
UDK 334.788:51]:005.332.8(497.7)

THE IMPACT OF E-BANKING SERVICES ON PROFITABILITY: THE CASE OF A JORDANIAN COMMERCIAL BANK

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Abstract

The world has witnessed successive waves of technology and telecommunications changes in the last few years. These waves of digital revolution has resulted directly to changes in the banking sector around the world. Banks in Jordan followed these waves which affected the ways of receiving and sending financial information, and promoting the banks new product and services. Traditional banking services have been subjected to many stages of development, and shifted from traditional activities that uses paper, to technical and virtual banks that use different networks. This study aims to evaluate the effect of E-banking services on the bank's profitability in Jordan. We have selected a sample of one of the biggest and successful commercial banks in Jordan to analyze the impact of implementing E-banking services on its profitability for the period of 2010-2015. The results of this paper shows that there is a positive relationship between banks billing (e-FAWATEER com) services, the use of E-banking , and using banks cards on the bank's profitability.

Keywords: *electronic banking, profitability, electronic financial services*

1. Introduction:

Nowadays, the world is witnessing an enormous development in information technology age, which has influenced all industrial and services sectors including the banking transactions and services introduced by banking and financial entities such as banks, insurance companies and deposit insurance incorporation ... etc.

As known, banking sector is the most important sectors that support the economy. These countries advance through the growth of the economy. 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 are 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 and the internet to introduce its various e-banking services to their clients in order to improve the level of these banking services and to obtain a high level of clients' satisfaction and trust.

In addition, 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.

This paper explore the influence of electronic banking services on bank's profitability in Jordan. Some of the questions that rise are:

- What are the electronic banking services that Jordanian **Commercial** banks offer?
- Do these services affect the profitability of Commercial banks in Jordan?
- Are there any discrepancies in electronic banking services on the profitability of **Commercial** banks in Jordan?

1.1 Study Hypotheses

Based on the problem of the study, the following hypotheses have been formulated:

- 1) There is no relationship between implementing E-banking services and increase in bank profitability.
- 2) There is no relationship between using banks cards and increase in bank profitability.
- 3) There is no relationship between bank billing (e-FAWATEER com) services and increase in bank profitability.

1.2 The Importance of the Study

- 1) Banks are among the most important economic sectors in Jordan.
- 2) The diversity of electronic banking services came about due to the enormous and fast development in information technology, communication and the internet.
- 3) Availability, convenience of electronic banking services.
- 4) Few studies related to e-banking services in Jordanian banks urged the researcher to conduct this study.
- 5) The importance of this study is to be acquainted with types of e-banking services and the influence they have on banks' profitability.

1.3 Types of E-Banking Services

- 1) Automatic Teller Machine (ATM) service: An ATM is a banking machine that provides cash withdrawal, transfer and deposit operations in a highly secure system thus achieving the principles of auto systems. It is linked to a bank computer network in a way that ensures the rights of the banking operation parties.

Jordan's Banks ATMs offer a wide range of banking services around the clock. These ATMs provide clients with cash withdrawal, balance inquiries, Changing PIN number, ordering a mini account statement and many other services. There is a commission when using ATM services deducted either monthly for the bank clients or instantly if the client is using other bank is ATM. That process positively influences ATM and eventually the bank profitability.

There are many cards that can be used for ATM services, among which are: credit cards, VISA cards, MASTER cards etc....

- 2) SMS short text messaging: is a service offered by banks to their clients to obtain all information/ notifications related to account transactions as soon as they occur and to view accounts' balances, most recent transactions, or to transfer funds between personal accounts or to third party accounts. Part of this service is (SMS Push) which is a free service granted to any client upon his/ her request. The client selects the services and messages that he/ she wishes to receive on his mobile phone as an SMS in English.
- 3) Mobile Banking: is a banking service available through mobile phones that enables customers to use their smart devices to access their account information by inputting a pin code to perform banking transactions at their convenience. Most banks in Jordan nowadays have these days an interactive application that users install on their devices to allow them to use certain services, and perform transactions on their bank accounts.
- 4) Billing (eFAWATEERcom) service: an electronic system for viewing and paying bills. This service is presented and monitored by Central Bank of Jordan.it facilitates the process on citizens by saving them time and effort. It is flexible in using the different banking channels to conduct viewing and paying for bills by the private and public sectors. The central bank, in cooperation with (Madfo'atcom) company has specified a commission that is deducted from those who use the billing service. The commission is divided among the central bank 10%, the collecting bank gets 40% and bill's company gets 50%. These commissions are paid instantly at the time of bills payments. At the end of the day, ratios are calculated to determine profitability by accumulating all commissions in FAWATEERcom bank account and added at the end of the year to the general revenues. you will be able to pick the time and place you want to pay your bills through versatile list of payment channels that include ATMs, Tellers, Mobile and Online Banking services, Jordan's post offices, along with a number of trusted centers in hyper supermarkets such as Carrefour, Safeway and others.

In 2014, eFAWATEERcom had settled itself as the ideal choice of online payment for wide segment of Jordanian people applying to variety of businesses from individuals, companies, digital organizations and governmental institutions. This quick-witted system has been developed to improve the transactions processing performance that it measured over 250,000 transactions performed with total of 156 Million Jordanian Dinars of the financial operations from the date service was launched. With 55 Billers and more than 227 different services, we're in front of distinguished service that is to lead the market in the digital era.

There are many benefits of using eFAWATEERcom for clients such as:

- a. No time, money or effort consumed on traditional or impractical payment options.
 - b. Ability to avoid service interruption due to delayed payment.
 - c. A fast, reliable and secure process to pay and review your bills whenever and wherever you are.
 - d. Flexible and versatile payment channels that meet the client's needs.
- 5) Internet service: the service allows a client to conduct financial transactions by logging in to the bank's website. It is a convenient and secure service through which a client can make online money withdrawal and view and edit his/ her bank account information at any time and from any place, that has internet connection. It provides supervisory standards and flexibility and maintains security of information.

- 6) Call center (customer care service): banks operate communication centers and customer care centers that permit banking service over the phone by using a pin number. These centers operate around the clock, Thus making the service available 24/7.
- 7) Western Union Money Transfers: Western Union money transfer is an exceptional service provided by many Jordanian bank. It is designed to send and receive money transfers from more than 470,000 locations in more than 200 countries worldwide. It is the fastest and most secure channel of sending and receiving money within a short time.

2. Literature Review

Ceylan et al. (2008) analyzes the banking performance in Turkey. For the period of 1996 to 2000 and considered 14 banks. ROE (return on equity), ROA (return on asset) and MARGIN have been used as performance variables. The results show that in the first year there is no positive performance; it takes two or three years to reach a good performance. The results show that the ROE has a positive result in the second year of adoption.

Özataç and Nwobodo (2010) studied the internet banking in Cyprus for the period of 2004-2009, by using panel data of 22 banking. ROE and ROA have used. Two other ratios were included: the CA- ratio of total credit to total assets and the CD-ratio of total credit to total deposits used to test the link between Internet banking and performance. The results conclusion that the CA and CD ratios have negative relationship while using the internet.

Study of Eglund et al. (1998) estimated some of US banks that offering E-banking and analyzed the performance of these banks. This study found that no major differences in the performance of the group of banks offering E-banking activities compared to those that do not offer such services in terms of profitability. In addition, Hernando and Nieto (2005) examined the performance of some banks in Spain for the period of 1994 to 2002. The results of this study found higher profitability through increased commission income, increased brokerage fees and (eventual) reductions in staffing levels and concluded that the Internet channel was a complement to physical banking channels.

De Young et al. (2007) analyzed the effect of e-banking on the performance of banks in US markets. The findings concluded that e-banking improved the profitability of banks hence increasing their revenues. KPMG (1999) suggested that the evolution of Internet-banking can be analyzed within a five-stage, where the extent of services provided through Internet start from a promotional stage and extend to transaction-enabled business innovation stage in which institutions redesign their value-chain and offer highly personalized products and services. Analyzing the consumer side, Birch and Young (1997) show that consumers seek convenience, transactional efficiency, a choice of core banking products and non-core products, and access to competitive returns and prices. Wright (2002) mentions that Internet-banking has lifted the branch network as an entry barrier to the retail banking while introducing price transparency as customers can now easily compare prices online. Price transparency also brings faster commoditization of basic services and products. Wright also suggests that traditional retail banks have to develop new strategies to compete with Internet-only banks. Internet-only banks are pure-plays with no physical "bricks and mortar" branches.

Malhotra and Singh (2009) examined the impact of E-banking on performance of Indian banks during 2007 and found that the profitability and offering of internet banking does not have any significant association. Mohammad and Saad (2011) examined the impact of electronic banking on the performance of Jordanian banks for the period (2000-2010) by using OLS and found that E-banking has a significant negative impact on banks performance. Freedman (2000) suggested that electronic banking consist of some devices; access devices, stored value cards, and network money. Electronic banking is using new access devices and is therefore ignored. This has prompted a fresh look on this subject.

According to Nathan (1999) E-banking are providing a lot of benefits for both banks and clients. Advantage number one for the banks offer e-banking service is better branding to the market. Those banks that would offer such service would be apparent as leaders in technology completion. As a result, they would enjoy a better brand image. Another benefits are possible to measure in monetary terms. The main goal of every company is to maximise profits for its owner and other stakeholders. According to Allen and Hamilton (2002), an estimated cost of providing the routine business of a full service branch in USA is \$1.07 per transaction, as compared to 54 cents for telephone banking, 27 cents for ATM banking and 1.5 cent for internet banking.

3. Methodology

E-Banking Services is the process of conducting banking services electronically i.e. by means of new media and communication technology. In this pattern, the client does not have to go to a bank if it was possible for him/ her to conduct transactions or any banking activity from anywhere or at any time. Another definition would be that e-banking services or what is known as electronic banking operations is offering of innovative banking services via electronic communication networks limited only to subscribers to the service in accordance with subscription terms set by banks through a sort of a gateway in the network as means of communication with their clients. A third definition features that e-banking services is the banks trending toward expansion on the internet instead of establishing new buildings on the ground (Note 1). (Need 2 references) (Salhi & Alipour, 2010). The definition of electronic banking varies among researchers partially because electronic banking refers to several types of services through which a bank's customers can request information and carry out banking services.

Jordanian banks offer a diversity of e-banking services most of which are free 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 population of the study is consisted of a sample of one of the biggest and profitable Jordanian commercial bank during the period 2010-2015 as all banks in Jordan are implementing E-banking services.

3.1 Data Collection

The data in this research were collected from preliminary resources such annual reports books, periodicals, magazines, publications, and past studies in the same field and some internet websites. We also benefitted from secondary data resources such as bank's financial statements and operational data taken from the bank annual reports for the years 2010-2015. The independent variable is the e-banking services such as, ATM, SMS, phone banking, internet banking, smart phone and billing (e-FAWATEER com) services. Concentration in this study will be on ATM and billing services. While the dependent variable is the profitability of banks and it will be measured through banks Return on Assets (ROA) and return on equity (ROE) and margin in Jordanian banks.

3.2 Data Analysis

The Dependent variable for this study is the bank profitability. It is often measured by price to earnings ratio. There independent variables affect profitability through dependent variable. Researchers measured profitability by return on assets (ROA), return on equity (ROE) and margin. These performance measures have been used in most studies and we have used them for this study.

Researchers use some equations to find return on assets (ROA), return on equity (ROE) and margin to measured profitability:

$$\text{ROA} = \text{Net Income} / \text{Total Assets}$$

$$\text{ROE} = \text{Net Income} / \text{Total Equity}$$

$$\text{Margin} = \text{Net interest revenue or Income} / \text{Total Assets}$$

When back to banks annual reports, researchers found these results about of return on assets and return on equity then finally found margin of profit, show below of tables:

Table 1. Calculate of ROA

Return on Assets (ROA)			
Year	Net Income	Total Assets	ROA
2010	53,213,883	2,083,965,605	2.553491424
2011	39,696,706	2,273,649,683	1.745946453
2012	46,607,908	2,409,637,456	1.934229064
2013	47,417,835	2,552,465,748	1.857726594
2014	46,761,696	2,609,714,566	1.79183182
2015	39,411,676	2,844,731,503	1.385426918

In this table, the maximum of ROA is year for 2010 and the total assets are increase each of year so that means is positive relation to profitability of bank.

Table 2. Calculate of ROE

Return on Equity (ROE)			
Year	Net Income	Total Equity	ROE
2010	52,213,883	324,556,650	16.08775633
2011	39,696,706	346,643,127	11.45175049
2012	46,607,908	374,085,142	12.45917113
2013	47,417,835	404,526,399	11.72181472
2014	46,761,696	431,784,321	10.82987356
2015	39,411,676	454,253,469	8.676141998

In above table, the maximum of ROE is year for 2010 and the total equity are increase each of year so that means is positive relation to profitability of bank.

Table 3. Calculate of Margin

Margin			
Year	Net interest revenue(Income)	Total Assets	Margin
2010	86,209,710	2,083,965,605	4.136810598
2011	85,741,269	2,273,649,683	3.771085301
2012	89,395,138	2,409,637,456	3.709899918
2013	95,175,503	2,552,465,748	3.728767098
2014	88,497,589	2,609,714,566	3.391083077
2015	90,268,780	2,844,731,503	3.173191561

In this table, the maximum of margin in 2010, it is different each year in this margin.

Table 4. Calculate of net direct credit facilities & number of ATM

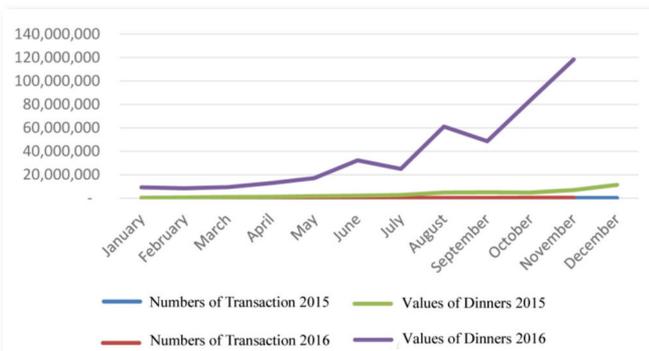
Year	Net Direct Credit Facilities	Number of ATM
2010	1,170,473,395	74
2011	1,248,699,799	73
2012	1,416,259,522	72
2013	1,328,188,339	76
2014	1,306,259,250	79
2015	1,936,230,189	83

In this table is increase numbers of Net Direct Credit Facilities at the end of year and in year of 2015 Net Direct Credit Facilities is 1,936,230,189 and the number of ATM is increase so it is positive relation.

Table 5. Monthly report to display system and electronic billing eFAWATEERcom

Month	Total efawateercom			
	Numbers of Transaction		Values of Dinners	
	2015	2016	2015	2016
January	8,658	95,566	382,073	9,195,487
February	11,036	96,645	550,596	8,446,249
March	17,308	109,277	783,904	9,334,568
April	20,693	110,152	1,092,156	12,739,300
May	31,355	135,458	1,670,878	17,041,132
June	34,658	133,779	1,950,021	32,244,416
July	40,448	149,104	2,689,749	24,919,232
August	51,019	176,939	4,678,242	61,147,011
September	52,669	164,367	4,941,407	48,642,105
October	52,016	198,208	4,748,204	83,768,718
November	70,539	220,666	6,886,829	118,458,507
December	87,887		11,254,165	
Sum	478,286	1,590,161	41,628,224	425,936,725

Monthly report
to display system
and electronic billing
eFAWATEERcom



Evident among us through the graph and the table above:

- 1) Number of payment transactions executed through November 220,666 with a total value of 118,458,507 JOD.
- 2) Number of payment transactions that are executed through the system during the month of November by 22,458 Payment transaction or 11% compared with October 2016.
- 3) The high number of payment transactions that were executed through the system during the month of November by 150,127 comparative payment transaction with the month, November from 2015.
- 4) Total number of payment transactions that were executed through beginning system activity to now is 2,085,023 Payment transaction with a total value of 465,355,589,070 JOD

So that means that when the number of transaction increases, the values of money increased as well. It is a positive relationship between bank billing (e-FAWATEER com) services and increase in bank profitability.

4. Conclusion

This paper found that banks that follow the technological and service innovation in a good way achieve a competitive advantage in general. This eventually indicates that the customer satisfaction will increase, and thus improve the bank's performance.

The results of the analysis above showed that there is a positive relationship between the increase in using banks billing (e-FAWATEER com) services, and the impact on using Cards in the bank on increasing the bank's profitability. This proved that there is a significant impact on implementing E-banking services on enhancing the profitability in banking sector as it enhances the competitive advantage of the bank.

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