p=0.765 Therefore, **H9 is rejected.**

(H10: Interface design will have positive significant effect on Electronic Banking Application).

The critical ratio and p-value of Interface Design in predicting EbA is 2.393 and .028 respectively. Therefore, **H10 is supported.**

(H11: Assurance will have a positive significant effect on Electronic Banking Application).

The critical ratio and p-value of Interface Design in predicting EbA is -0.413 and

.640 respectively. Therefore, **H11 is rejected.**

(H12: Privacy will have a positive significant effect on Electronic Banking Application).

The critical ratio and p-value of Privacy in predicting EbA is 8.603 and.004 respectively. It means that the probability of getting a critical ratio as large as 8.603 in absolute value is .004. therefore, **H12 is Supported.**

(H13: Electronic Banking Application will have a positive significant effect on Customer Satisfaction).

The critical ratio and p-value of Electronic Banking Application in predicting Customer Satisfaction are 13.263 and 0.009 respectively. It means that the probability of getting a critical ratio as large as 13.263 in absolute value is .009. therefore, **H13 is Supported.**

Mediation analysis determined the mediating effects of Electronic Banking Application on the relationship between the seven independent variables and customer satisfaction (H14, H15, H16 and H17, H18, H19 respectively).

The following section discusses the results of the mediation analysis and indirect effects:

(H14: There is a positive significant effect of Electronic Banking Application role as mediating variable between Ease of use and Customer Satisfaction).

There is a significant relationship between Ease of use and Customer Satisfaction in the presence of Electronic Banking Application as a mediator as the effect is .466 where p value is .031 which, means that **H14 is supported.**

(H15: There is a positive significant effect of Electronic Banking Application role as mediating variable between reliability and Customer Satisfaction).

There is a significant relationship between reliability and Customer Satisfaction in the presence of Electronic Banking Application as a mediator as the effect is .368 where p value is .042. This means that **H15 is supported.**

(H16: There is positive significant effect of Electronic Banking Application role as mediating variable between responsiveness and Customer Satisfaction).

There is a significant relationship between responsiveness and Customer Satisfaction in the presence of Electronic Banking Application as a mediator as the effect is .023 where p value is .016, which means that **H16 is supported.**

(H17: There is positive significant effect of Electronic Banking Application role as mediating variable between interface design and Customer Satisfaction).

There is a significant relationship between interface design and Customer Satisfaction in the presence of Electronic Banking Application as a mediator as the effect is .130 where p value is .034. Therefore, **H17 is supported.**

(H18: There is a positive significant effect of Electronic Banking Application role as mediating variable between assurance and Customer Satisfaction).

There is no significant relationship between assurance and Customer Satisfaction

in the presence of Electronic Banking Application as a mediator as the effect is -.024 where p value is .654 which means that **H18 is rejected.**

(H19: There is a positive significant effect of Electronic Banking Application role as mediating variable between privacy and Customer Satisfaction).

There is a significant relationship between privacy and Customer Satisfaction in the presence of Electronic Banking Application as a mediator as the effect is .547 where p value is .004. This means that **H19 is supported.**

9. Research Contributions

This study developed and empirically tested the correlation between Electronic service quality dimensions and Customer Satisfaction in Jordan's Islamic banks and how this relationship is mediated by Electronic Banking Application. Notably, this is the first empirical study to investigate this relationship in the Jordanian context. As such, the study expands the theoretical understanding of the Electronic Banking Application mediator in this relationship. It has also contributed to the related literature in two other ways. Academically, the study has filled up gaps in the literature specifically in the business environments of developing countries. Lastly, for the management and personnel of Islamic banks, this research sheds light on the dimensions of service quality, how they correlate with Customer Satisfaction and are mediated by Electronic Banking Application. The results offer the banks' management an enhanced understanding of Electronic Banking Application and Customer Satisfaction that should result in better management, operations and marketing strategies of Islamic banking services. These insights can help clarify the specific actions that the bank management should implement to improve the customers' overall perceptions of the banks' service quality, their satisfaction and future Customer Satisfaction.

10. Future Research

1) Promoting the Jordanian Islamic banking sector towards further progress through the use of electronic technology and facilitating the customer's dealings with the bank.
2) Various directions can be recommended for researchers in the same domain and to discover more gaps.
3) As this study was conducted only in Jordan, future studies can be extended to other countries that demonstrate the quality of the electronic services offered in this research but have been yet studied.
4) Comparative studies between different banking sectors and between different countries to measure the impact on the satisfaction of customers of these banks are further avenues for research.
5) It is also strongly recommended that future studies be carried out in various sectors such as hotels, electronic purchases over internet and many more.
6) This will enrich the internal and external validity of the current study.
7) Another future research direction is to employ a different mediator than electronic banking application and to measure its impact among the variables, which can play a fundamental role to measure and strengthen or weaken the relationship between variables, thus assisting decision-making amongst administrators that are keen to evaluate and upgrade banking processes in particular.

8) According to the Corona virus epidemic, the research directs banks to adopt electronic dealings in their banking services at the coming stages due to the social distancing, safety, privacy and speed of performance without any congestion and gatherings that may negatively affect the health of customers.

11. Conclusions

This research examined the factors that affect the customer satisfaction to their banks through the mediation of Electronic Banking Application. This was achieved by constructing a model of 6 independent variables which are Ease of use, Reliability, Responsiveness, Assurance, Interface design, Privacy, the mediating variable (Electronic Banking Application) and the dependent variable (Customer Satisfaction to the bank). The study examined the direct, indirect and total effects of these variables, and also the direct effect of Electronic Banking Application on the degree of customer satisfaction.

Also, it examined the direct impact of these factors on the Electronic Banking Application. This is in addition to measuring the overall impact of all the factors (direct and indirect) on the degree of customer satisfaction to banks.

Notably, the study found that Electronic Banking Application directly impacted customer satisfaction and that this effect is statistically significant. The study also showed that there are indirect effects for most of the mentioned variables on customer satisfaction to the bank, mediated by Electronic Banking Application and that these effects are statistically significant. It establishes that only assurance has not indirectly significantly impacted customer satisfaction through the mediation of EbA. In addition, it was found that only EbA<---Responsiveness and EbA<---Assurance have not directly significantly influenced customer satisfaction.

On the other hand, the study showed that the total effect for all the variables was significant on customer satisfaction, except for assurance which was found to have insignificant on customer satisfaction

Thus, the study found that most of the variables including Electronic Banking Application are among the indicators that can be used to predict bank customer satisfaction.

In fact, the inclusion of Electronic Banking Application as a mediator is a new development and achievement in the study of customer satisfaction to the bank, especially in the Jordanian context and specifically in Islamic banks.

The study highlights the importance of the degree of Electronic Banking Application on the degree of customer satisfaction as it showed that there is another effect for all the factors through the mediation of Electronic Banking Application, as most of the variables are found to be statistically significant

Essentially, it illustrates that it is possible to increase or develop the factors so as to raise the level of their impact on customer satisfaction to the bank on the one hand or to raise the level of Electronic Banking Application , which also leads to a high degree of customer satisfaction. For example, the absence of the direct effect of Privacy on the degree of Electronic Banking Application and the absence of the indirect effect on the degree of customer satisfaction is an indication that there is a defect in the Privacy policy of the bank, that which requires to be enhanced and so forth for the rest of the variables. Anyway, it can be noted here that the 6 identified dimensions have either a direct or indirect impact or both on the degree of customer satisfaction to the bank, which means that in the absence or low Electronic Banking Application , there is still a direct impact

of some factors on the degree of customer satisfaction such as in privacy and Interface Design, because of the direct link between privacy, for example, and Electronic Banking Application. In other words, privacy cannot directly affect degree of customer satisfaction without reflecting the degree of Electronic Banking Application.

Finally, the concept of degree of customer satisfaction to the bank and how it is affected by other factors need reconsideration as the impacts are not directly related to the various factors but indirectly, as well, as shown in this study. This suggests the importance of other factors or mediators besides Electronic Banking Application in influencing Customer Satisfaction.

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