Study on Status of Electronic Financial Services in Jordanian Commercial Banks.

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Abstract
Jordanian banks offer a diversity of E-Banking services but their influence might be through attracting new clients, which leads to growth of the bank’s profits because of increased number of clients, Internet Banking has become is gaining increasing acceptance amongst various sections of the society. Electronic banking has become one of the most important and modern applications that has witnessed a substantial expansion during the last years. This study examines the impact of electronic banking on the Jordanian banks’ performance. The data for this study was collected by relying on the annual reports of the annual reports and monthly bulletins of Jordanian commercial banks, for financial and statistical analysis over a period of time i.e. from 2011 to 2016.

The data was analyzed through the statistical analysis program SPSS using a set of tests, including the test of simple linear regression analysis and the natural distribution of the hypothesis and the research was tested using R2. The application of the regression equation shows the effect of using smart cards (plastic money) on the number of ATM and profit in Jordanian commercial banks

\[ E.F.S = a + B1ATM + B2prof + e \ldots \ldots 1 \].

Electronic banking or internet banking is the commonly method adopted by banks. Banks are playing a very important and effective role due to these developments and changes in the economic world. Thanks to the accelerating advances in technology, there diversity in almost all services banks is offering to their customers everywhere and anytime. Banks are considered among the most institutions that care about diversity of electronic banking services using IT, communications.

The results of the analysis clearly indicate that there is no affect of using smart cards (plastic money) on the number of ATMs in the Jordanian commercial banks. Hence, there is effect of using smart cards (plastic money) on the profit in the Jordanian commercial banks. The study recommends that the Jordanian commercial banks should pay more attention to increasing the number of ATMs that will have a role in increasing the bank's customers and profits.

Keywords: Electronic Financial Services In Jordanian Commercial Banks, Plastic Money.

INTRODUCTION
Since the beginning of the last century, world of commerce has seen spectacularly developments in the areas of use of information technology and communication. These developments have contributed to the transformation in the performance of various financial sectors, including banking. Financial services industry has been affected by such transformation, which led to the emergence of modern concepts such as, e-money and E-Banking. A strong banking sector is important to every country to stimulate economic growth and to maintain financial stability for the whole financial system. thus, information and
technological revolution motivated banks to spend more on technology to maximize return and attracting more customers who will not accept less than above-average services. In addition, banks have changed to keep up with the information technology and communication developments. This change includes using the technology of computer and communications to replace manual and paper operations to electronic operations; electronic banking (E-Banking) or internet banking is the commonly method adopted by banks.¹

The world of banking services has witnessed a scientific transformation in banks strategic dimensions and goals in the past few decades. This transformation was a logical outcome of the new technological revolution in the media, communication and globalization of banking and financial markets. This might have led the financial institutions in specific and financial ones in general to move toward offering a new type of services that goes along with the new facet of the banking market.²

**Problem of the Study:**
The problem of the study is the changes in the technology have had an impact on almost each and every industry. Banking is also one such industry which has been greatly influenced by the changes in technology. Internet Banking has become is gaining increasing acceptance amongst various sections of the society. Electronic banking has become one of the most important and modern applications that has witnessed a substantial expansion during the last years. This study examines the impact of electronic banking on the Jordanian banks' performance.

**The Importance of Study:**
The importance of the study stems from Jordanian banks offer a diversity of E-Banking services, but their influence might be through attracting new clients, which leads to growth of the bank’s profits because of increased number of clients. Using electronic banking resulted in lower costs for banks in terms of number of staff for customer service, leading to an increase in banks’ profitability and improve customer satisfaction towards banks Some E-Banking services are paid services, which positively influence banks profitability such as ATM and billing services.

The study focuses on investigating the effect of the using smart cards (plastic money) on the number of ATMs and profit in Jordanian commercial banks, these E-Banking services contribute to the development of the performance of commercial banks, and they work on strengthening the power of these banks. In addition, they provide an opportunity for commercial banks to invest its funds in different areas.

**Study Methodology:**
The methodology of the study is based on descriptive analytical method in describing the phenomenon by explaining the concepts and clarifying the importance and fields of electronic financial services and mentioning the economic determinants, Features and types of electronic financial services. The study also relies on the standard method to determine the effect of electronic financial services on the Jordanian commercial banks.

**Sources of Data:**
The necessary data of this study will be relying on:
Include data that have been obtained from the annual reports and monthly bulletins of Jordanian commercial banks, Periodicals, books, theses and scientific journals, official reports and websites.

**Tools and Measures:**
For the purposes of proving or denying the validity of research hypotheses, the first method of financial analysis will be based
on the study of the trends (horizontal analysis) of the dependent variable and the independent variables. The statistical analysis will also be used to calculate the correlation coefficient (R), which determines the strength and nature of the relationship between independent and dependent variables, \( R^2 \), which shows the effect of the variable or independent variables on the dependent variable. In order to reach the goal of search, the regression factor (B) is to study the effect of independent variables on the dependent variable, using the Statistical Package in Social Science (SPSS). The researcher will build a simple linear regression model.

\[
E.F.S = a + B1ATM + B2prof + e \ldots \ldots 1
\]

**Study variables:**
Depending on the literature of the study, the study variables are as follows:
- Dependent variable is limited to the services Profit of commercial banks and Number of ATMs.
- Independent Variables are the electronic financial services smart cards (plastic money) on the increase number of ATMs by the Jordanian commercial banks for the period 2011-2016.

**Objectives of the Study:**
The specific objectives of the study are to:
1) Identify the effect of using smart cards (plastic money) on the number of ATMs in commercial banks in Jordan.
2) Identify the effect of the size of electronic financial services on the profit in commercial banks in Jordan.

**Hypotheses of the Study:**
Based on the problem of the study, the hypothesis of the study is formulated as follows:
1) The first hypothesis
   \( H0 \): There is no statistically significant effect for the using **electronic financial services** smart cards (plastic money) on the increase number of ATMs by the Jordanian commercial banks for the period 2011-2016.

2) The second hypothesis
   \( H1 \): There is no statistically significant effect for the using **electronic financial services** smart cards (plastic money) on the profit in Jordanian commercial banks for the period 2011-2016.

**Sample of the study**

**Previous Studies:**
That E-Banking Services has an impact on the Banking Industry. This is why many researchers at the global and local levels have undertaken studies on this relationship by economic growth in general and by the impact of Using electronic banking on the which positively influence banks profitability Some of these studies are as such:

1- Almazari, A. A. K., & Siam, A. Z. (2008). E-Banking: An empirical study on the Jordanian commercial banks. E-finance has the potential to be more than just another incremental change in ways of doing business; it could be a real revolution's-finance has the potential, not only to take business away from traditional delivery systems but also to introduce new business models. To enhance our understanding about E-finance practices of the Jordanian commercial banks we constructed a questionnaire, based on a theoretical ground, these questionnaires were distributed to all the 24 licensed banks operating in Jordan which represented the sample of study. This research we have come to the conclusions that; there is a positive statistical relation between: Electronic services and reduction of cost and efforts, the use of E-finance and profits. 

2- Dragos, P., Simona, M., & Daniela, B. (2011). ELECTRONIC BANKING ADVANTAGES FOR FINANCIAL SERVICES DELIVERY. E-Banking is a fully automatic service for traditionally banking customer's products based on information technology platforms. E-Banking services provide customer access to accounts, the ability to move their money between different accounts or making payments via e-channels. The advantages generated by this services have determined an accelerate developing of this industry over the entire world. This paper examines some of the advantages of electronic banking products together with the characteristic management issues generated by the implementation of this new channel for financial services delivery. 


4- Vyas, S. D. (2012). Impact of E-Banking on traditional banking services. Internet banking is changing the banking industry, having the major effects on banking relationships. Banking is now no longer confined to the branches were one has to approach the branch in person, to withdraw cash or deposit a cheque or request a statement of accounts. In true Internet banking, any inquiry or transaction is processed online without any reference to the branch (anywhere banking) at any time. Providing Internet banking is increasingly becoming a "need to have" than a "nice to have" service. The net banking, thus, now is more of a

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norm rather than an exception in many developed countries due to the fact that it is the cheapest way of providing banking services.  

This study aims to evaluate the effect of E-Banking services on the bank profitability in Jordan Kuwait bank for the period of 2010-2015. Some of financial ratios have been used in order to test that effect. The results of this paper shows that there is a positive relationship between banks billing (E-FAWATEER Com) services and increase in bank profitability, also there is relationship between E-Banking and increase in bank profitability. In addition, there is relationship between banks cards and increase in bank profitability.  

This study examines the impact of electronic banking on the Jordanian banks' performance. Empirical analysis has been conducted on a panel data of 15 Jordanian banks for the period 2000-2010. Accounting data were used to measure the banks' performance and regressed on relevant variables using OLS regression. The results show that electronic banking has a significant negative impact on banks' performance. Electronic banking has not improved the performance of these banks. Banks' customers in Jordan depend on traditional channels to carry out their banking operations. As a result, costs associated with adopting electronic banking are still higher than revenues from provision electronic services. Hence, banks should focus its work to promote the confidence of electronic banking services and encourage the customers to use this kind of services.  

This study investigates the reasons behinds providing electronic banking services through internet, their impact on banking services in general and banks profitability in particular. Results revealed that electronic banking service has a negative effect on banks profitability on the short term. Will be feature of the short run due to the capital investment by the banks on infrastructure and training but will be positive on the long run.  

Theoretical Study  
The world witnesses an information and technological revolution. This revolution has touched every aspect of people’s life including banking. Such changes and development have impacts on services quality, future of banking activities, and consequently, it’s continually competition ability in the world markets since going along with technology is one of the most important factors of economic organizations success in general and banks in particular.  
This motivates banks to spend more on technology and information to achieve maximum returns and attracting large number of clients. Furthermore banks have to provide an excellent service to customers who are sophisticated and will not accept less than above average service. Thus, the issue of service marketing in general, and banking services in particular has become one of the most important and modern directions which have witnessed a substantial expansion during the last years in almost all societies.  

In many cases, electronic files and daily reviews of banking data can be used to double or triple check vital accounting data, which increases the accuracy of financial
Opting for E-Banking minimizes business overhead and banking expenses. Reduced errors utilizing E-Banking reduces banking errors.  

**Advantages of E-Banking**  
1. The operating cost per unit services is lower for the banks.  
2. It offers convenience to customers as they are not required to go to the banks' premises.  
3. There is very low incidence of errors.  
4. The customers can obtain funds at any time from ATM machines.  
5. The credit cards and debit cards enable the customers to obtain discounts from retail outlets.  
6. The customer can easily transfer the funds from one place to another place electronically.  
7. E-Banking leads to productivity in some cases, month-end reconciliations for credit card transactions and bank accounts can be automated by using E-Banking files.  
8. Businesses rely on efficient and rapid access to banking information for cash flow reviews, auditing and daily financial transaction processing. E-Banking offers ease of access, secure transactions and 24-hour banking options.  
9. Banks can minimize labor and supply costs by allowing customers to self-service certain types of transactions.  

**Types E-BANKING:**  
1. Home banking – Typically refers back to the performing and carrying out banking transactions from home rather than at department locations that permits customers to get information about personal accounts through a phone; it's far based on the age existence of a phone line, a customer passwords and personal code that offer to get entry to information; clients are able to seek passwords and personal code and inquiry about his account balances, transfer money  
2. PC banking – A form of banking that permits clients to perform financial transactions from a PC through supplying a proprietary monetary software application that lets in the customer to perform financial or monetary transactions from his/her home computer through a modem;  
3. Internet banking – Furthermore introduced as on line banking, internet banking or digital banking, an outgrowth of PC banking, is a greater service, a system that enables customers to access accounts and information on bank services and products or perform account transactions immediately with the bank through a computer using the internet as the delivery channel; clients are capable of getting entry to all of their money owed through the internet site of the bank and are allowed to perform many bank activities like transferring funds, paying mortgages or purchasing financial instruments ,paying bills, certificates of deposits, and not least viewing account balances;  
4. Mobile banking – Is a machine that lets in bank customers to perform Numerous of financial transactions through a mobile tool, being the most recent provider in E-Banking; mobile banking is predicated on WAP (wireless utility Protocol) technologies considering the fact that a mobile device need for a WAP browser established so as to allow get access to information.  

**Types of plastic cards in Jordanian banks**  
Comparison of profits, ATMs, population and number of electronic cards in Jordanian commercial banks.

Table 1 show that the number of ATM cards issued by Jordanian commercial banks was increasing annually. The number of these ATM cards by the end of 2011 was 1287,000, by the end of 2012, it was noticed that the number of ATM cards issued by commercial banks has continued to increase to reach 1382000 cards, with a growth rate of 1.07% comparing to the previous year. In 2013, the number of ATM cards increased to reach 1620000 cards with a growth rate of 1.17%. The year 2014 also showed an increase in the number of ATM cards that reached 1779,000 cards with a growth rate of 1.09%. The year 2015 also showed an increase in the number of ATM cards that reached 1930000 cards, with a growth rate of 1.08%. Finally, in 2016 the number of ATM cards also increased to reach 2053000 cards with a growth rate of 1.06%.

At the end of 2011, the number of ATMs was 1951. At the end of 2012, the number of ATMs increased up to 2132 ATMs, with a change of 1.09% comparing to the previous year. At the end of 2013 there was a decrease in the number of ATMs to reach 2117 ATMs with a change of (- 0.99%) comparing to the previous year. In 2014, there was an increase in the number of ATMs to reach 2259 ATMs, with a change of 1.06% comparing to the previous year. At the end of 2015, there was an increase in the number of ATMs to reach 2301 ATMs with a change of 1.01%, and finally, by the end of 2016, there was an increase in the number of ATMs to reach 2655 ATMs with a change of 1.15% comparing to the previous year.

This table illustrate that there was an increase in the number of ATM cards issued by Jordanian commercial banks during the period of study from 2011 to 2016. In the other side, it was found that the number of ATMs were slightly disproportionate to the number of ATM cards issued by Jordanian commercial banks. The rate of increasing in the number of ATMs was simple. Also, it was noticed that the annual percentage of change in the number of cards and the number of ATMs were confirmed close.
Table 2. shows the population in Jordan and the number of ATMs in all regions of the Kingdom. The population of the Hashemite Kingdom of Jordan is continuously increasing annually. By the end of 2011, the population was 6993,000. At the end of 2012, the population reached 7427,000 with a growth rate of 6.2% comparing to the previous year. At the end of 2013, the population was 8114,000 with a growth rate of 9.2% comparing to the previous year. At the end of 2014, the population reached 8084000 with a growth rate of 8.5% comparing to the previous year. By the end of 2015, the population was 9531000 people with a growth rate of 8.2% comparing to the previous year. Finally, by the end of 2016, the number of population was 9579000 people with 0.5% growth rate comparing to the previous year.

The number of ATMs in 2011 was 1951 devices, and the share of one device to the population was 3584 people/ATM. In 2012, the number of devices was 2132 with a growth rate of 9.2% comparing to the previous year, and the share of one device of the population was 3483 people/ATM. The number of ATMs in 2013 was 2177, with a growth rate of -0.70% comparing to the previous year, the share of the total population was 3832 people/ATM. The number of ATMs in 2014 was 2259 with a growth rate of 6.7%, the share of one device of the population of 3897 people/ATM. In 2015, there was 2301 devices with a growth rate of 1.8% comparing to the previous year, and the share of one device to the number of population was 4142 people/ATM. The number of ATMs in 2016 was 2655 with a growth rate of 15.3% comparing to the previous year, and the share of one device to the number of population was 3607 people/ATM.

Finally, it was found that the number of the population in Jordan is increasing continuously, where the increase in the population during the study period of 2 million people. It was found that the number of ATMs was heterogeneously increased with the increasing in the population. The other is that the number of ATMs takes the same path. So, it was noticed that it is necessary to the banks to provide facilities to customers by increasing the number of ATM devices, which saves time and effort on customers to complete their banking operations by these ATM devices.
In table 3, that illustrates the volume of profits in Jordanian commercial banks and the number of ATM cards issued by the Jordanian commercial banks during the period of study from 2011 to 2016. It was found that the number of ATM cards in 2011 was 1287000 cards. In 2012 the number of ATM cards was 1382000 with a growth rate of 1.07% comparing to the previous year. In 2013 the number of cards reached 1620000 with a growth rate of 1.17%. In 2014, the number of cards reached 1779000 with a growth rate of 1.09%. In 2015, the number of ATM cards was 1930000 with a growth rate of 1.08% comparing to the previous year. In 2016 the number of cards reached 2053000 with a growth rate of 1.06% comparing to the previous year.

The volume of annual profits in 2011 was 517 million JD, and in 2012 the profit was 456 million with a growth rate of 0.88%. In 2013, the annual profit volume was 546 million with a growth rate of 1.19% comparing to the previous year. In 2014, the profit was 585 million with a growth rate of 1.07%. By the end of 2015, the profit was 618 million with a growth rate of 1.05%. Finally, by the end of 2016, the volume of profits was 657 million with a growth rate of 1.06% comparing to the previous year.

It was noticed that the amount of ATM cards issued by Jordanian commercial banks and the volume of profits were increasing, also they were increasing with each other, ie, the profits and the number of cards have an impact on each other. The relationship between the number of cards and the volume of profits comes from the use of smart cards in completing transactions of customers. Banks take fees for giving ATM cards, so, the increases the number of cards will increase the use of electronic banking services and then increasing banking profits.

### Analysis, Discussion

#### Introduction:

Data were analyzed by Statistical Package for Social Sciences (SPSS). Tests of the validity and reliability of the impact of electronic financial services on the Profit of and Number of ATMs in Jordanian commercial banks for the study sample and the study period from 2011 to 2016. The variables were tested to measure the validity and reliability of data collected from the annual report of the banks sample of the study, and statistical analysis of the research hypotheses that have been tested in this study.
Testing hypotheses

The first hypothesis testing

H0: There is no statistically significant effect for the electronic financial services on the increase number of ATMs in Jordanian commercial banks for the period 2011-2016.

Table 5

<table>
<thead>
<tr>
<th>Details</th>
<th>Number of smart cards</th>
<th>Profit of commercial banks</th>
<th>Number of ATMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1,287,000</td>
<td>517,000,000</td>
<td>1951</td>
</tr>
<tr>
<td>2012</td>
<td>1,382,000</td>
<td>456,000,000</td>
<td>2132</td>
</tr>
<tr>
<td>2013</td>
<td>1,620,000</td>
<td>546,000,000</td>
<td>2117</td>
</tr>
<tr>
<td>2014</td>
<td>1,779,000</td>
<td>585,000,000</td>
<td>2259</td>
</tr>
<tr>
<td>2015</td>
<td>1,930,000</td>
<td>618,000,000</td>
<td>2301</td>
</tr>
<tr>
<td>2016</td>
<td>2,053,000</td>
<td>655,000,000</td>
<td>2655</td>
</tr>
</tbody>
</table>


Table (5) shows the results of simple linear regression for the effect of using electronic financial services on the increase number of ATMs in Jordanian commercial banks for the period 2011-2016. The f value (0.75) was not statistically significant because the related sig value (0.435) was (> 0.05). The beta coefficient reflects the effect value in the independent variable. It was (3.229) and not significantly contributes to the dependent variable as the probability of t statistics was (0.435) > 0.05. The t statistics tests the linearity importance of the beta coefficient obtained for the independent variable. The value of R2 expresses the prediction strength of the dependent variable using the independent variable it was found to be (15.8 %) and this value also may be viewed as the variation percentage in the dependent variable that can be accounted for (i.e. the proportion of variation in the dependent variable that could explained by the independent variable).

As a result, the null hypothesis is accepted and the alternative one is rejected.

The second hypothesis testing

H0: There is statistically significant effect of electronic financial services on the profit in Jordanian commercial banks for the period 2011-2016.
Table 6
Simple Linear Regression For Testing The Effect Of Using Smart Cards (Plastic Money) On The Profit In Jordanian Commercial Banks For The Period 2011-2016.

<table>
<thead>
<tr>
<th>dependent variable</th>
<th>r</th>
<th>R²</th>
<th>F</th>
<th>Sig(t)</th>
<th>β</th>
<th>t</th>
<th>Sig(t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Profit</td>
<td>0.945</td>
<td>0.893</td>
<td>33.31</td>
<td>0.004</td>
<td>1.522</td>
<td>5.77</td>
<td>0.004</td>
</tr>
</tbody>
</table>

Table 6, shows the results of simple linear regression for the effect of using smart cards (plastic money) on the size of the profit by the Jordanian commercial banks for the period 2011-2016. The f value (33.31) was statistically significant because the related sig value (0.004) was (< 0.05).

The beta coefficient reflects the effect value in the independent variable. It was (1.522) and significantly contributes to the dependent variable as the probability of t statistics was (0.004) < 0.05. The t statistics tests the linearity importance of the beta coefficient obtained for the independent variable.

The value of $R^2$ expresses the prediction strength of the dependent variable using the independent variable it was found to be (89.3 %) and this value also may be viewed as the variation percentage in the dependent variable that can be accounted for (i.e the proportion of variation in the dependent variable that could explained by the independent variable).

As a result, the null hypothesis is rejected and the alternative one is accepted

Results:
1- There is no effect of electronic financial services on the increase number of ATMs in the Jordanian commercial banks for the period 2011-2016.
2- There is effect of electronic financial services on the profit in the Jordanian commercial banks for the period 2011-2016.

References:


