

The Impact of Mobile Banking on Enhancing Customers' E-Satisfaction: An Empirical Study on Commercial Banks in Jordan

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Abstract

Recently, banking services begin via mobile appear on a large scale as has become one of the latest services offered by commercial banks in Jordan. So to make banking transactions via mobile, the researcher links banking service via mobile to effect on customer E-satisfaction, therefore, the customers are getting banking service on their own without the need for assistance by the bank employee. The Importance of the subject of mobile banking service and the importance of focusing on the service provided by the banks adopted, this study use seven dimensions that are very important to provide this service and they are: reliability, flexibility, privacy, accessibility, ease of navigation, efficiency, safety, where the aim of this study is to measure the impact of using banking services via mobile to effect on customer e-satisfaction.

The study sample consisted of 360 customers from 400 who use banking services via mobile in the following banks: Jordan Ahli Bank, Union Bank, HSBC Bank, Capital Bank and has been tested hypotheses through simple regression, the results indicated that there is an effect of use mobile banking services to reach customer e-satisfaction. The results showed that there is a statically significant impact of the overall dimensions of mobile banking service on customer E-satisfaction and after performing a simple regression that Privacy and accessibility are more influential comparing of the rest of the mobile banking dimensions. The researcher recommended that the bank should give more time and effort to activate and develop mobile banking services to do many different banking transactions in order to reach a customer E-satisfaction.

Keywords: mobile, banking service, e-satisfaction, Jordan

1. Introduction

Recently Banks have radically converted from the traditional use of banking to branchless positions of banking. The latest adoption of using technology has helped banks to extend their customer base, while electronic banking has proved to be the main advancement. Mobile banking categorized as the latest development in electronic bank services, while the bank customers can review: Balance inquiry, credit transfer, check account, SMS, payment transaction and other businesses according to banks instruction that send to them through mobile phones (Saleem & Rashid, 2011).

From customers' perspective the benefits of mobile banking service in terms of convenience to perform banking transactions in anytime, anywhere and easy way to use. Therefore, Security is ensured, as banking transactions are encrypted and password-protected. In a meanwhile the rapidly growth of using technology by phones helped banks to achieve their goals.

Internet banking and mobile banking are often referred to electronic banking; internet banking and mobile banking are two alternative channels for banks to deliver their services for customers in order to acquire services. That is, the reason of using customers Internet banking are through computers connected to Internet, while customers using mobile banking are through wireless devices. Using Mobile banking through wireless shows the difference between online banking and mobile banking contexts while customers considered mobility as the most valued properties of mobile banking that also time-critical consumers considered always-on functionality as the most important feature of mobile banking. In addition, banking users considered that Internet banking took the importance advantage in Usefulness While online banking was considered as the cheapest delivery channel.

Millions of people access to the Internet through mobile phones. Moreover, transactions use increased by new technological services such as: Wireless application protocol (WAP), Bluetooth, 3G standard (Khraim et al., 2011).

Mobile banking may help to increase satisfaction by innovation services that have no limitation on time and place in order to add more value to the customer. Customer's satisfaction with the bank is expected to increase their willingness to make more online transactions. Therefore this will increase their confidence with the bank which will directly put positive effect on bank's customer relationship.

1.1 Study Problem

Commercial Banks in Jordan want to achieve a competitive position in the domestic and global market, through build a strong relationship with customers by provision a new services with good quality and high secure, so banks should invest and reload their information technology to present a services to get confidence and satisfaction that customer aspires through Mobile banking services. In developed nations show that smartphone penetration is higher and there are already more than 1.08 billion Smartphone users in the world, Statistics showed that the proportion of using smart phones in Jordan amounted to 42% of the domestic market, while 61% of Smartphone owners use mobile application (arab advisors, 2013) this confirms that Jordan consumer still feels unsecure to use services through mobile maybe because they think that they have to deal direct with employees or visit bank to do the transactions.

The power of mobile banking show the utilization of multiple mobile banking channels to understand what mobile tools will need to become the premium choice for all banking activities.

This study is concerned on understanding the usage of mobile banking services by Jordanian consumers especially on the field of services through focusing on customers' E- satisfaction to let customer feel secure and privacy from browsing their information.

This Study is trying to answer the following question:

What is the impact of Mobile Banking services (security, privacy, reliability, easy to navigation, efficiency, accessibility, flexibility) on enhancing customers' E-satisfaction?

1.2 Study Importance

Globally, Electronic service evolved in recent years dramatically increased the number of banks in the world to offer electronic banking services from 1200 banks in 1998 and it increased to 15485 in 2004 in contrast, it increased the number of dealers in electronic bank to 18% in 1999 to 51.3% in 2004 of the total bank customers (Kaddoumi, 2008).

Banking sector in the Jordanian economy is a key element in advancing development in all sectors and a factor of stability in the environment of Jordan, and in response to environmental changes accelerated locally and globally worked banks to use the great technology in the provision of banking services and access to a high level of maintain customer satisfaction in the banking services through using the internet that help to present a service in a high quality.

As mentioned in the introduction; Banks are looking for better ways to serve customers and reduce the overhead cost In line with the changes in the evolution of service through using technology that will help to get what customer expect from banking service, while The usage of electronic banking services are increasing in Jordanian banks such as: Mobile banking, ATM, SMS, Internet banking).

At the same time understanding the adoption process of customers for such new technology will help banks direct its efforts in the right path so as to get the benefit for both parties.

Through understanding the major factors of banking services that effect on E-satisfaction will help to modify the banks services to match the actual perception of customers by using technology.

The numbers of Commercial banks in Jordan are 21 and 4 banks just provision mobile banking services which are: (Jordan Ahli Bank, Union Bank, Capital Bank, HSBC Bank) related to the association banks of Jordan (Abj, 2013).

The main point of this study is mobile banking facilities to their customer through:

- 1) The importance of communication service through mobile in Jordan, there are more than 5,000 shop selling and trading Mobiles and accessories while average number of devices cellular 3 per house or one and family (trc, 2013).
- 2) The importance of the expansion in the use of technology in the banking which helped departments of

banks to access guarantees in maintaining high customer satisfaction and confidence of customers.

3) The importance of this study is to identify the dimensions of Mobile Banking service (efficiency, flexibility, privacy, security, accessibility, ease to navigation, reliability) that effect on customer E-satisfaction which had not previously addressed in the Jordanian business environment, particularly with regard in dealing with bank customers.

4) The ability to rise up customer awareness in mobile banking service to increase customer's trust with banking sector.

1.3 Study Objectives

1) To find out the impact of Mobile Banking services (security, privacy, reliability, easy to navigation, efficiency, accessibility, flexibility) on enhancing customers' E-satisfaction.

2) To give recommendations and suggestions to the upper management of Jordanian banks to concern on mobile services in order to enhance the customers e-satisfaction.

1.4 Study Model

The systematic study of the research problem in addition to their theoretical framework and its implications requires designing a study model (Figure 1) for the dependent, independent variables where the Mobile banking services are Independent and customers' E-Satisfaction is dependent.

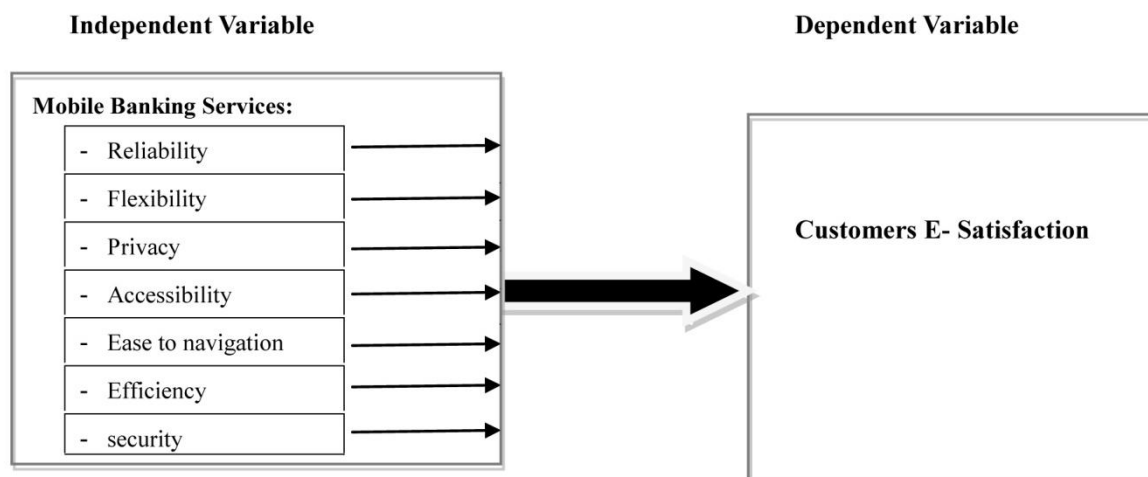


Figure 1. Study model

Done by the researcher based on (Khraim et al., 2011; Saleem & Rashid, 2011; Khrais, 2011; Ma & Zhao, 2012).

1.5 Hypotheses

Based on the research model and literature review the following hypotheses were formed:

H0.1: There is no significant impact of mobile banking services on customer's E-satisfaction at ($\alpha \leq 0.05$) significance level.

Ho1.1 There is no significant impact of reliability on customer's E-satisfaction at ($\alpha \leq 0.05$) significance level.

Ho1.2 There is no significant impact of flexibility on customer's E-satisfaction at ($\alpha \leq 0.05$) significance level.

Ho1.3 There is no significant impact of Privacy on customer's E-satisfaction at ($\alpha \leq 0.05$) significance level.

Ho1.4 There is no significant impact of accessibility on customer's E-satisfaction at ($\alpha \leq 0.05$) significance level.

Ho1.5 There is no significant impact of ease to navigation on customer's E-satisfaction at ($\alpha \leq 0.05$) significance level.

Ho1.6 There is no significant impact of efficiency on customer's E-satisfaction at ($\alpha \leq 0.05$) significance level.

Ho1.7 There is no significant impact of security on customer's E-satisfaction at ($\alpha \leq 0.05$) significance level.

1.6 Operational Definitions

1.6.1 E-Banking Service

E-banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels such as: ATM, online banking, mobile banking.

1.6.2 Mobile Banking

A service provided by the bank that enables the user to receive information, make payment and transfer to third parties based on orders sent via mobile phone.

1.6.3 Customer E-Satisfaction

Customers' evaluation of a product and service in term of whether has met their needs or expectations better than competitors in online environment

2. Literature Review

2.1 Overview on Jordanian Banking System

Data from the Central Bank of Jordan shows that the first bank established in Jordan was in 1927. This bank was firstly named as the Ottoman Bank named then Bank National and Crandall's in 1969, Bank ENZ in 1989, then Bank Standard Chartered Crandall's in 2000 until October 2003. The subsequent establishment of a group of private banks and the seventies of the last century according to the latest official statistics of increasing numbers licensed banks operating in Jordan to (25) banks after entry of new banks into the Jordanian domestic banking market during the year 2010 are the National Bank of Abu Dhabi and Dubai Bank of Jordan Islamic bringing the number of Islamic banks (3) and (9) branches of foreign banks operating in the banking market Jordanian domestic as well as (13) commercial banks as practiced banks themselves activities banking in all regions of the Kingdom through (641) branches and about (66) representative office distributed within the Kingdom while the number of branches operating outside the Jordanian Kingdom about (141) branch until 2010. The number of licensed banks operating in Jordan from 21 banks in 2000 to 25 banks at the end of October 2010, and has a rising star in a number of banks for an increase of foreign banks operating in Jordan from five bank in 2000 to eight banks in 2004, where granting CBJ license for three foreign banks to operate in Jordan in 2004, and these banks are: Jordan Dubai Islamic Bank and Bank of Abu Dhabi (NBAD) and at the beginning of 2010 received Rajhi Bank a license to practice banking activities in Jordan.

Banking system of Jordan in recent years is able to attract more investment foreign in the form of contributions to local banks through the stock exchange and the opening of new branches of non-Jordanian banks, while the collapsed banks giant in developed countries. Where it was in the last ten years granted six licenses to Arabic banks to work in the local market, bringing the number of banks operating in Jordan 26 banks- including sixteen Jordanian banks and ten foreign banks, operating in a competitive healthy market ,results in the interest of the depositor and borrower and the investor and the national economy, in addition; Jordanian banking system extensive network of branches within the Kingdom, numbering more than 660 branches and foreign branches, numbering more than 155 branches, while the number of ATMs to the 1130 machine combined cover all governorates of the Kingdom while providing several electronic banking service like: ATM, Internet banking, Phone banking, Mobile banking(Central bank of Jordan, 2010)

2.1.1 Mobile Sector in Jordan

The use of mobile technologies is increasingly widespread through Asian countries such as Jordan, Lebanon, and Dubai...etc. Many applications can be observed among the users, by using Simple text message (SMS), telephone conversation, Internet access and multimedia services (MMS), depending on the capability of each mobile phone technology and service rendered. Many applications have been made through using many development in the mobile technology such as: GPRS, WAP and the 3G standard In Jordan mobile communications market have three operators: Zain Jordan, Orange Mobile, Umniah. Official statistics show that the number of using cellular subscription in Jordan increased the number of population by the end of 2009. By 2010, the number of subscribers of mobile phone services in Jordan has more than six million subscribers and penetration rate of 101 % (Khraim et al., 2011).

Statistics showed great interest for Jordanians using communications technology that are reaching text messages(SMS) in 2010 to 1.9 billion text messages this use has fallen in 2011 to 1.6 billion a text message, decline of 16%. While using technology is limited not only connect to the communications short but found that the Jordanians are talking 80 million minutes a day and has been reached using mobile phones to 29 million (Trc,

2012).

Research gathered by Nielsen Mobile further reveals that 15-6 percent of U.S mobile subscribers use the mobile Internet, followed by 12.9 percent of United Kingdom and 11.9 percent of Italian subscribers.

2.1.2 E- Banking Service in Jordan

Banks and financial institutions continuously seek to attract more customers and admitted within the networks of its business has banks began to search for mechanisms and new styles can which provide banking services more attractive with technical developments are still banking limited in Jordan compared to America and Europe.

In Jordan since 1992, commercial banks began provide electronic services to its customers, especially ATM and issued by the Jordanian company and payment services, which is considered one of the most electronic banking tools prevalent in the kingdom for example :Arab Bank and Jordanian Kuwait Bank use Internet banking in 2000 that can check account ,apply for loans, pay bill. At the end of 2005, the growth rate in the number of Visa card holders in Jordan15% compared to the Visa card in Jordan in 2005, more than \$ 176 million, and this indicates the presence Jordanians awareness in electronic bank (Kaddoumi, 2008).

There are many examples in electronic bank services in commercial banks in Jordan like: (ATM, internet bank, online banking, home banking, Phone banking, call center, electronic payment service, money exchange machines. But this study will review all about Mobile Banking service (ABJ, 2013).

2.1.3 History of Mobile Banking

Historically, the uptake of mobile banking has been relatively low. This is beginning to change. Much of the change is being driven by the world economic crises; bank and financial service customers are utilizing their smart phones and cell phones to obtain up-to-the minute financial information and to perform up-to-the minute transaction. Banks enable their customers to use their mobile devices to check balance, monitor transaction obtain other account information, transfer funds, locate branches or ATMs, and sometimes playbills (Turban, 2004, pp. 304–305).

Mobile communication devices revolutionizing banking transaction by using wireless networks and internet to attract customers, banks in general need to extend their full range of services across a wide range of mobile, wireless devices without having any impact on their infrastructure and delivery channels .and the most important role in bringing mobile banking strategy to the market are wireless network and mobile (Malarvizhi and Rajeswari, 2012)

Most banks deploy these mobile services through a variety of channels, although the Internet and SMS are the most widely used that provides links to a number of banking Web sites throughout the world that offer these services. On the one hand, customers can access their accounts at via the browser on their Smartphone in much the same way they would access their accounts from their desktop or laptop computers. On the other hand, customers can send Chase Mobile shorthand SMS text messages to inquire about their balances, payment due dates, or transaction histories (Turban, 2004, p. 241).

Several factors have shown affect consumer acceptance of online and mobile banking for example: demographic, consumer behavior, attitude, motivation, and experience with computer, moreover showed the previous experience by using computers and technology as well as people's attitudes toward computer influences where people are willing to use online banking Researches suggest that attitude factors such as: Internet experience and the advantage of online banking ,perceived risk, perceived behavioral control factors that predict to adopt Internet banking services (Khrais, 2012).

“Mobile banking services can be classified based on the originator of a service session, either push or pull” (Cbj, 2010). Push it means when the bank sends out the information based on agreed set out of rules such as: the banks send out an alert when the account balances goes below a threshold level. In a meanwhile pull means when customer explicitly requests a service or information from the bank requesting the last five transactions (Masrek et al, 2012).

In mobile banking customers' level of trust is dynamic rather than static, it changes from time to time because the service with no contact face –to-face, while building trust in mobile banking service can be not easy for this view point customers who use mobile banking services is a significant factor that influences their attitude toward mobile banking in order to repeat use in the future (Thulaniet al., 2011).

2.1.4 Mobile Banking Definition

The Federal Reserve survey defines mobile banking as “using a mobile phone to access your bank account, credit card account, or other financial account. Mobile banking can be done either by accessing your bank's web

page through the web browser on your mobile phone by text messaging or by using an application on downloaded to your mobile phone”.

The customers are required to follow a pre-determined process and procedure to get the services offered by the bank such as: depositing, withdrawals, checking of statement, balance inquiry as well as transfers within and outside the country requires verification, authentication and finally transaction (Jepleting et al., 2013).

Mobile banking can help to make full access to the details and transactions of personal bank accounts, as well as making credit installment and utility bill payments and transferring funds. customers who use mobile banking must register for all service through bank website and download the mobile banking application to their phones, once the application are install you can use this service free of charge the only cost you have to pay is the normal communication by the mobile operators (Al-Jabri & Sohail, 2012).

Mobile users require value-added services that can be feasible or non-feasible according to existing technologies and M-Commerce such as reliability, ease of navigation, security (Wang, 2003):

These characteristics summarized as follows:

- 1) Easy and timely to information.
- 2) Immediate purchase opportunity.
- 3) Provision wireless coupons based on user profiles.
- 4) Bank transaction through mobile terminals
- 5) Location management.

2.1.5 Mobile Banking Services

Today, most banks offer basic mobile banking services for their customers, the most common services available today are (Anand, 2007):

- Account alert, security alerts and reminders.
- Account balances updates and history.
- Customer service via mobile.
- Branch or ATM location information.
- Bill pay; deliver online payments by secure agents and mobile application.
- Funds transfers.
- Transaction verification.

2.1.6 Importance of Mobile Banking

Mobile banking has lot of advantages for both providers .it has a multi beneficial, banks do not require much investment and they do not even have to modify their existing infrastructure. Banks can send the message in fewer efforts to huge number of people.

Mobile banking also helps Banks to form good relations with their customers; banks get valuable data about the customers which help them in effective customer’s relationship management practices. It facilities quick feedback and helps in customer retention and customer loyalty (Saleem & Rashid, 2011).

When banks have customer database, they can use SMS advertising to give information about their service to their existing customers. Customers enjoy anytime anywhere banking with the help of their mobile phones, they don’t need to stand in the queues or face the employees whom do not. Mobile banking is cost-effective for bankers and customers’ .also the information can be stored automatically in mobile as a proof in the form of SMS whether sent or received (Angelovay & Sankar, 2012).

2.1.7 Advantages for Mobile Banking Services

- 1) **Access to a broader base of customers:** one of the most important features is to access to a broad base of customers across the world without being bound by a particular place or time.
- 2) **Provide full banking services and new:** there are new banking operations should provide the service in fast performance and accuracy.
- 3) **The highest quality of banking services:** the higher quality of the transactions that are completed electronically be the likelihood of errors in which a few, because of the non-interference of the human factor in their submission to customers, and therefore, the possibility of providing services free of errors be

high.

- 4) **Increase the profitability of the customer:** This is the point of the most important benefits of e-banking services, where the use of technology in the completion of banking operations became requires a shorter time and fewer visits by the client to the bank's branches, which means dealing more and higher profitability for the customer and the company. (Shahen, Bahaa', 2000, p. 20) (ALjubehi, Munir, 2005, p.15).

2.1.8 Disadvantages for Mobile Banking Services (Federal Reserve Survey, 2013)

- 1) Does not offer a secure environment that customer always prefer interface interaction through making transaction.
- 2) Lack of confidentiality by not use receipt or signature in any transaction they do.
- 3) No offline (out of the coverage) capability because mobile services need internet connection to use the application.
- 4) Absence of bank's marketing role because no interface face –face meeting.

2.1.9 Mobile Banking Dimensions

Researcher depends on many dimensions based on many oldies and new previous studies that will be shown in the following table 1.

Table 1. Some of the prior studies for mobile banking dimensions

Dimensions / Year	Authors
Reliability	(Behjati et al, 2012) (El-kiki & Lawrence, 2007) (Fang et al, 2013).
Flexibility	(Anderou et al, 2000) (Saleem & Rashid, 2011)
Security	(Ma&Zhao, 2012) (Anand, 2007) (El-Kiki & Lawrence, 2007) (Bilal & snaker, 2011) (Khraim et al, 2011)
Ease navigation	(Van Riel et al, 2001)
Privacy	(El-kiki & Lawrence, 2007) (Kim et al, 2006) (Khraim et al, 2011)
Efficiency	(Anand, 2007) (Ma & Zhao, 2012)
Accessibility	(Behjati et al, 2012) (Khrais, 2012) (Zeithaml st al, 2002) (Migdadi, 2012)

Source: Developed by the researchers.

2.1.10 The Dimensions of the Most Consensuses by Previous Studies Are

Related to the previous studies in mobile banking service the dimensions that are selected in the following:

1) **Reliability:**

Is an important indicator of the measurement in quality, which is often applied in the manufacturing industry and service sector? For bank customer system in the process of service, each service will likely cause failure and lead to customer complaints.

Reliability is on time consideration, in the setting of the use of environmental conditions or time conditions, and product or service can reach the required functional standard. In short reliability is a product or survives whether in life or cycle process is normal, will be influenced by the reliability of the level of satisfaction on the quality of good or service (Fang et al., 2013).

• **How to save reliability in banking service (Wing & Lin, 2011):**

1. Understand the flow of bank counter service system.
2. Investigate all possible failure of the project on the system's degree of influence over the counter service system.

3. Proposed recommendation to optimize the bank counter service reliability according to the finding.

- **The importance of reliability:**

Internet information search elements reveal a perceptual dichotomy between consumer's "reliability of the information content and reliability n control and use of technology". Information reliability is related with diversity, depth and actuality of information contents, the capacity of internet use and effects consumer's satisfaction (Alba et al., 1997).

Reliability means the stability of performance and delivery service properly and better than the first time and meets the bank of what has been promised to the client, and this includes:

- The accuracy of the accounts, files and errors do not occur.
- Providing banking service properly.
- To provide service in a timely manner and in time her designer.
- The stability of the performance level of service (fang et al., 2013).

2) **Flexibility:**

Users of mobile devices should be able to engage in activates such as: receiving information and conducting transaction with ease (Andreou et al., 2000).

Flexibility is a critical component to decide to sue a new information technology application that show the degree to which a person believes that using a particular system would be free of effort, the easier it is for the customer to achieve customers' aim in higher chances that will use the application in the future(Behjati et al, 2012). Mobile technology leads to great flexibility in working - for example, enabling home working, or working while travelling. The growth of cloud computing has also impacted positively on the use of mobile devices, supporting more flexible working practices by providing services over the internet.

You can enable customers to pay for services or goods without having to write a check or swipe a credit or use cash. More powerful solutions can link you directly into the office network while working off-site to access such resources as your database or accounting systems (Saleem & Rashid, 2011).

3) **Privacy:**

Is an E-service interaction between customers and companies gives opportunities for companies to get information about customers, such as purchasing habits, needs and details and information on their account and the size of transactions and movements of the calculation, and many of these data that reflect customer privacy bank should keep this Privacy Policy in some cases (Khraim et al., 2011). mean Privacy provide services to specific customers but not others in the context of privacy as services lending and cover the account in the event exposed the client, making it possible to provide personal service to customers, can improve customer satisfaction by providing personalized services to them, and customers will be reluctant to change to other companies if banks were able to verify that. And maintain information on participants in the banking services that the electronic banking service does not allow the use of personal information to clients and customers as well as banks do not allow the use of personal information must be characterized by secure electronic banking service in the authorized banking operations (El Kiki et al., 2012).

4) **Accessibility:**

The international trend was toward decreasing the number of branches as a result of investing in alternative delivery service channels as automatic teller machines (ATM), which reduced operating cost for example the Bank of America closed one third of their overall branch network while increasing automatic machines by declined over 9% from 6,480 in 1983 down to 5,876 in 1993 (Migdadi, 2012).

Service accessibility as reflected in the number of banking offices per unit of market are, represents an important component of the overall level of service provided to financial consumers, the technology of internet has produced the internet banking that serves Bank's customers to do banking transaction anywhere as long as they can access to the internet (Gunther,1997) .

Consumers may access the websites or application based on how easy they are to use and how effective they are in helping them accomplish their tasks (Zeithaml et al., 2002).

- **The importance of accessibility in banking sector is:**

Service accessibility as reflected in the number of banking offices per unit of market area that represents an

important component of service provided to financial consumers where banking offices are relatively sparsely (Gunther, 1997).

5) Ease of navigation:

The ability to navigate a web site and its value for example entertainment, convenience that will influence both usage level and satisfaction by using consumer benefit in using self-service technologies that help to save money, time and avoiding interpersonal interaction and being in control, this implies that the drivers of Web satisfaction may include web site characteristics for the specific website's value and useful information (Van Riel et al., 2001).

- **Ease navigation has various labels for examples:**

1. Site design.
2. Web store functionality.
3. Ease of understanding.

In addition ease navigation has many different ways to measure by easy to use, easy to locate information, user friendly site. Many studies reflect privacy with ease navigation regarding its security policies (Anand, 2007).

Attractive web pages presentation should contain sounds, video and entertainment contents like advertisement. However some consumers react negatively to web banners because they interrupt and slow down a web page (Szymanski & Hise, 2000).

- **Application design depends on functional and attractive elements:** (Jarvenpaa & Todd, 1997).

- Standard language
- Pages actualization.
- Clear information contents
- The largest number of clickable items.
- Information search engine in virtual stores

6) Efficiency:

Most of the customers using mobile banking found it quiet efficient. They are able to access to a huge number of mobile banking services, they can check their account information as a mini statement and account transaction history. Customers had to visit branches to check their transactions but by using mobile banking services they can check the status of their fixed deposits or checking account information (Saoji & Goel, 2013).

The process of using mobile banking services are very easy that people do not need any extra skills to use the application just need to install the application in their mobile and enter the PIN ; moreover, they can also pay electricity bills and credit bills through this (Sharma & Singh, 2012).

Mobile commerce may help increase the productivity of the work force by increasing the efficiency of their daily routine. Time-pressured consumers (employees) can use "dead spot" for example: checking account or current transaction (Dmoor, Hani, 2005, P. 444).

7) Security:

Security and trustworthiness of usage of service was mentioned to be the most important factor within target segments when deciding to choose mobile banking

An issue involves the introduction of trust as a main factor in the analysis of m-banking /m-payment use. Nowadays evidence and intuition alike suggest that "trust" plays a main role in use for example; users feel more comfortable to deal face-to-face contact while using m-banking/m-payments system.

A modified technology acceptance model that included a trust available-perceived credibility -to predict m-banking, there modification also included another variables like: self-efficacy, and a form of trusting one's self. Trust is multi faced concept, which must be handled carefully in any analysis of m-banking / m-payment (Jepleting and Oscar, 2013).

Studies recently showed that all the banks offering SMS banking were relying on the password system and also SIM card registration where transaction can only be carried out with registered.

Out with registered SIM cards. However no bank had employed one-time passwords where the customers are given once-off passwords which expire once they are used on one transaction (Thulani et al., 2011).

- **The importance of Security:**

This transaction need not be face-face, researchers have used social-capital/special network lenses to explore how the information technologies generate and reinforce social/economic relationships in ways that provide “returns” to actors (Huysman, 2004)

There are other ways financial institutions can enhance security in each mobile channel (MMA, 2009):

1. SMS security is particularly important whenever a device is lost or stolen, since SMS can be accessed without authorization.
2. Secure banking on the mobile web is similar to PC-centric banking services that use http, the mobile web limits storage risk and can use secure communication.
3. Mobile client application is more secure channel for transmission of data because the combination of a client application and server allow authentication of sensitive data

2.1.11 Satisfaction and E-satisfaction

Customer satisfaction is the key factor for companies to retain their customers, build customer loyalty and gain more profits (Reichheld, 1996).

The researcher reviewed several definitions for the meaning of customers’ satisfaction in the table 2:

Table 2. Definitions of customers’ satisfaction

Definition	Author/Year
Customers’ post purchase comparison between pre-purchase expectation and performance received”	(Oliver,1997)
Its balance between customer satisfaction and customer expectation in products and services by lift company customers’ experience to level that exceed customer’s expectation, then that customer will be.	(Zeithaml et al, 2002).
Something difficult to measure it that leads to have confused with perceived quality.	(Chiou, 2004)

Source: Developed by the researcher.

The common point concluded from these definitions is the fact that, at least, companies should meet e-customer expectation in one way or another for customer satisfaction.

Business and marketing activities are affected by internet technologies and the internet is revolutionizing commerce, marketing retailing, shopping and advertising activities of products and services. There are several attractive attributes of internet to not e-customer but also companies on:

Times, money saving, communicate, convince, easy accessibility, selection from a wide range of alternatives and availability of information for making decision and all marketing activities can be performed via the internet efficiently(Lai et al., 2005).

By using internet customers will be able to (Kolesar & Galbraith, 2000):

- 1) Fairly easily access information about product and service.
- 2) Easily locate a low price for a specific product and service.

There entrances key in measuring customer E-satisfaction and two entrance behavioral (Behavioral Approach) and (Attitudinal Approach), which marks the entrance of behavior on the behavior and actions of the customer with the organization, which depends on the number of times the purchase and the number of visits the procurement volume and frequency of purchase in a week or a month, while the directional marks the entrance to the attitudes and trends of the customer towards the organization through the adoption of a customer reference for other customers, after achieving customer satisfaction and retention(Egan, 2004, p. 40).

Current researchers mostly discussed for a design considering the dual e-satisfaction as:

The result of two parallel processes for customers’ E-satisfaction (Litifi & Gharbi, 2012):

1. **Cognitive:** which is based on a single standard of comparison (initial expectations) is far from sufficient to identify the process of formation of satisfaction.
2. **Emotional:** that raising from the non-confirmation of positive or negative initial expectations for the

experience of possession or consumption, as emotional satisfaction has been studied in research on the browsing experience but less evident in research on electronic commerce

2.1.12 The Advantages of Customers' E-satisfaction (Ma & Zhao, 2012)

- 1) To know the strengths of your services and products from the viewpoint of customers.
- 2) Earn customer's loyalty by focusing on their needs and desires.
- 3) Reduce the rate of losing employees.
- 4) The Bank seeks to maintain the quality of services to focus on the additional benefits
- 5) Assess the level of service that provided to customers by using a list of predefined measurement include service standards

2.1.13 How Can Banks Evaluate Customers' E-satisfaction?

For example china financial certification authority (CFCA) was established by 12 national banks in China .it is the authority agency to monitor online banking services in china they use percentage of increase in the number of users and the frequency of use (Abj, 2013).

- 1) The scope of the service provided.
- 2) Precision.
- 3) The timing of sending notices.
- 4) Easily subscribe to the service.

2.1.14 E-Satisfaction Relationship with E-Service Quality

Delivering quality service is considered to be essential strategy for success in today's competitive environment according to Berry and Zeithmal (2002).

Service quality and e-satisfaction implicitly includes issue such as price perception, which is usually felt rather than objectively measurable. The argument supporting service quality as an antecedent of satisfaction is that customers do not necessarily demand the highest quality service. While e-service quality considered to be causing e-loyalty directly. Furth more, satisfaction is conceptualized as a mediator of the relationship quality and loyalty (Yan & Fengjie, 2009).

Market research has indicated that service quality has a significant impact on customers' satisfaction, loyalty, retention and many other decisions and even for company's performance. Thus, to build customer trust and loyalty, so banks should shift to focus on e-service quality before, during and after the transactions (Wang, 2003).

2.1.15 Factors that Effect on Customer's E-Satisfaction through Service Quality (Wang, 2003)

- 1) Customer support
- 2) General feedback on the mobile application.
- 3) On-time delivery.
- 4) Following –up with customers' to last transaction

2.2 Previous Studies

2.2.1 Local Studies

1) (Khraim et al, 2011) Factors Affecting Jordanian Consumers Adoption of Mobile Banking Services: The Case Study of Jordanian Consumer.

The study aimed to identify the underlying factors that affect mobile banking adoption in Jordan while data have been collected for this study using a questionnaire containing 22 questions, out of 450 questionnaires that have been distributed, 301 are returned (66.0%) were the study population was in Hashemite Kingdom of Jordan.

According to the chosen methodological research approach the quantitative data was analyzed using statistical methods by SPSS statistical descriptive was used to find out the respondents demographics and general characteristics to provide a descriptive of the respondents.

This study results find that all the six factors: self efficacy, trial ability, compatibility, complexity, risk and relative advantage were statistically significant in influencing mobile banking that the potential factors that may influence the intention of mobile users to adopt mobile banking services.

2). (Zamil, 2011) the Implementation of Mobile Bank Usage from Marketing Point of View in Jordan.

The study aimed to determine the effect of the implementation of Mobile Bank usage from marketing point of view in Jordan. The data collected and processed through the use of SPSS, moreover analysis of variance (ANOVA) therefore the study population was in Hashemite Kingdom of Jordan.

The study results find that there is strong statistical evidence that difference exist between the implementation of Mobile Bank usage from marketing point of view of bank managers in Jordan due to the following factors: gender of bank managers, age of bank managers, qualification of bank managers, bank branch location.

3). (Khrais, 2011) the Adoption of Online Banking: a Jordanian Perspective.

The study aimed to investigate the adoption of online banking in Jordan, the study was conducted to examine the factors that influence the adoption of online banking among customers, this can be applied through determine the satisfaction of customer using online banking in Jordan that service quality has significant impact to their expectation. This research is approached by using survey method to examine the relationship between independent and dependent variables were the study population was in Hashemite Kingdom of Jordan.

The study results find will depend on the fully utilization of statistical data collected and analyzed using SPSS, the sample contains 80 respondents among 100 customers who deal with two banks in Jordan which were filled and returned completely distributed randomly and 20 were dropped due to incomplete answers.

The study results that this research show the functions of online bank site in term of features and other service quality is one of the crucial determinates of success of online banking online bank is must be always adaptability of rapid changes in technology to present a good service for customer in term of quality, availability, accessibility, interactivity, and friendliness to meet customer needs and focus always on increase level of customer satisfaction

4). (Al-Kasasbeh et al., 2011) Factors affecting E-Service satisfaction

The study aimed to explore the impact of website design navigation and personalization on e-service satisfaction, the study shows how the website design, navigation and personalization can effect on satisfaction the study suffers from two main limitations first, the sample employed student subjects second, the sample was collected in Jordan, generalizability to other countries might be limited due to cultural differences in website quality and e-satisfaction.

To examine factors affecting user satisfaction with e-services, a questionnaire was distributed to a random sample of (615) students out of (5918) at a Petra University in Jordan to explore their perceptions.

The study results revealed that higher the perceived quality of university's website design, navigation and personalization, more than satisfaction in e- service occurs. Therefore universities should focus on distinguishes design characteristics such as: creativity, consistency, organization of titles and subtitles and the balanced distribution of the diverse website content.

2.2.2 Foreign Studies

1). (Tiwari et al, 2006) Mobile Banking as Business Strategy: Impact of Mobile Technologies on Customer Behavior and its Implications for Banks.

The study aimed to examine the opportunities for banks to generate revenues by offering value-added; innovation mobile financial services while retaining and even their base of technology –savvy customers. The study population was surveyed in the German of Hamburg, Frankfurt, Munich a total of 488 persons in the age-group of 18-65 years a questionnaire giving information on their.

Perceived preferences and willingness to pay for 17 different financial services offered in mobile banking. The study results find that mobile banking seems to possess the potential to become one of the widely spread and accepted application in the field of mobile commerce, particularly in the backdrop of its high acceptance across commercially important sections of the society.

2). (Suleyman, 2010) E-Customer Satisfaction in the E-Tailing Industry: An Empirical Survey for Turkish E-Customer.

The study aimed to provide theoretical and empirical framework for determine drivers of e-customer satisfaction from e-trailers and highlight what is needed to increase e –customer satisfaction in Turkish ,the researcher use 552 questionnaires were analyzed with using SPSS program.

The study results find that e-customer satisfaction analyzed and tested by six drivers of e customer satisfaction: e-shopping cost-store design, e-customer service, information quality, shipping policy, all of these influence e-customer satisfaction positively, moreover e-customer satisfaction level are measured. Furthermore researcher

could be conducted with different drivers of e-customer satisfaction to determine their satisfaction levels in larger samples and different countries and to analyze similarities and differences.

3). (Masrek et al., 2012) Mobile Banking Utilizations, Satisfaction and loyalty: The Case Study of Malaysian Consumer.

The study aimed to show mobile banking utilization predicts user satisfaction and does satisfaction in mobile banking predicts loyalty. Were the study population was in Malaysia.

A survey methodology involving 312 respondents, the finding showed that mobile banking use is positively related to satisfaction not loyalty also it is found that satisfaction significantly predicts loyalty. The collected data were analyzed using statically computer programs known as IBM, SPSS version 20 and analysis of moment structure (AMOS) that used for structural equation modeling. The study results find that have empirically shown the importance of mobile banking services and its influence towards customer satisfaction in Malaysia not all banks have implemented mobile banking this finding should alert banking practioners that in line with the advancement of the ICT they have no other choice but to embrace and implement mobile banking or otherwise they would risk of losing their customers.

4). (Litifi & Gharbi, 2012) Journal of Internet Banking and Commerce the Case Study: E-Satisfaction and E-loyalty of Consumers Shopping Online.

The study aimed to impact of emotional state and perceived risk of remote purchase on e-purchase on e-satisfaction during the internet shopping in addition, the influence of e-satisfaction on e-loyalty.

The data gathering was carried out by a laboratory experiment followed by a questionnaire measuring the emotional state experienced during navigation, the perceived risk of by a remote, satisfaction and loyalty of shoppers. Were the study population was in Tunisia.

The study results find that three dimensions of the emotional state during Internet shopping) the pleasure, stimulation and dominance) have a significant positive impact on e-satisfaction and influences positively and significantly the e-loyalty of the cyber consumers.

5). (Ma & Zhao, 2012) Evidence on E-Banking Customer Satisfaction in the China Commercial Bank Sector.

The study aimed is to analyze factors of website quality that could influence e-banking customer satisfaction in the Chinese commercial banking industry, Moreover the paper also tries to explain the relation between website quality and customer satisfaction, and find some variables for keeping e-banking customer satisfaction, a model for analyzing empirically the link between website quality and e-banking customer satisfaction in Chinese.

The study results show that online –banking customer satisfaction cannot be described as one fact construct instead, it represents a multi factor that composed of website quality judgments while the resulting modified and exploratory factor analysis using SPSS. Were the study population in China .

6). (Ranjbarian et al., 2012) Factors Influencing on Customers' E-Satisfaction: A Case Study from Iran.

This study aimed to understand what creates a satisfying customer experience becomes crucial for on-line stores success in attracting more customers to purchase through online.

The study is empirical investigation which purpose and tests an e-satisfaction model were they used SPSS 17 and AMOS. A questionnaire was designed and pre-tested on 40 participants according to the standard approach .Were the study population was in Iran.

The study results to reveal four factors are: convenience, merchandising, security, serviceability have influence on customer e-satisfaction but the influence of website design on e-satisfaction effect on security and survivability.

7). (Hanudin Amin et al., 2012) Journal of Internet Banking and Commerce. The Case Study: Receptiveness of Mobile Banking By Malaysian Local Customers in Sabah, an Empirical Investigation.

The study aimed to investigate the factors that determine the local people of Sabah bank customers' intention to use mobile banking. This study extends the applicability of the technology acceptance model (TAM) to mobile banking and includes "perceived usefulness" and "perceived ease of use". The study population contains sample of local people of Sabah, in Eastern Malaysia and a limited number of measures in the model that provided 200 questionnaires.

The study indicate that perceived credibility ,perceived enjoyment and perceived self-efficacy are important determinates to predicting the intentions of Malaysia's customers' to use mobile banking, and also provide

general guidelines to banking institutions to better planning of mobile banking services as their future gadget of banking channels.

The study results to demonstrates the perceived usefulness and perceived ease of use have low impact on mobile banking use on the other hand perceived credibility, perceived enjoyment and perceived self efficiency were found to be very important patronage factors for mobile banking use.

8). (Malarvizhi & Rajeswari, 2012) User's Criteria for Selecting Mobile Banking Services in Coimbatore: Empirical Evidence.

The study aimed through lights on the following objectives to study awareness and usage of mobile banking services and to estimate the criteria for selecting the mobile banking services in Coimbatore cite. the primary data were collected from 100 samples and were selected by adoptive purposive sampling technique during the period January 2010-feburay 2010, the quantitative technique were applied simple percentage and Garrett ranking technique, were the study population was in India.

The study results finds that mobile banking users are all educated belongs to business group and middle income group, the study concludes that customers are likely to find mobile banking more useful and their expectation would also increase .In addition, the banks must be ready to meet expectations and provide them a hassle-free mobile banking experience.

9). (Al Jabri & Sohail, 2012) Mobile Banking Adoption: Application of Diffusion of Innovation Theory.

The study aimed is to fills the gap and examines a number of factors affecting the mobile banking adoption. Using diffusion of innovation as a baseline theory, data are obtained from 330 actual mobile banking users while the sampling technique for data collection was connivance and the findings can't be generalized because the majority of the sample size is young respondents between 18-25 years old. And it is found that relative advantage, computability, and observe ability have positive impact on adoption. The study population was in Saudi Arabia.

The study results that it will have practical implications for banking industry in Saudi Arabia that should offer mobile banking services that are compatible with various current user requirements, past experiences, lifestyle and beliefs in order to fulfill customer expectations.

10). (Saoji & Goel, 2013) Understanding Customer Response and Customer Satisfaction of Mobile Banking.

This study aimed to analyze the customer response and customer satisfaction of mobile banking through these factors-Were the study population was in India.

In addition, there are several factors that determine the customer satisfaction of mobile banking in India and they are efficiency, security, cost effectiveness, fulfillment Problem handling and accuracy in results that help to increase a number of advantages of mobile banking customers.

The study results find there have been a number of advantages of mobile banking and these advantages led to the increase in the number of mobile banking customers today. Almost all the private and public sector banks provide mobile banking facility to their customers for free of cost. Customers are highly satisfied with mobile banking system due to several reasons.

2.3 The Contribution of the Study

This study is one of the first local studies that shed a light on the impact of Mobile banking services on enhancing Customers' E-satisfaction in Jordan commercial banks.

This study covers all the dimensions of mobile banking services, which includes: reliability, flexibility, privacy, accessibility, eases to navigation, efficiency, security, and measures its impact on customers' E-satisfaction.

Furthermore, the researcher tries to focus on the importance and the advantages that customer will get such as facing no limitation in time or place through using the service . Mobile banking service helps customers to perform many transactions for example: check account, credit transfer, payment transaction and SMS.

The study focus on the advantages that will attract customer to use mobile banking, and to aware clients to make banking transaction through mobile, finally, the finding of this study is able to measure the customers' E satisfaction through using Mobile service that will directly enhance the relationship between bank and customer.

3. Methodology

3.1 Study Population

The population of the study is represented to the customers that use mobile banking service in commercial banks in

Jordan which are: Jordan Ahli Bank, Union Bank, Capital Bank, HSBC Bank. This service let customers able to do many transactions such as: SMS, account balance, payment transaction, credit transfer. In addition the service is also compatible with Smartphone, Android and BlackBerry operating phones. Banks use this service are: Jordan Ahli Bank, Union Bank and Capital Bank, HSBC Bank by the Association of Banks in Jordan and will be obtained a description of the new banking through their websites (Abj, 2013)

3.2 Study Sample

The sample of this study is convenience sample that include banks customers in the city of Amman and it is selected from commercial banks customers' that use mobile banking service, according to (Uma Sekaran, 2009) if the population size is bigger than 222640, the sample size will be 384. The researcher use Alexia website for general statistical to organize commercial banks in using mobile banking service in Jordan and how the researcher distributed the questionnaires. The responses number was (400) responses (360) questionnaire were accepted.

The researcher distributed the questionnaire that based on the rank of using mobile banking service that whenever the rank was lower the number of usage mobile banking service is high so the result shows that Ahli Jordanian bank got 832 rank second Capital bank got 1116 rank while Union bank got 3040 rank and finally HSBC bank got 3821, that's mean Ahli Jordanian bank got the higher rank based on the number of times in repeating usage mobile banking service (Alexia, 2013) and the results summarized in the table 3 below:

Table 3. Description of the study sample

Bank name	No. of distributed questionnaires	Frequency Percentage	No. of accepted questionnaires
Ahli Bank	145	36.7	132
Capital Bank	105	27.2	98
Union Bank	80	20.3	73
HSBC Bank	70	15.8	57
Total	400	100.0	360

Source: this table was developed based on SPSS analysis.

3.3 Study Instruments

The questionnaire was developed to collect data from the sample of the study after reviewing some of the previous literature addressing each of the variables by using likert five, it contains three domains of questions, the first group is about demographic questions (the name of bank, gender, age and education) about the study population, the second is about mobile banking service which includes seven sub domains and was covered by (28-questions): reliability (4-questions), flexibility (4-questions), privacy (4-questions) accessibility (4-questions) ease navigation (4-questions) efficiency (4-questions) security (4-questions) the third group is about customer E-satisfaction that covered by (7- questions) related to the table 1.

3.4 Study Validity

Validity for the questionnaire was obtained from four members of the marketing department from Applied Science Private University and other universities that some of the questions were modified or deleted.

3.5 Study Reliability

Study reliability were calculated by using test pre-test, in which the researcher applies the study tool on a sample of (50) customers of the same sample, after month the same sample was tested again, the consistency percentage was (94%); and to make sure of the results the researcher computed Cronbach's alpha for all the domains and the whole tool, the value was (0.983) as shown in table 4.

Table 4. Reliability analysis for the study domains

No. of Items	Chrobach's alpha
35	.983

Table 4 indicates that the Cronbach's alpha f or the study main items were above (60%); therefore it is suitable

for the purpose of this study. (Sekaran & Bougie, 2009)

3.6 Data Collection Method

Primary Data: were collected by using the questionnaire.

Secondary Data: were collected from previous studies, data from government department, websites, reports, books related to the subject of the study.

3.7 Measurement Tools

Likert five scale will be applied in asking the questionnaire question and measuring the study variables which is organized as strongly disagree to strongly agree and which takes the weight of (1-5) the measurement tool matches the study population and is tested in precedent studies.

3.8 Statistical Analysis

For the purpose of the study convenience statistics were computing using SPSS software statistical package in analyzing the data obtained from the sample and the below analysis were computed:

A) The tools of describing and diagnosing the study variables:

Frequency: used to review the study samples answers.

Percentages: show the proportion of answers for a particular variant of the total answers.

Mean: Display the average answers to a particular variable.

Standard Deviation: Shows the degree of dispersion of answers from its mean.

Cronbach Alfa: To measure the stability study tool.

B) The tools of selecting the study model:

- **Simple regression:** was used to find the influential relationship between two variables of the study variables.
- **F test:** was used to verify the significance of the relationship between the variables of the study.
- **T test:** was used to find significant differences between the mathematical means for the study variables.

4. Study Results

4.1 Study Sample Characteristics

Table 5. Characteristics for the study sample

Name of Bank	No.	%
Ahli Jordanian Bank	132	36.7%
HSBC Bank	98	15.8%
Union Bank	73	20.3%
Capital Bank	57	27.2%
Total	360	100%
Gender	No.	%
Male	176	48.9%
Female	184	51.1%
Total	360	100%
Age	No.	%
18-<26	64	17.8%
26-<35	143	39.7%
35-<44	79	21.9%
44-<53	55	15.3%
53 and more	19	5.3%
Total	360	100%

Education	No.	%
High school and below	49	13.6%
Diploma	136	28.6%
Bachelor	170	47.2%
Master	29	8.1%
PHD	9	2.5%
Total	360	100%
No. of respondents: (360)		

Source: This table was developed based on the SPSS analysis.

This study sample characteristics analysis in table 5 showed that the male and female respondents are almost equal, and also showed that the most of the respondents are between 26 to 35 years old, and in the education section the bachelor degree got the highest number of respondents.

4.2 Description of Study Variables

Descriptive statistics, the researcher computed the means and standard deviations for all the study domains as shown in table 6 below:

Table 6. Mean and standard deviation for the study main domains

Item	Mean	Std Deviation	Degree of Agreement
Mobile banking service	3.6883	.93349	High
Customer E-satisfaction	3.7234	1.06418	High
High:3.67-5.00	Moderate:2.33 -	3.66	Low:1.00 – 2.32

Source: This table was developed based on the SPSS analysis.

Table 6 showed that the means for the study main domains were form (3.68) to (3.72).

The customer E-satisfaction got the highest mean (3.72) and SD (1.06418), and mobile banking service were (3.6883) and SD (.93349).

The Formula shows that $3.6 \leq 5$ is high, $2.3 \leq 3.6$ is Moderate, and $2.3 \leq 1.00$ is Low. Also the researcher computed he means for all domains as shown in table 7 below:

Table 7. Mean and standard deviations for the study variables

Item	Mean	Std. Deviation	Degree of Agreement
Reliability	3.6979	0.96070	High
Flexibility	3.6438	1.01880	Moderate
Privacy	3.8576	0.93190	High
Accessibility	3.7125	1.01262	High
Ease of navigation	3.6646	1.14989	Moderate
Efficiency	3.6472	1.08702	Moderate
Security	3.5944	1.17724	Moderate

Source: This table was developed based on the SPSS analysis.

From the previous table 7 the mean for the domains were from (3.5) to (3.8) referring to a high degree, which the privacy got the highest mean (3.8) and SD (0.93), then the domain reliability with mean (3.69) and SD (0.96) at the third rank, also the table showed that the domain security got the lowest mean (3.59) with SD (1.177).

1). Mobile banking service

The analysis showed that the means for the mobile banking service domain items were from (3.68), with all high degree, the item “privacy” got the highest mean with (3.85) and SD (0.93), the item “Security” with mean (3.59) and SD(1.177).

2). Customer E-satisfaction

The analysis that the mean for customer E-satisfaction were from (3.72) and the SD were from (1.06).

4.3 Testing the Study Hypotheses

The researcher will test the study hypothesis and answer their questions in light of the previously mentioned ones.

4.3.1 Testing the First Main Hypothesis

Ho1: There is no significant impact of mobile banking services on customer’s E-satisfaction.

To test this hypothesis the researcher computed the simple linear regression, as shown in the following table:

Simple regression was performed and the results in table 8 showed that the strength of the relation between the dimensions of mobile banking service and the customer E-customer satisfaction in the researched of commercial banks in Jordan was (R=88.3%) and the coefficient of determination (R^2) showed that the explained difference percentage in the customer E-satisfaction because of the impact of mobile banking service of the commercial banks in Jordan is ($R^2=0.780$), which is acceptable percentage, meaning that (78.0%) of the total differences in customer E-satisfaction for the mobile service is determined through the mobile banking service .

This indicates that the regression is good explaining the relation between overall mobile banking service and customer E-satisfaction.

Table 8. The impact of mobile banking service on customer E-satisfaction

Independent variable	B	T	Sig
Mobile banking service	0.883	35.672	0.000*

(R=0.883; $R^2 = 0.780$; F= 1272.864); * significant level at $P \leq 0.05$.

Source: This table was developed based on the SPSS analysis.

The results of the simple regression analysis showed that there is positive impact of the mobile banking service on the customer E-satisfaction ($\beta=0.883$) at level of Significance (0.000). Accordingly the researcher rejects the null hypothesis and accepts the alternative hypothesis.

Ho1.1 There is no significant impact of reliability on customer’s E -satisfaction.

To test this hypothesis, the researcher computed the simple linear regression, as shown in the following table:

Simple regression was performed and the results in table 9 showed that the strength of the relation between the reliability of mobile banking service and the customer E-customer satisfaction in the researched of commercial banks in Jordan was (R=73.7%) and the coefficient of determination (R^2) showed that the explained difference percentage in the customer E-satisfaction because of the impact of reliability of commercial banks in Jordan is not less than ($R^2=0.543$), which is acceptable percentage, meaning that (54.3%) of the total differences in customer E-satisfaction for the mobile service is determined through the reliability of mobile banking service .

This indicates that the regression is good explaining the relation between reliability and customer E-satisfaction

Table 9. The impact of reliability on customer E-satisfaction

Independent variables	β	T	Sig
Reliability	0.737	20.631	0.000*

(R=0.737; $R^2 = 0.543$; F= 425.618); significant level at $P \leq 0.05$.

Source: This table was developed based on SPSS analysis.

The result of the simple regression analysis showed that there is positive impact of reliability on customer E-satisfaction ($\beta=0.737$) at level of significance (.000). Accordingly the researcher rejects the null hypothesis

and accepts the alternative hypothesis.

Ho1.2 There is no significant impact of flexibility on customer's E -satisfaction.

To test this hypothesis, the researcher computed the simple linear regression, as shown in the following table:

Simple regression was performed and the results in table 10 showed that the strength of the relation between the flexibility of mobile banking service and the customer E-customer satisfaction in the researched of commercial banks in Jordan was (R=62.3%) and the coefficient of determination (R^2) showed that the explained difference percentage in the customer E-satisfaction because of the impact of flexibility of commercial banks in Jordan is not less than ($R^2=0.388$), which is acceptable percentage, meaning that (38.8%) of the total differences in customer E-satisfaction for the mobile service is determined through the flexibility of mobile banking service .

This indicates that the regression is good explaining the relation between flexibility and customer E-satisfaction.

Table 10. The impact of flexibility on customer E-satisfaction

Independent variables	β	T	Sig
flexibility	0.623	15.056	0.000*

($R=0.623$; $R^2=0.388$; $F=226.672$); significant level at $P \leq 0.05$.

Source: This table was developed based on SPSS analysis.

The result of the simple regression analysis showed that there is positive impact of flexibility on customer E-satisfaction ($\beta=0.623$) at level of significance (.000). Accordingly the researcher rejects the null hypothesis and accepts the alternative hypothesis.

Ho1.3 There is no significant impact of Privacy on customer's E -satisfaction.

To test this hypothesis, the researcher computed the simple linear regression, as shown in the following table:

Simple regression was performed and the results in table 11 showed that the strength of the relation between the privacy of mobile banking service and the customer E-customer satisfaction in the researched of commercial banks in Jordan was (R=77.6%) and the coefficient of determination (R^2) showed that the explained difference percentage in the customer E-satisfaction because of the impact of privacy of commercial banks in Jordan is not less than ($R^2=0.602$), which is acceptable percentage, meaning that (60.2%) of the total differences in customer E-satisfaction for the mobile service is determined through the flexibility of mobile banking service .

This indicates that the regression is good explaining the relation between privacy and customer E-satisfaction.

Table 11. The impact of privacy on customer E-satisfaction

Independent variables	β	T	Sig
privacy	0.776	23.267	0.000*

($R=0.776$; $R^2=0.602$; $F=541.34$); significant level at $P \leq 0.05$.

Source: This table was developed based on SPSS analysis.

The result of the simple regression analysis showed that there is positive impact of privacy on customer E-satisfaction ($\beta=0.776$) at level of significance (.000). Accordingly the researcher rejects the null hypothesis and accepts the alternative hypothesis.

Ho1.4 There is no significant impact of accessibility on customer's E -satisfaction.

To test this hypothesis, the researcher computed the simple linear regression, as shown in the following table:

Simple regression was performed and the results in table 12 showed that the strength of the relation between the accessibility of mobile banking service and the customer E-customer satisfaction in the researched of commercial banks in Jordan was (R=78.1%) and the coefficient of determination (R^2) showed that the explained difference percentage in the customer E-satisfaction because of the impact of accessibility of commercial banks in Jordan is not less than ($R^2=0.610$), which is acceptable percentage, meaning that (61.0%) of the total differences in customer E-satisfaction for the mobile service is determined through the accessibility of mobile banking service .

This indicates that the regression is good explaining the relation between accessibility and customer E-satisfaction

Table 12. The impact of accessibility on customer E-satisfaction

Independent variables	B	T	Sig
accessibility	0.781	23.679	0.000*

(R=0.781; R²= 0.610; F= 560.716); significant level at P≤0.05.

Source: This table was developed based on SPSS analysis.

The result of the simple regression analysis showed that there is positive impact of accessibility on customer E-satisfaction ($\beta=0.821$) at level of significance (.000). Accordingly the researcher rejects the null hypothesis and accepts the alternative hypothesis.

Ho1.5 there is no significant impact of ease to navigation on customer's E-satisfaction.

To test this hypothesis, the researcher computed the simple linear regression, as shown in the following table:

Simple regression was performed and the results in table 13 showed that the strength of the relation between the ease navigation of mobile banking service and the customer E-customer satisfaction in the researched of commercial banks in Jordan was (R=87.4%) and the coefficient of determination (R²) showed that the explained difference percentage in the customer E-satisfaction because of the impact of ease to navigation of commercial banks in Jordan is not less than (R²=0.764), which is acceptable percentage, meaning that (76.4%) of the total differences in customer E-satisfaction for the mobile service is determined through the ease navigation of mobile banking service .

This indicates that the regression is good explaining the relation between ease navigation and customer E-satisfaction.

Table 13. The impact of ease navigation on customer E-satisfaction

Independent variables	β	T	Sig
Ease navigation	0.874	34.061	0.000*

(R=0.874; R²= 0.764; F= 1160.142); significant level at P≤0.05.

Source: This table was developed based on SPSS analysis.

The result of the simple regression analysis showed that there is positive impact of ease navigation on customer E-satisfaction ($\beta=0.874$) at level of significance (.000). Accordingly the researcher rejects the null hypothesis and accepts the alternative hypothesis.

Ho1.6 There is no significant impact of efficiency on customer's E -satisfaction.

To test this hypothesis, the researcher computed the simple linear regression, as shown in the following table:

Simple regression was performed and the results in table 14 showed that the strength of the relation between the efficiency of mobile banking service and the customer E-customer satisfaction in the researched of commercial banks in Jordan was (R=86.1%) and the coefficient of determination (R²) showed that the explained difference percentage in the customer E-satisfaction because of the impact of efficiency of commercial banks in Jordan is not less than (R²=0.742), which is acceptable percentage, meaning that (74.2%) of the total differences in customer E-satisfaction for the mobile service is determined through the efficiency of mobile banking service .

This indicates that the regression is good explaining the relation between efficiency and customer E-satisfaction.

Table 14. The impact of efficiency on customer E-satisfaction

Independent variables	B	T	Sig
Efficiency	0.861	32.064	0.000*

(R=0.861; R²= 0.742; F= 1028.131); significant level at P≤0.05

Source: This table was developed based on SPSS analysis.

The result of the simple regression analysis showed that there is positive impact of efficiency on customer E-satisfaction ($\beta=0.861$) at level of significance (.000). Accordingly the researcher rejects the null hypothesis and accepts the alternative hypothesis.

Ho1.7 There is no significant impact of security on customer's E -satisfaction.

To test this hypothesis, the researcher computed the simple linear regression, as shown in the following table:

Simple regression was performed and the results in table 15 showed that the strength of the relation between the security of mobile banking service and the customer E- satisfaction in the researched of commercial banks in Jordan was ($R=82.8\%$) and the coefficient of determination (R^2) showed that the explained difference percentage in the customer E-satisfaction because of the impact of security of commercial banks in Jordan is not less than ($R^2=0.686$), which is acceptable percentage, meaning that (68.6%) of the total differences in customer E-satisfaction for the mobile service is determined through the security of mobile banking service.

This indicates that the regression is good explaining the relation between security and customer E-satisfaction.

Table 15. The impact of security on customer E-satisfaction

Independent variables	B	T	Sig
Security	0.828	27.958	0.000*

($R=0.828$; $R^2= 0.686$; $F= 781.654$); significant level at $P\leq 0.05$.

Source: This table was developed based on SPSS analysis.

The result of the simple regression analysis showed that there is positive impact of security on customer E-satisfaction ($\beta=0.828$) at level of significance (.000). Accordingly the researcher rejects the null hypothesis and accepts the alternative hypothesis.

5. Study Results and Recommendation

5.1 Results Discussion

This chapter includes the discussion of the results and recommendations, depending on the study results, from the researcher point of view and based on the study results that show a strong relationship between mobile banking service and customer E-satisfaction. Mobile banking service can be categorized as the latest advancement in electronic banking, which has widened customers' access to bank accounts through wireless channels .Mobile banking is a financial service where the bank customers perform balance inquiry, credit transfer, account balance so what mobile banking service present is very important to effect on customer's E-satisfaction.

The support for the results is the information that the researcher use in many chapters in this thesis the researcher choose four commercial banks in Jordan who activate this service to customers' and Ahli Jordanian bank got the highest rank in bank transactions with customers 36.7%, this result gives us who is bank update his service in technology, according to the mobile banking dimensions privacy then accessibility were ranked high, these positive results from the researcher point of view could focus on what the users' concern and the increase customer awareness of using mobile banking service.in addition the results showed that the security got the lowest rank comparing with other dimensions.

This study contains demographic question by asking the name of bank, gender, education, age .As the researcher mentioned before that Ahli Jordanian Bank got 36.7, Capital Bank27.2, Union Bank 20.3, HSBC Bank 15.8 that's mean Ahli Bank is the most bank uses mobile banking service, then the researcher focus on gender which male got 48.9 and female 51.1 .the age got the highest rank 26≤35 39.7% and the lowest rank to 53 and more 5.3%

The education also has a portion in this study which is for the highest rank got to bachelor 28.6% and the lowest rank for PHD is 2.5%.

Related to the study mobile banking service has seven dimensions which are: reliability, flexibility, privacy, accessibility, eases navigation, efficiency, and security.

Privacy item got the high rank with mean (3.8576) because customers concern to keep their information in safety way and should have more confidential relation between bank and customer. Then accessibility is the second item with mean (3.7125) because to do many different transactions through your account, customer should

access easily anytime and anywhere. Then reliability with mean (3.6979) means customer concern how bank develop his performance from time to time and how bank can treat in emergency case and develop his services. Ease navigation item with mean (3.6646) also got the fourth rank because customer always link ease browse in mobile application. The fifth item is efficiency with mean (3.6472) to show how banks achieve customer's goals. Latest security item got the lowest rank with mean (3.5944) because customer knows very well that each one has customer ID and password and all the information needs will be on the web application.

5.2 Discussing the Study Hypotheses

The study results showed that there is a statistical significant impact of the overall dimensions of mobile banking services (reliability, flexibility, privacy, accessibility, ease navigation, efficiency, security) on the customer E-satisfaction. These are similar to the study of (Khrais, 2012). While the study results showed that there is a statistically significant impact between security dimension on enhancing customer E-satisfaction in using mobile banking, from the researcher point of view showed that customer concern in security though using mobile banking service in order to feel more secure (Saleem & Rahid, 2011) also the study result showed that there is a statistically significant impact between accessibility dimension on enhancing customer E-satisfaction in using mobile banking, from the researcher point of view showed that customer concern to use technology to do many banking transaction anywhere and access to the mobile application anytime (Ma & Zhao, 2012).

As the researcher showed from the above results all the dimensions of mobile banking service which are: reliability, accessibility, privacy, security, flexibility, ease navigation, security effect on customer E-satisfaction in simple regression test and the result lead us to know how is important these dimension. From the researcher point of view the privacy is the most important dimension because customer as we mentioned before concern to do their banking transactions and using mobile banking application in personal atmosphere.

5.3 Recommendations

- 1) The researcher suggests encouraging the widespread use of mobile banking; campaigns should be launched to disseminate the usefulness of the technology.
- 2) The researcher highly recommends improving the quality of the services to increase the customer E-satisfaction which means reliability dimension is important to support service quality.
- 3) The researcher suggests broadening the knowledge of mobile banking to be able to access to the services, so they do not hesitate to use the services.
- 4) The researcher suggests measuring the effectiveness and the efficiency of the services of the mobile banking for users.
- 5) The researcher recommends Telecoms and banks should work hand-in-hand to offer a high quality service and can reach to customer satisfaction in security way.
- 6) The researcher suggests banks to examine the navigational functions and compatibility of mobile banking application in order to increase the speed of online system responses to customer.
- 7) The researcher highly recommends commercial banks to let them need more time in order to activate, develop and innovate new techniques to encourage their customers being more flexible in using mobile banking service.
- 8) The researcher suggests highlighting for banks to focus on the value that the customer generates, rather than the value that banks can offer to their customers to have more privacy.

5.4 Recommendations for the Future Researchers

Based on the findings, the following recommendations are made in order to improve mobile banking service in Jordanian bank, banks may wish to examine the navigational functions and compatibility of mobile banking application these points will let banks to be able to increase the speed response of mobile banking users.

Suggests that the problem could be handled by increase customer awareness and education in this service by understanding the impact of familiarity with the technology and user experience and competence would be of value in this context.

These are the points to make several extensions of this study. first, how mobile banking service create customer E-satisfaction .second, have the ability to measure the infrastructure of technology and see how the infrastructure can contribute in banks service to be successfully in term of, service quality to present good service for customer.in order ,to increase customer E-satisfaction and the impact in mobile banking service .

References

- Al Kasasbeh, M., Dasgupta, S., & Al Faouri, A. (2011). Factors Affecting E-Service Satisfaction. *Communication of the IBIMA*, 1-12. <http://dx.doi.org/10.5171/2011.547937>
- Alba, J., Lynch, J., Weitz, B., & Janiszewski, C. (1997). Interactive Home Shopping Consumer, Retailer and Manufacturer Incentives to Participate in Electronic Marketplace. *Journal of Marketing*, 61(3), 38–53. <http://dx.doi.org/10.2307/1251788>
- Alexia for Statistical. Retrieved on Nov, 1, 2013 from <http://www.Alexia.com>
- Al-Jabri, I., & Sohail, M. (2012). Mobile Banking Adoption: Application of Diffusion of Innovation Theory. *Journal of Electronic Commerce Research*, 13(4), 379–391.
- Amin, H., Supinah, R., Aris, M., & Baba, R. (2012). Receptiveness of Mobile Banking. *Journal of Internet Banking and Commerce*, 17(1), 1–12.
- Anand, A. (2007). E-Satisfaction—A Comprehensive Framework International Marketing Conference. *Marketing and Society Journal*, 6(3), 440–490.
- Andreou, A., Chrysostomou, C., & Schizas, C. (2009). *Mobile Commerce Applications and Services*. Unpublished PhD Thesis, University of Cyprus, Cyprus.
- Arab Advisors report of smart phones users. Retrieved on July 7, 2013 from <http://www.arabadvisors.com>
- Behjati, S., Nahich, M., & Haman, S. (2012). International Between E-service Quality and E-satisfaction and Loyalty. *European Journal of Business and Management*, 4(9), 75–85.
- Bilal, M., & Sankar, G. (2011). *Trust and Security Issue in Mobile Banking and its Effect on Customers*. Un-Published PhD Thesis, Blekinge Institute of Technology, Sweden.
- Central Bank of Jordan. Retrieved on October 1, 2013 from <http://www.cbj.gov.jo>
- Chiou, J. S. (2004). The Incidents of Consumers Loyalty Toward Internet Service Providers. *Information and Management Journal*, 4(2), 416–485.
- Dmoor, H. (2005). *Service Marketing* (4th ed.). Dar Wael, Amman.
- Egan, J. (2004). *Relationship Marketing—Exploring relational strategies in marketing* (pp. 22–24). Pearson Education- Prentice Hall.
- EL-Kiki, T., & Lawrence, E. (2007). *Mobile User Satisfaction and Usage Analysis Model of M-Government Services*. Unpublished PhD Thesis, University of Technology Sydney, Australia.
- Fang, L., & Yang, K. (2013). *A Study of Optimization on Bank Counter Service Reliability*. Unpublished PhD Thesis, Chung Yang Christian University, China.
- Gunther, J. (1997). *Geographic Liberalization and the Accessibility of Banking Service in Rural Areas*. UnPublished PhD Thesis, University of Texas, Texas.
- Huysman, M. (2004). *Social Capital and Information Technology*. Unpublished PhD Thesis, University of Cambridge, United Kingdom.
- Jepleting, A., Oscar, S., & Bureti, P. (2013). Effects of Mobile Banking on Customer. *International Journal of Innovation Research in Management*, 3(2), 29–40.
- Jervona, J., & Todd, M. (1998). The Hierarchical Influence of Personal Values on Mall Shopping Attitude and Behavior. *Journal of Retailing*, 47(1), 52–139.
- Kaddomi, T. (2008). Factors Affecting the Spread of E-Exchange. *Jordan Journal of Applied Science*, 11(2), 293–311.
- Kee-Hung, L., Nagi, E., & Cheng, T. (2005). Information Technology Adoption in Hong Kong's Logistics Industry. *Transportation Journal*, 44(4), 1–10.
- Kharis, L. (2012). The Adoption of Online Banking :a Jordanian Perspective. *European Journal of Business and Management*, 4(16), 163–177.
- Khrain, H., Al-Shoubaki, Y., & Kharaim, A. (2011). Factors Affecting Jordanian Consumers' Adoption of Mobile Banking Services. *International Journal of Business and Social Science*, 2(20), 96–105.
- Kolesar, M., & Galbraith, R. (2000). A Service marketing Perspective on E-retailing. *Internet Research—Electronic Networking Journal*, 10(5), 424–438. <http://dx.doi.org/10.1108/10662240010349444>

- Litfi, M., & Gharbi, J. (2012). E-Satisfaction and E-Loyalty of Consumers Shopping Online. *Journal of Internet Banking and Commerce*, 17(1), 1–21.
- Ma, Z., & Zhao, J. (2012). Evidence on E-banking Customer Satisfaction in the China Commercial Bank Sector. *Journal of Software*, 7(4), 927–933. <http://dx.doi.org/10.4304/jsw.7.4.927-933>
- Malarvizhi, V., & Rajeswari, A. (2012). Users' Criteria for Selecting Mobile Banking Services in Coimbatore. *Asian Journal of Research in Marketing*, 1(1), 1–10.
- Malaysia Local Customers in Sabah. *Journal of Internet Banking and Commerce*, 17(1), 1–13.
- Masrek, M., Omar, U., & Khairuddin, I. (2012). Mobile Banking Utilization, Satisfaction and loyalty. *Science Series Data Report Journal*, 4(12), 20.
- Migdadi, Y. (2012). The Developing Economies' Banks Branches Operational Strategy in the Era of E-Banking. *Journal of Emerging Technology in Web Intelligence*, 4(2), 189–197.
- Oliver, D. (1997). Customer Satisfaction do Matter. *Journal of Database Marketing*, 5(4), 392–393.
- Ranjbarian, B., & Fath, S. (2012). Factors Influencing on Customers'-Satisfaction. *Interdisciplinary Journal of Contemporary Research in Business*, 3(9), 1–17.
- Research of the Federal Bank of St. Louis. (2010). *E-Satisfaction in the E-Tailing Industry*. Research Report, Turkey.
- Richheld, F. (1996). *The Hidden Force Behind Growth Profits and Lasting Value*. Unpublished PhD Thesis, Harvard Business School Publication, Boston.
- Saleem, Z., & Rashid, K. (2011). Relationship between Customer Satisfaction and Mobile Banking Adoption in Pakistan. *International Journal of Trade, Economics and Finance*, 2(6), 537–544. <http://dx.doi.org/10.7763/IJTEF.2011.V2.162>
- Saoji, S., & Goel, P. (2013). Understanding Customer Response and Customer Satisfaction of Mobile Banking in India. *International Journal of Advanced System and Social Engineering Research*, 3(1), 1–5.
- Sekaran, U., & Bougie, R. (2009). *Research Methods for Business: A Skill Building Approach*. Unpublished PhD Thesis, John Wiley and Sons University, United States.
- Shamot, M., & Al-Sheikh, M. (2008). Adoption of Mobile Banking Services in Jordan. *Scientific Journal of King Faisal University*, 9(2), 253–266.
- Sharma, P., & Singh, P. (2013). Barriers in Adoption and Service Preferences. *Journal of Management*, 5(1), 7.
- Szymanski, D., & Hise, R. (2000). E-Satisfaction Initial Examination. *Journal of Retailing*, 76(3), 309–322. [http://dx.doi.org/10.1016/S0022-4359\(00\)00035-X](http://dx.doi.org/10.1016/S0022-4359(00)00035-X)
- Telecommunication regularity Commission report of using mobile in Jordan. Retrieved on April 2, 2013 from <http://www.trc.org.jo>
- The Association Banks of Jordan report of banks in Jordan. Retrieved on April 9, 2013 from <http://www.abj.org.jo>
- Thulani, D., Kosmas, N., Collins, M., & Lloyd, C. (2011). Adoption and Use of SMS/Mobile Banking Services. *Journal of Internet Banking and Commerce*, 16(2), 1–5.
- Tiwari, R., Buse, S., & Herstatt, C. (2006). *Impact of Mobile Technologies on Customer Behavior and its Implications for Banks*. Portland International Conference on Management of Engineering and Technology Istanbul University.
- Turban, E., & Lee, J. (2004). *Electronic Commerce: A managerial perspective*. Upper Saddle River, New Jersey: Pearson Education, Inc.
- Van-Riel, A., Liljandaer, V., & Jurrriens, P. (2001). Exploring Consumer Evaluation of E-services. *International Journal of Service Industry Management*, 12(4), 359–377. <http://dx.doi.org/10.1108/09564230110405280>
- Wang, M. (2003). Assessment of E-service Quality via E-Satisfaction in E-Commerce Globalization. *EJISDC Journal*, 11(10), 1–4.
- Wang, Y., & Lin, M. (2011). Determinants of User Acceptance of Internet Banking. *International Journal of Service Industry Mangment*, 14(5), 501–519. <http://dx.doi.org/10.1108/09564230310500192>
- Yan, Y., & Fengjie, J. (2009). *The Empirical Study on the Influencing Factors of Customers E-loyalty*. Un

Published PhD Thesis, Harvard Business School Publication, Boston.

Zamil, A. (2011). The Implantation of Mobile Bank Usage from Marketing Point of View in Jordan. *Panjana Journal*, 14(1), 1–22.

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Services Quality Delivery Through Website. *Journal of Academy of Marketing Science*, 52(4), 2–22.

Zhengwei, M., & Zhao, J. (2012). Evidence on E-Banking Customer Satisfaction in the China Commercial Bank Sector. *Journal of SoftWare*, 7(4), 927–933.

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