

# The Impact of Electronic Banking Services on the Customers Loyalty of Commercial Banks in Jordan

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**Abstract** *The study aimed to examine the impact of Electronic banking services on the customers' loyalty of commercial banks in Jordan. The Electronic banking services represented by (ease of use, usefulness, cost of use, web site design, Privacy and accessibility). The population of the study consisted of customers of commercial banks in the North region of Jordan which are (Cairo Amman Bank, The Housing Bank for Trade and Finance, Ahli Bank, Bank Al-Etihad, Bank of Jordan, Arab Bank), a random sample was taken amounted (400) participants, SPSS version17, was used to examine the study hypotheses and achieve its objectives. The study found that there is statistical significant impact of the Electronic banking services (Ease of use, usefulness, Web Site Design, privacy) on Customers loyalty of commercial Banks in Jordan. Regarding the dimension of Accessibility, the study indicates that it had insignificant impact on Customers loyalty. The researchers recommend the use of specialists in the field of electronic sites design in particular, because the site attractiveness needs experience sufficient experience in this area to support its attractiveness for customers, and to benefit from the experiences of the developed countries in the field of software technology control and protection of customer information, in order to strengthen current Software applied to those banks.*

**Key words** Electronic banking service, customers' loyalty, commercial banks, Jordan

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## 1. Introduction

The world has witnessed an expansion and great development in the recent years, particularly in information technology, which has prompted banks to exploit this development to communicate data and information through modern technology and the Internet to provide broader benefits to customers for the pursuit of excellence in service. Since the customer is the basis of banking work, so the banks had to research into ways of excellence to achieve customer loyalty and keep it to maintain him, besides attracting more clients.

The communications and information revolution has led to fundamental changes in the banking sector, as banks sought to intensify their efforts and employ their full potential and resources to take advantage of this progress and adapt the technological methods to ensure its delivery service to customers easily, and meet the customers' expectations. The technological revolution has also contributed to a direct impact on the banks activities, and financial systems worldwide through the great development of computers and the widespread of the Internet and appearance of innovation in banking services, causing it to enhance customer confidence in the banking system and increase performance.

Banks became capable of delivering services to their customers through the Internet and other modern electronic technologies, that enable them to perform all banking transactions, these services are (service inquiring about account balances, interest rates, exchange rates, credit facilities, account statements, pay bills, and money transfers) and all these services are offered in both Arabic and English language.

In the line with the technological revolution, Jordan has witnessed development in various economic fields, and this development of the banking sector in Jordan is considered as the most important aspect of economic advances, Jordanian banks have reached an advanced stage of using modern technology to provide electronic banking services to customers using quick communication systems and sophisticated information network in terms of inclusiveness and protection, so bank was able to keep up with developments happening in the developed nations in the field of banking work. These developments also reflected on the performance of many Jordanian commercial banks that offer online banking services to their customers, whether individuals or institutions.

E-banking services provide benefits for both the customer and the Bank, it provides additional channels for the Bank to provide services to customers at less cost and time, and access to wider geographical areas to attract more customers, as the customer is the focus of competition among banks, banks had to create powerful strategies for excellence in the banking services, and overcome competitors in the same sector to enhance customer confidence in the bank's ability to meet their needs with a high level of secrecy, and persuade them to switch from traditional banking services to electronic banking services, and therefore the customer access to the stage of loyalty to the service offered by the Bank. Researchers see that there are several factors that affect the level of customer acceptance of electronic banking compared to traditional banking including ease of use, the benefit of usage, privacy, website design, accessibility, cost of use, all these factors possible to achieve customer loyalty if studied properly.

## **2. Literature review and hypotheses development**

### **2.1. Electronic banking services**

Recent decades have witnessed a radical shift in the financial and banking sector and as a result of the revolution in information and communication technology, several new ways came to provide banking services to customers which newly defined electronic banking. Where it is considered as one of the most widely used distribution channels in financial services institutions (Fonchamnyo, 2013).

On the other hand, the banking sector is considered as one of the pillars underpinning of the economy in all countries of the world, and based on the challenges facing the business environment in the financial services market which led to increased pressure on banks to develop alternative channels beyond the traditional performance style, and don't adhere to a place or a specific time in its financial transactions in order to attract more customers and improve customer perceptions about the services provided by this sector. The banking sector was the most abreast of technological developments with aim to increase the efficiency and effectiveness of performance; banks must take advantage of the communications and information revolution and employ them through electronic banking (Essam *et al.*, 2006).

So many Jordanian banks shift toward electronic banking services and employ all their energy and investments for the development of electronic banking service to meet the challenges, seize opportunities, and improve their service quality which helps to reduce costs and gain customer satisfaction. As an example of one of these developments achieved by this sector allow customer to conduct transactions and access their accounts via various electronic means, notably (ATM), and other modern ways to display and talk about them.

#### **2.1.1. Concept of electronic banking services**

Recently noted an increased interest in the service sector where countries turned from manufacturing economies to service economy, the main reason is the revolution in communications and information technology. So business organizations must focus on the service sector to meet the needs of customers and maximize their loyalty.

The American Marketing Association defines services as intangible products which are exchanged directly from the producer to the customer, and not transported or stored and often perish quickly (Swedan, 2009). Kotler and Armstrong (2001) defined service as any activity that is exchanged between two parties with a condition that this activity is intangible, and does not result in ownership of anything. It is also an intangible activity occurs between the customer and the service provider aims to satisfy the needs and expectations of customers (Atrophy, 2008). Afrouz (2006) indicates that the service is a process that

consists of a series of intangible activities, which are not necessarily the interaction between customers and service providers directly, happens.

Number of titles to express the banking services including "Electronic banks, 'Internet Banking, Home Banking, with the differences among these titles, some researchers defined electronic banking services as customers manage their accounts and do all their business and services offered by the Bank through the Internet (Arabs, 2000) it is worth noting that electronic banks use two models to deliver banking services for customers, where the first model is called the integrated model that banks offer their services via the Internet an extension to do so in this model are additional services offered by the bank to the customer, the second model is called the term unilateral model when banks offer and provide their services only via the Internet and have no other branches called (Virtual Banks), where this type of banks with low operating costs because there is no branches and fewer employees. (Arab, 2001: 416). Many researchers have addressed the definition of electronic banking services, and we summarize the most important definitions in table 1.

Table 1. Definitions of electronic banking services

Researcher	Definition
Jane <i>et al.</i> (2004)	Provide banking services to customers via the Internet starting from the ATM service and the end of the transfer of funds electronically
Riedl <i>et al.</i> (2009)	Provide banking services to customers through the Internet and self-service centers.
Ahmad and al Zubi (2011)	The bank gives the opportunity to its customers to gain access to their accounts and the implementation of their transactions and purchase products directly via the Internet.
Ala' Eddin <i>et al.</i> (2011)	A portal through which customers can use all kinds of banking services, from paying bills and end of the financial investments.
Asli (2011)	System that enables customers to access their accounts and obtain general information about the services offered by the bank via the Internet.
Jazani <i>et al.</i> (2012)	Banking services to provide a high degree of convenience that enables customers to access their accounts at time and place that suits them.
Aliyu (2012)	using technology by the bank by to connect with customers, and presentation of financial services from its path.
Salhieh <i>et al.</i> (2013)	Provide banking services to customers and allow them to carry out financial operations of (withdrawals and deposits, transfer funds, pay bills, request loans, make sure the account balances .... and others) 24 hours through the Internet.

Based on the above, the researchers define electronic banking services as an electronic approach through which banks using modern technology to deliver services to their customers without having to rely entirely on the human element, and skip the geographic barrier which saves time, effort and money.

### 2.1.2. Electronic banking services measures

Many of the researchers who studied the electronic banking services and the difference were in the number of methods or disagree in the title. These tools measure the acceptance of customers regarding the electronic banking services, which affecting customer loyalty. Where getting service between the customer and the service provider via electronic media. While traditional way of delivering service to customer is made between directly, so electronic banking services providers requiring to study these dimensions and see how they affect customer loyalty (Hussein, 2011). As the table below shows the group of dimensions addressed in previous studies.

Table 2. Measures of Electronic banking services as mentioned by researchers

Researchers	Dimensions
Bauer and Hammerschmidt (2005)	Responsiveness, Added value, Security, Trust
Chien-Ta <i>et al.</i> (2010)	Web design, Assurance ,Security,
Ala' Eddin <i>et al.</i> (2011)	Accessibility †Security †Design †Content †Speed, Fees and Charges.
Salhieh <i>et al.</i> (2011)	Ease of Use †Usefulness †Security and Privacy †Enjoyment.

Researchers	Dimensions
Abbad <i>et al.</i> (2012)	Reliability ∙ Efficacy and Effectiveness ∙ Security ∙ Privacy, Differentiation.
Tan and Teo (2000)	Reliability ∙ Responsiveness ∙ Assurance ∙ Empathy ∙ Tangibility
Ma and Zhao (2012)	Website quality ∙ Privacy ∙ Security ∙ Ease of Use ∙ Fulfillment
CHU <i>et al.</i> (2012)	Efficiency ∙ Reliability, Fulfillment, Privacy, Responsiveness ∙ Compensation.
Cletus (2012)	Security ∙ Trust ∙ Cost of Service, Usefulness ∙ Accessibility
Hassanuddin <i>et al.</i> (2012)	Ease of Use ∙ Security ∙ Privacy ∙ Quality of Internet Connection

Based on the above the researchers addressed means of providing electronic banking services that affect customer loyalty commensurate with the population conducted , where we rely on a set of Arabic and foreign studies, and based on our opinion to clarify which consist of six means: Ease of Use, Usefulness, Cost, Privacy, Website Design, Accessibility.

## 2.2. Loyalty concept

The concept of loyalty is extremely important because of rising competition among organizations which provide goods and services to customers with several options as they want from anywhere, and as the customer loyalty is the shortest way to increase profitability and ensure the continuity of the organization, organizations had to study deeply of the nature and buying behavior of customer, and surrounding environment in order to develop successful strategies to attract and ensure repeat buying to bring it to the stage of loyalty

At the level of banking services that has seen its rapid growth because of economic agreements that worked to revitalize trade between countries, and international deregulation on capital movements, and under these shifts and rising competition and similarity in services provided by banks, this matter has increased the awareness of customer toward services provided by international banks and services to be provided by the national bank, Where multiple choices provided to customer, made him pay attention to the way he receive service, and the Bank's ability to provide the service with speed, quality and cost favored by the client in addition to the bank's ability to keep up with technological developments in the way they provide services, all this has led to increased attention to the customer to create permanence in his dealings with the bank, and therefore the access stage of loyalty as mentioned earlier, that customer loyalty is the shortest way to increase profitability, which is an inevitable consequence of reducing marketing cost and increase sales (Haloz, 2010).

Loyalty can be defined in general as positive feeling the customer shows towards a brand, service, or activity, which is a feature in the customer than it is something inherent in the brand where we see that there is no agreed definition by researchers of loyalty being characterized by compliance and fork dimensions. Arafa (2006) defined loyalty that is the people's desire to repeat buying a particular brand in addition to customer turnout towards a certain brand more than other brands, and in another definition it is customer's insistence on buying a product or a specific service despite of promotional and marketing environment surrounding that may contribute to change in buying behavior (Kotler and Keller, 2006).

Mowen and Minor (2001:210) define loyalty as personal behavior reflects the tendencies towards a particular brand and the customer's intention to repeat purchases of the brand in the future. Ali (2009) defines loyalty as a bias toward buying a particular product or service with a sort of continuity in the sense the requirement of purchase occurs at least twice. From the previous definitions we find that loyalty needs rebuy, and the trend toward product or service which means that loyalty consists of behavioral loyalty, and attitudinal loyalty which combine the loyalty models or loyalty theories.

### 2.2.1. Loyalty models

Behavioral loyalty: behavioral loyalty to a product or service through an individual's intention to shift to actual buying behavior, where it is tangible and the direct benefits for the organization appears through the purchase of real product or service, in addition to real loyalty to the product can be difficult to create or keep it without caring about attitudinal concepts that affect customer behavior (Kumar and Shah, 2004).

Directional loyalty: showing customer attitudes towards a product or service or a particular brand, but is not considered sufficient to achieve the actual purchase process but requires a positive attitude

towards a certain brand to ensure its transformation toward real behavior in the future, and could lead to give value to brand through spoken word (WOM) (Kumar and Shah, 2004).

### **2.3. Electronic banking services measures and customer loyalty**

*Ease of use:* the ease of use of the website is the most important factors that positively affect continuing customer in using electronic banking services. So you can define ease of use as users perception score around how the system is easy and this system is of free effort (Salhieh, 2011), and for electronic banking service is customer perception of access to the service and make financial transactions more easily and smoothly compared to the traditional method.

A study of Al-Madi (2011) he defined ease of use as the ability of customers to try new innovation and benefit from its advantages more easily, so in his study he found a statistically significant relationship between the ease of use of a particular system and customer satisfaction which in turn affects their loyalty to service. In the table below highlights the definitions covered by researchers and academics for ease of use. Fassanacht and Koese (2006) defined ease of use as the customer's ability to use the site including surveys, research and mobility of service to others and get information with ease. While Bresselles *et al.* (2008) defined ease of use as the degree to which the customer interacts with the website and the ability to complete their tasks quickly and easily. Ma *et al.* (2012) defined ease of use as the possibility of using the Bank website easily by customers including searching and navigating between pages. Based on these findings the following hypothesis is suggested:

*Ha: Ease of Use directly influences the Customers Loyalty of Commercial Banks in Jordan*

*Usefulness:* a study of Salhieh *et al.* (2013) addressed this dimension as the degree of belief of people that use a particular system would enhance this their functional performance, from the customers perspective means the extent of the benefit that can be achieved by the electronic banking system, and their contribution to promoting efficiency and overall performance, so this study found that the proportion of customer perception of the benefit of using electronic banking services were high, which means accepting them to conduct electronic transactions in a way that will enable them to benefit from the advantages of banking service more easily and quickly. Cletus (2012) defined Usefulness as the ability of the electronic system to improve banking transactions compared to the traditional.

The researchers view Usefulness as the personal expectation of customers that their use of electronic banking system would improve access to service, and the ability of the system to meet the needs and expectations of the customers, and its effectiveness in solving their problems with a goal to create loyalty among customers of commercial banks. Based on these findings the following hypothesis is suggested:

*Hb: Usefulness directly influences the Customers Loyalty of Commercial Banks in Jordan*

*Cost of use:* Rosu (2011) studied this factor and the ability of the banking service to reduce overall costs for the customer and the Bank both in comparison to traditional banking, researcher found that commercial banks need to reduce costs as a result of the extended deployment of commercial banks and rising competition and customer awareness about the cost of providing service around the world, and the time taken in getting service at customer aspire.

Study of Jazani *et al.* (2012) have found that electronic banking services have succeeded in reducing operational and administrative costs, which in turn has improved customer satisfaction on electronic banking service, and maintained a long term relationship between the bank and the customer. In the table below highlights the definitions covered by researchers and academics to cost of use. Alkrom (2006) defined Cost of use as raising the level of service without having to spend more money, while Ala` Eddin *et al.* (2011) noted that the success of electronic service reduce costs which impacts positively on customer loyalty

The researchers believe that electronic banking services have added value compared with traditional service for both the bank and the customer. With regarding to banks they become able to reduce cost , and provide them the ability to reach a larger segments of customers without having to create new branches, either from the standpoint of the customers they have achieved a high degree of benefit, it is considered almost free service plus not linked to a specific time or place , and reduce the cost to get into the bank

branch ,and the time to get service which directly affects customer satisfaction and thus customer loyalty to the service offered by commercial bank. Based on these findings the following hypothesis is suggested:

*Hc: Cost of use directly influences the Customers Loyalty of Commercial Banks in Jordan*

*Privacy:* Privacy is one of the most important factors that may affect the customer and bank alike, which pushes the customer to repeat the electronic banking services or not. Ahmad and al-Zu'bi (2011) defined privacy as customer confidence in the bank's ability to provide privacy policies of electronic services, that may affect their willingness to accomplish their transactions via the Internet, and provide security controls to protect data from either an internal or external attack. Omeish (2005) focused on his study that security controls include all electronic banking services to maintain the confidentiality and security of information of the bank, and the customer alike, which necessitating banks using multiple techniques and methods to provide confidentiality and security to maintain of customer confidence of electronic service offered by a commercial bank.

Alkrom (2006) study noted that the risk of penetrating the secret systems of the bank and the customer and they are the most important challenges for e-banking service, which the bank must do constant updating of laws and legislation concerning security and confidentiality of information to achieve a high degree of confidentiality in dealings between the Bank and the customer. Iliachenko (2006) defined Privacy as to protect customers and their financial and personal information from risks of fraud and espionage. While Sheng and Liu (2010) referred to Privacy as feeling of customers of the privacy of their information, and provide a high level of protection while getting service e-soft

Researchers believe that the issues of confidentiality have high impact on customer acceptance of electronic banking services, and their ability to disclose their data via the Internet according to the customer's confidence in the bank's ability to provide adequate protection for this information. In the table below highlights the definitions covered by researchers and academics for privacy. Based on these findings the following hypothesis is suggested:

*Hd: Clear goals directly influences the Customers Loyalty of Commercial Banks in Jordan*

*Website design:* Ahmad and al-Zu'bi (2011) defined website design as the image that shows where the bank website in the mind of customers, and the goal of the aesthetic website design is to make it attractive and fun for the customer in terms of visuals. They also explained that while designing the website, they should focus on the users of different groups' age, in addition to their differences in abilities, to ensure it can be used easily from all categories to achieve positive impact of the website design on the customers' satisfaction and loyalty. Their study concluded after conducting statistical analysis on the targeted sample a statistically significant impact of website design on customer satisfaction.

In another study of Casalo *et al.* (2008) explained that the website design is one of the most important factors that determine the quality of this website and therefore a direct impact on the level of customer satisfaction. Abu Al-nadi (2006) referred that website design should involve the aesthetic and Visual attractiveness such as font type, size, the sound effects and the clarity of the text. Based on these findings the following hypothesis is suggested:

*He: website design directly influences the Customers Loyalty of Commercial Banks in Jordan*

*Accessibility:* it means the ability of users to access information and services offered on the online bank site, as this is the opportunity for customers to navigate through the site in an orderly fashion, in addition to enable customers to access needed banking services anytime, anywhere and through any device to ensure communication between the bank and the customer from anywhere in the world (Omeish, 2005). In the table below highlights the definitions covered by researchers and academics for accessibility. Ala` Eddin *et al.* (2011) defined accessibility as the ability for users to access information and services via the Internet, while Cletus (2012) defined accessibility the extent to which customers can obtain electronic banking services at adequate time and such as cash currency conversion , deposit and credit facilities. Based on these findings the following hypothesis is suggested:

*Hf: Accessibility directly influences the Customers Loyalty of Commercial Banks in Jordan*

### 3. Research framework

Based on study hypothesis, the following theoretical framework, shown in Figure 1. As can be seen from the framework, the study investigates the Impact of electronic banking services on the Customers Loyalty of Commercial Banks in Jordan, where electronic banking services are the independent variable and are positively related to Customers Loyalty as the dependent variable.

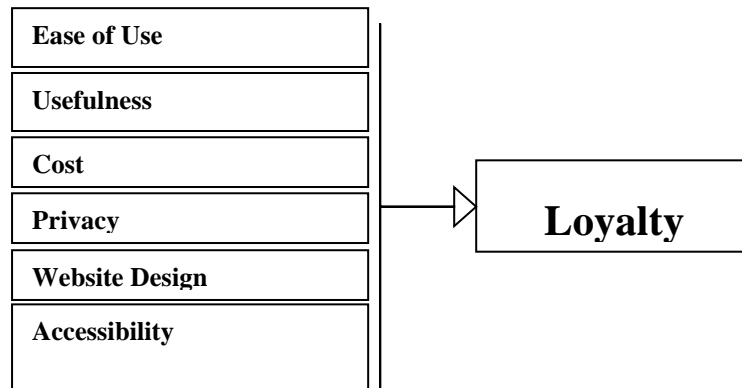


Figure 1. Theoretical Model

### 4. Methodology of research

In this section, we discuss measures, sample and data collection as well as the statistical tests used to evaluate the hypothesis.

#### 4.1. Measures

The constructs in this study were developed by using measurement scales adopted from prior studies. Modifications were made to the scale to fit the purpose of the study. All constructs were measured using five-point Likert scales with anchors strongly disagree (= 1) and strongly agree (= 5). All items were positively worded. Electronic banking services consist of Ease of Use, Usefulness, Cost, Privacy, Website Design, and Accessibility were adapted from previous studies (Ala`Eddin *et al.*, 2011; Abbad *et al.*, 2012; Salhieh *et al.*, 2011; Cletus, 2012; Hassanuddin *et al.*, 2012). Loyalty was adapted from previous studies (Oliver, 1999).

#### 4.2. Sample

A study population consisted of all customer dealing with electronic banking services at north region of Jordan, a convenience sample was taken from the study population mounted (400) customers. The unit of analysis of this study was customer of electronic banking services at north region of Jordan. The questionnaires, with instructions of how to complete them, were distributed to respondents by an interviewer. Subjects were asked to assess their perceptions of various items of different constructs.

Table 3. Sample characteristics

Variable		Frequency	%
Gender	Male	206	62.6
	Female	123	37.4
Age group	less than 25	45	13.6
	25- less than 35	121	36.8
	35- less than 45	97	29.4
	45 years and more	66	20.06
Educational level	Secondary school	42	12.7
	Diploma	56	17.02
	Bachelor	167	50.7
	Post graduate	64	19.45

Assessments were based on A Five-point Likert scale ranging from “strongly disagree (1) to “strongly agree (5) was used to measure the 34 items. In order to minimize possible response bias, instructions emphasized that the study focused only on their personal opinions. There were no rights or wrong answers. After completion, the questionnaires were checked and collected by the interviewer. However, due to some invalid questionnaires which were removed from the population. The total questionnaires was 329 valid for analysis, Table 3 shows the characteristics of the sample.

The largest group of respondents (**36.8** percent) was aged 25- less than 35. The next largest group (**29.4** percent) was aged 35- less than 45. Smaller groups of respondents were aged less than 25 (**13.6** percent). With regard to educational level, respondents with Bachelor degrees were the largest group of respondents make (**50.7** percent), respondents with Post graduate degrees make (**19.45** percent). Finally, holders of Secondary school degrees make (**12.7** percent) of the customers. The sample characteristics of the respondents represented in Table 3.

#### 4.3. Data gathering

The research data was collected through the questionnaire. The questionnaire began with an introductory statement that asked respondents to administer their own responses, assured them of confidentiality, and so forth. This was followed by a request for demographic information and the measures. Data were collected through questionnaires. The study was based on the development and administration of a self-administered survey and conducted in Jordan.

#### 4.4. Reliability and validity of the survey instrument

The survey instrument with 34 items was developed based on two variables electronic banking services as independent variables with six dimensions: Ease of Use (EU1-EU6), Usefulness (US1-US5), Cost (CO1-CO4), Privacy (PR1-PR4), Website Design (WD1-WD5), and Accessibility (AC1-AC4). Loyalty as dependent variables (LO1-LO6).The instrument was evaluated for reliability and validity. Reliability refers to the instrument's ability to provide consistent results in repeated uses (Gatewood and Field, 1990). Validity refers to the degree to which the instrument measures the concept the researcher wants to measure (Bagozzi and Phillips, 1982).

Table 4. Factor analysis of electronic banking services

Construct and item	Loadings	Communalities	Eigenvalue	Variance	Reliability
<b>Ease of Use (EU)</b>			4.706	78.435	.9439
EU1	.706	.840			
EU2	.795	.892			
EU3	.784	.886			
EU4	.739	.860			
EU5	.832	.912			
EU6	.850	.922			
<b>Usefulness (US)</b>			4.242	84.844	.9551
<b>US1</b>	.860	.927			
<b>US2</b>	.821	.906			
<b>US3</b>	.826	.909			
<b>US4</b>	.865	.930			
<b>US5</b>	.871	.933			
<b>Cost (CO)</b>			2.979	74.478	.8850
CO1	.716	.846			
CO2	.700	.837			
CO3	.794	.891			
CO4	.769	.877			
<b>Privacy (PR)</b>			3.327	83.182	.9316



Construct and item	Loadings	Communalities	Eigenvalue	Variance	Reliability
PR1	.845	.919			
PR2	.755	.869			
PR3	.868	.932			
PR4	.860	.927			
Website Design (WD)			4.276	85.514	.9575
WD1	.885	.941			
WD2	.847	.920			
WD3	.852	.923			
WD4	.882	.939			
WD5	.809	.899			
Accessibility (AC)			3.456	86.390	.9474
AC1	.856	.925			
AC2	.881	.938			
AC3	.837	.915			
AC4	.881	.939			

Table 5. Factor analysis of loyalty

Construct and item	Loadings	Communalities	Eigenvalue	Variance	Reliability
Loyalty (LO)			4.234	70.570	.9095
LO1	.810	.900			
LO2	.553	.594			
LO3	.635	.797			
LO4	.786	.886			
LO5	.812	.901			
LO6	.839	.916			

Factor analysis and reliability analysis were used in order to determine the data reliability for the electronic banking services, and Customers Loyalty. A within factor, factor analysis was performed to assess convergent validity. The results of the factor analysis and reliability tests are presented in Table 4 and Table 5. All individual loadings were above the minimum of 0.5 recommended by Hair *et al.* (1998). For exploratory research, a Chronbach  $\alpha$  greater than 0.70 is generally considerate reliable (Nunnally, 1978). Chronbach  $\alpha$  statistics for the study contracts are shown in Table 4 and Table 5. Thus it can be concluded that the measures used in this study are valid and reliable. On the basis of Cattell (1966) and Hair *et al.* (1998) criterion, factors with eigenvalues greater than 1.0 and factor loadings that are equal to or greater than 0.50 were retained. 34 items, loading under six factors of electronic banking services and one factor of Customers Loyalty.

**Psychometric properties and dimensions of the revised electronic banking services on the Customers Loyalty**

Kaiser-Meyer-Olkin and Bartlett’s Test of Sphericity has been used as Pre-analysis testing for the suitability of the entire sample for factor analysis as recommended by Comrey (1978), the value of The Kaiser-Meyer-Olkin measure was used to assess the suitability of the sample for each unifactorial determination. The KMO values found (see Table 6) are generally considered acceptable (Kim and Mueller, 1978). All factors in each unifactorial test accounted for more than 52 percent of the variance of the respective variable sets. This suggests that only a small amount of the total variance for each group of variables is associated with causes other than the factor itself, and the Bartlett tests of sphericity was significant at  $p < 0.05$ , thus, indicating that the sample was suitable for factor analytic procedures (see Table 6).

Table 6. Kaiser-Meyer-Olkin and the Bartlett's Test of Sphericity

Variables	Kaiser-Meyer-Olkin Values	Bartlett's Test of Sphericity	
		Approx. Chi-Square	Sig.
Ease of Use	.921	1784.141	.000
Usefulness	.920	1711.633	.000
Cost	.829	716.990	.000
Privacy	.858	1113.560	.000
Website Design	.908	1805.397	.000
Accessibility	.864	1283.266	.000
Loyalty	.903	1463.182	.000

#### 4.5. Descriptive statistics analysis

Table 7 indicates that customers of Commercial Banks in Jordan evaluate Accessibility (with the highest mean scores, i.e.  $M = 3.65$ ,  $SD=1.242$ ) to be the most applied of electronic banking services within their banks and evident to a considerable extent, followed by Usefulness ( $M= 3.57$ ,  $SD=1.202$ ), Website Design ( $M = 3.56$ ,  $SD=1.195$ ), Ease of Use ( $M = 3.50$ ,  $SD=1.161$ ), Privacy ( $M = 3.50$ ,  $SD=1.168$ ), and Cost (with the lowest mean scores  $M = 2.46$ ,  $SD=1.097$ ). With regard to Loyalty, customers of Commercial Banks in Jordan evaluate their Loyalty (with the medium level, i.e.  $M = 3.35$ ,  $SD=1.089$ ).

Table 7. Descriptive analysis of electronic banking services and the Customers Loyalty

Dimension	Mean	Standard deviation
Electronic banking services	3.40	1.097
Ease of Use	3.50	1.161
Usefulness	3.57	1.202
Cost	2.46	1.097
Privacy	3.50	1.168
Website Design	3.56	1.195
Accessibility	3.65	1.242
Loyalty	3.35	1.089

## 5. The results

### Test of hypothesis

Multiple regression analysis was employed to test the hypotheses. It is a useful technique that can be used to analyze the relationship between a single dependent variable and several independent variables (Hair *et al.*, 1998). In this model, Customers Loyalty acts as the dependent variable and electronic banking services as the independent variables. From the result as shown in Table 8, the regression model was statistically significant ( $F = 780.104$ ;  $R^2 = .936$ ;  $P = .000$ ). The  $R^2$  is .936, which means that 93.6 per cent of the variation in Customers Loyalty can be explained by Ease of Use, Usefulness, Cost, Privacy, Website Design, and Accessibility. The proposed model was adequate as the F-statistic = 780.104 were significant at the 5% level ( $p < 0.05$ ). This indicates that the overall model was reasonable fit and there was a statistically significant association between electronic banking services and the Customers Loyalty. Table VI also shows that Ease of Use ( $p < 0,05$ ;  $\beta = .366$ ), Usefulness ( $p < 0,05$ ;  $\beta = .158$ ), Cost ( $p < 0,05$ ;  $\beta = .136$ ), Privacy ( $p < 0,05$ ;  $\beta = .186$ ), and Website Design ( $p < 0,05$ ;  $\beta = .214$ ), had a significant and positive effect on Customers Loyalty. This provides evidence to support H1a, H1b, H1c, H1d and H1e. Based on the  $\beta$  values Ease of Use has the highest impact on Customers Loyalty followed by Website Design, Privacy, Usefulness, and Cost. While Accessibility ( $\beta = \text{Accessibility}$ ,  $p > 0.05$ ) had an insignificant and positive effect on Customers Loyalty, this provides evidence that H1f was not supported.

Table 8. Regression results between electronic banking services on the Customers Loyalty

Independent variables	Unstandardized Coefficients		Standardized beta	t	Sig.	Tolerance	VIF
	B	Std. Error					
(Constant)	.084	.050		1.664	.097		
Ease of Use	.343	.051	.366	6.681	.000	.067	15.005
Usefulness	.143	.057	.158	2.524	.012	.051	19.612
Cost	.135	.017	.136	7.822	.000	.664	1.507
Privacy	.173	.052	.186	3.317	.001	.063	15.759
Website Design	.195	.054	.214	3.596	.000	.057	17.674
Accessibility	-.021	.046	Accessibility	-.468	.640	.073	13.706

Notes: R 2 = .936; Adj. R 2 = .934; Sig. F = 0.000; F-value = 780.104; dependent variable, Loyalty; p < 0.05

## 6. Discussions

- Adoption factor of electronic banking services represented by ease of use has a high degree (M = 3.5) shows that the ease of use of websites for commercial banks in Jordan by customers, regardless of their educational level, ease of use represented by the ability of the site to allow customers to display and browse the website and navigate between pages, in addition to the containment of the main page; links enable customer to access. According Al-Madi (2011) which showed that the ease of use of a particular system would enhance customer satisfaction, which in turn affects positively on their loyalty to the service. According to Ma and Zhao (2012) websites must be easy to use and allows the customer an opportunity to carry out research and survey and mobility, which affects a high degree of customer loyalty toward electronic banking service.

- This means that electronic banking services which represented by usefulness has a high degree of adoption (M = 3.57) indicates that customers of Jordanian bank realize that the use of electronic banking services with the way they can benefit from the service more easily and more speed than the traditional method. This result consistent with Cletus (2012) that the electronic system's has more ability to improve banking transactions compared with the traditional way to retain customers and attract new customers. Salhieh (2011) noted that usefulness derived from the use of a particular system would enhance the functional performance of customers.

- This means that the adoption of electronic banking services represented by cost of use has medium degree (M = 2.46), where this ratio is considered justified as a result of a commission truncated on some electronic banking operations, which indicates that the cost of use of the website is an important element for the customers of commercial banks in Jordan so decision makers sought to reduce cost of access of service in order to maintain existing customers and attract new customers. This consistent with Jazani *et al.* (2012) have found that the success of e-banking services at lower costs in turn improves customer satisfaction on e-banking service and maintain long-term relationship between the bank and the customer.

- The study showed that electronic banking services represented by Privacy has a high degree (M = 3.5) This shows that the provision of the website privacy and security controls for policies that provide protection of the customer financial statements and personal of any internal or external attack, that enhance customer confidence in the electronic bank, this is consistent with Sheng and Liu, (2010), that the site's ability to provide a high level of protection and privacy while providing electronic service increases the customer's sense of security toward bank, and is compatible with Iliachenko (2006) that Privacy is to protect customers from the risk of fraud, espionage and breach privacy.

- The study showed that electronic banking services represented by website design has a high degree (M = 3.56) This indicates that the website in design attractive manner, and its appearance in a fun way of visually and the use of symbols, images, colors and sound effects reflect positively on customers and encourage them to repeat visiting and continuing using electronic way, and this result consistent with Ahmad and al-Zu'bi, (2011) that website design should not be devoid of aesthetic and format attractive manner, taking into account individual differences to ensure use it easily from all categories to satisfy customers , with the end of the phase of loyalty, Casalo *et al.* (2008) noted that website design one of the vital factors that determine the quality of the site and thus a direct impact on customer opinion.

- The study showed that electronic banking services represented by accessibility has a high degree of adoption ( $M = 3.65$ ) This demonstrates that the ability of the website of the bank to access to a wide customer base, and the proliferation of electronic service points such as ATMs across a wide geographical points, and providing programs and settings for the service as well to enable customers to access the service at any time and place to ensure communication between the bank and the customer, this is consistent with the study of Ala'Eddin *et al.*, (2011), where he made clear that the possibility of customer access for electronic service depends on providing programs and settings and Internet network with high speed download.

- Study results through the study sample answers (customers) that customer loyalty factors were medium average ( $M=3.35$ ). This means that the effectiveness of the Jordanian commercial banks in providing electronic service to customers was medium, but the decision-makers should study intensify on some aspects, such as the cost of use of the electronic service to meet customer expectations in light of the tremendous momentum in the competitive environment, and increase customer awareness in order to maintain existing customers and attract new customers and achieve loyalty.

- Results of the study showed that there is the statistically significant effect of the ease of use on the loyalty of commercial bank customers in Jordan ( $B = .343$ ,  $Sig = .000$ ). It refers to the amount of decrease in the value of the dependent variable (loyalty) as a result of a decrease of the independent variable (ease of use), this result consistent with the study of Salhieh *et al.*, (2011); and Ma and Zhao, (2012); and Swaid and Wigand (2009), this shows that the ease of use of websites for commercial banks in Jordan affect positively customer loyalty through the website display which allows customers to navigate and conduct search with ease.

- The study results showed that there is a statistically significant effect of usefulness on the customer loyalty of commercial bank in Jordan ( $B = .143$ ,  $Sig = .012$ ) It refers to the amount of decrease achieved in the value of the dependent variable (loyalty) as a result of a decrease of the independent variable (usefulness). This result consistent with the study of Cletus, (2012); and Salhieh, (2011) and this shows that usefulness derived from the usefulness of commercial banks in Jordan affect customer loyalty by enabling them to get the service faster and reduce the routine steps compared to the traditional way.

- The study results showed that there is a statistically significant effect of the cost of use on the customer loyalty of commercial bank in Jordan ( $B = .135$ ,  $Sig = .000$ ) It refers to the amount of decrease achieved in the value of the dependent variable (loyalty) as a result of a decrease of the independent variable (cost of use). This result consistent with the study of Cletus, (2012); and Ala'Eddin *et al.* (2011) which shows that the cost of use of the websites for commercial banks in Jordan affect customer loyalty through their ability to reduce costs and reduce commissions truncated when conducting operations Finance.

- The study results showed that there is statistically significant effect of privacy on the customer loyalty of commercial bank in Jordan ( $B = .173$ ,  $Sig = .001$ ), which reflects the amount of decrease achieved in the value of the dependent variable (loyalty) result decrease the independent variable (privacy). This result consistent with the study of Ta et al (2009); Abbad *et al.*, (2012); and Hassanuddin *et al.* (2012) and is illustrated by the ability of to provide bank's privacy policies and security controls in order to protect personal and financial customer data from the risk of penetration, which positively affects the customer loyalty and increase loyalty.

- The study results showed that there is a statistically significant effect of the website design on the customer loyalty of commercial bank in Jordan ( $B = .195$ ,  $Sig = .000$ ), which reflects the amount of decrease achieved in the value of the dependent variable (loyalty) as a result of a decrease of the independent variable (website design). This result consistent with the study of al-Zu'bi, (2011), and Ta *et al.* (2009) this indicates that the way of display of the website at attractive and enjoyable visually and contain images, colors, sound effects and attention to aesthetics and operations continuous updating of website increases customer loyalty of e-service and enhances their willingness to deal with the website.

- The study results showed that there is an impact of (accessibility) on the customer loyalty of commercial bank in Jordan ( $B = -.021$ ,  $Sig = .640$ ) but not statistically significant, which reflects the amount of decrease achieved in the value of the dependent variable (loyalty) as a result of a decrease of the independent variable (accessibility). This result consistent with the study of Cletus, (2012), and Ala'Eddin

et al. (2011). This shows that electronic banks need to reach a wider customer base through the deployment of electronic service points at geographical areas and create high-quality speeds access to the internet, which is reflected positively on customer loyalty.

## 7. Recommendations

Based on the study findings, the researchers recommend commercial bank management in Jordan:

(1) Periodical control of the ATMs and provide it with cash, and update the software on a regular basis in order to avoid interruption of service and distribute the ATMs to an expanded geographic areas; (2) Decision makers have to pay attention to the cost of providing electronic banking services, by reducing commissions on financial transactions paid by customer; (3) Design website in a simple and easy of use to understand and display the icons and providing website services in a clear and concise; (4) Provide electronic services of the banks in several languages in order to attract a larger segment of customers, in line with the competitive environment to enhance the loyalty of existing customers and attract new customers; (5) Obtaining feedback and taking complaints and suggestions of the customers in order to improve service and increase customer satisfaction with the service provided; (6) Banks have to design perfect and safe system to be the biggest website reliability for customers.

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