

## EXPANSION OF THE CUSTOMERS IN THE USING OF ATMS CASE STUDY ON THE JORDANIAN COMMERCIAL BANKS

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### Abstract

The recent trends to the customer favor self-service to manage their financial and the customers increased their banking awareness and the most important electronic channels is the ATM, which is one of the more prevalent electronic channels, and most commonly used by customers where there is a easy to use for diverse banking services.

The problem of the study there is a lot of customers continue access to banking services, especially cash withdrawal through branches of the bank , so that the main objective sought by the study is to see how the expansion of Jordanian banks in relation to ATM, , and to know the reasons that prevent the expansion in the use of ATM by customers, in particular the existence of overcrowding lasting banks and the existence of queues of customers, despite the expansion of banks in ATM also ,and to investigate the problem of the study we have two hypothesis :

H01 - There is no statistical relationship between the existence of obstacles in the bank and the customers don't expand in using the ATM.

H02 - There is no statistical relationship between a sense of customers the obstacles and their demographic variables.

The researchers designed a questionnaire to solicit the views of customers of commercial banks about the ATM through likert scale, the study distributed (120) questionnaire has been recovered (108), and the percentage is 90%.and the study concluded the following results:

- 1- The study rejected of the null hypothesis and accepted the alternative hypothesis fore the two hypotheses.
- 2- There is no statistical relationship between the existence of obstacles in the bank and the customers don't expand in using the ATM.
- 3- There is no statistical relationship between a sense of customers the obstacles and their demographic variables.

Research has recommended that the commercial banks should do marketing plan that aimed to increase banking awareness among customers towards the ATM and services provided through it, and introduce them the advantages and the benefits they receive, such as saving time, effort and cost, etc., and especially customers the elderly and those with low incomes.

### Keywords

Jordanian commercial banks, ATM, electronic channel, customers of Jordanian commercial banks.

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## 1. Introduction

The banks play an important role in every economy, they have benefited of the developments in information technology and communications in diversity the methods of providing banking services to customers, and with the growing the awareness of the banking customers' head the banks towards electronic means such as Automated Teller Machine( ATM).

Because the rapid changes in the technological advances, and also with the direction of the world towards globalization where no limits to the spread of banking services and the world has become a small village, so the competition between banks have become too difficult and the banks that want to progress and stay must expanse in the electronic channels instead of the alternative usual channel that getting the banking service through the branches (Sharif, 2000).

The recent trends to the customer favor self-service to manage their financial and the customers increased their banking awareness and they prefer to manage the financial activities by themselves , and thus the banks that do not have the adequate and advanced technology that enable to develop them to a strategy based on self-service of the customer will not survive and continue in the banking market and the most important electronic channels is the ATM, which is one of the more prevalent electronic channels, and most commonly used by customers where there is a easy to use for diverse banking services, and currently the banks expand in use this electronic channel because the cost of providing the service to customer which is less than the cost of providing the service through the branch that traditional mean for banks

The following table shows the cost of providing banking services to the Bank through various channels.

**Table (1)**  
**The cost of access to banking services through various channels of electronic and Branches.**

Electronic channel	branches	Phone banking	ATM	Internet banking
Cost of service £	1.06	0.40	0.17	0.09

Source: Dodd, Paul (understand the effects of the global banking revolution) / Conference of the tenth Arab Academy is entitled (providing banking products and services in front of the challenges of the twenty-first century), Arab Academy for Banking and Financial Sciences, Amman - Jordan, 2000.

In another study on the cost of access to banking services by electronic channels results were as in table (2):

**Table no. (2)**  
**The cost of access to banking services through electronic channels and the different branches.**

Electronic channel	branches	Phone banking	ATM	Internet banking
Cost of service USD	1.070	0.540	0.270	0.010

Source: Coldwienker, Madrid, (Internet banks) / Conference of the Institute of Banking Studies entitled (electronic banking), Institute of Banking Studies, Amman - Jordan, 2005.

The problem of the study there is a lot of customers continue access to banking services, especially cash withdrawal through branches of the bank , so that the main objective sought by the study is to see how the expansion of Jordanian banks in relation to ATM, especially that this electronic channel is one of the electronic channels commonly used for ease of dealing with it, and to know the reasons that prevent the expansion in the use of ATM by customers, in particular the existence of overcrowding lasting banks and the existence of

queues of customers, despite the expansion of banks in the deployment of ATMs and increase the number of services provided through them and also , so the objective of the study to answer the following questions:

- 1 - What is the expansion of Jordanian Commercial Banks in the ATM ?
- 2 - What is the size of customers that use this electronic channel?
- 3 - What are the reasons for the customers that don't expand of to using the ATM?
- 4 - Is there a relationship between the sense of the customers the obstacles and demographic variables to the customers?

## 2 - The theoretical framework

### 1. Concepts

The number of banks in Jordan are a twenty-six banks, broken down as follows: 13 Jordanian commercial banks, and 9 foreign commercial banks, and three Islamic Jordanian banks and one foreign Islamic bank, and Jordanian banks try to expand in the provision of electronic channels where that competition in the banking business has become difficult because of the rapid and continuous changes brought about by scientific progress, and technological innovations, and phenomenon of globalization, , and the open markets, and the increase in awareness of the customer and the direction toward the broad base of retail customers, which is rich in opportunities for profitability (Hour, 2004).

The ATM (Automated Teller Machine) are those machines that can be deployed different places either wall of the bank or independently , and be connected to a computer bank, and the client using a plastic card or a smart card for different services such as cash withdrawal and cash deposit, and inquire about account and other services, and these machines start of operation in 1975 were very important of daily necessities in the implementation of modern banking operations of individuals, (al-Shammari, and Al-abedallat, 2008).

The ATM is the more electronic channels, which accepted by customers , and Jordanian banks expanded in the deployment of ATMs in different places and the following table no.3 shows the size of the spread of these machines in the Jordan over the years:

**Table no.(3)**  
**The size of the spread of ATM in the Jordan over the years:**

Year	No .of ATM
2000	377
2001	377
2002	534
2003	577
2004	617
2005	663
2006	724
2007	846
2008	944
2009	1023

(Association of Banks in Jordan, Annual Report, 2010, p 25).)

There are many services that can be obtained through the ATM and the most important of these services:

- 1 - Balance Inquiry.
- 2 - Cash withdrawal.
- 3 - Change the PIN number.
- 4 - Get the account statement or a detailed brief.
- 5 - Request a check book.
- 6 - Buy prepaid cards
- 7 - To pay water bills, electricity and telephone.
- 8 - Transfers between accounts.
- 9 - Conversion of the client's account to the account of another client in the bank.
- 10 - Deposit checks in the account.
- 11 - The deposit of special messages from the client of the bank.
- 12 - Backs messages to the customer from the bank on the screen.
- 13- Cash deposit.([www.hbtf.com](http://www.hbtf.com)).

## 2. Previous Research

There are many studies that addressed the subject The expansion of the customers in the use of ATM Study on the Jordanian Commercial Banks , And the most important of these studies:

**1 - Study (sabah alhelo, borhan, 2000):** entitled "The impact of the use of information technology on integrated banking services in the Jordanian commercial banks from the perspective of banking leaders." The study aimed to measure the desire of departments of banks in the application of systems and information technology, and to measure the relationship between information technology and the strength of the competitive bank.

The study found that most banks realize the importance of technology in reducing costs in the long run, and increase satisfaction of the bank , and found that less than half the number of banks are using technology to deliver advanced banking services, nor does any bank using the Internet to provide banking services.

**2 - Study (algameel , rafah, 2001):** entitled "Assessment of the quality of the phone banking , that made in the banking business from the viewpoint of the customer, An Empirical Study on the Bank." The study aimed to identify the reality of the quality of service the phone banking, and on the impact of personality factors in assessing the quality of provided services.

The study concluded that customers have a high impression regarding the quality of services of the phone banking, and that there was difference in the assessment of quality of services provided by the Phone banking attributed to the personality variables.

**3 - Study (Kolodinsky, Jane, Hogarth, Jeanne, 2001)** entitled (The Adoption of Electronic Banking Technologies by American Consumers) The study was conducted in the United States to customers of American banks, which aimed to find out the factors that affect the adoption of customer for four branches of technology electronic banking: the phone banking, and the Bank of the Internet, and methods of electronic payment and the use of electronic funds transfer.

The study concluded that males prefer to use electronic banking, as well as the means of electronic payment, and that females prefer to use the phone banking, more than males, and that there is a big difference in the extent of usage by demographic variables. For example, the income had a significant impact, the customers of high income there was expansion in the use of e-banking, and not for sex, or marital status, or education influence on the expansion of the customers in the use of e-banking, the most important obstacles that had impeded the use of it: the difficulty of the procedure for use of those electronic channels, and lack of knowledge about the benefits that accrue to the client through use these channels for various banking services.

**4 - Studying (Mcphail, Janelle, Fogarty, Gerard, 2004)** entitled (Mature Australian Consumer, Adoption and Consumption of Self-Service Banking Technology), the study on customers of the Australia banks, where the study aimed to identify demographic variables for clients, and the size of use for banking self-service from the clients of the Australian banks. The study was focused on the four electronic channels are: ATM, Phone Banking, Internet banks, and POS.

The study concluded that if age of the clients increase their convictions in using the new electronic channels will decrease especially the phone banking and internet banking and this factor (age) effect greater than the influence of other factors such as educational attainment, and income. The study suggested that the focus the advantage of electronic channels in the provision of time and effort in marketing the electronic channels, and it is not necessary to study the cultural and social factors of the environment surrounding the client.

**5 - Study (Anguelov, Christoslav, Hilgert, Marianne, Hogarth, Jeanne, 2004)** entitled (US Consumers and Electronic Banking, 1995-2003). The study was conducted on customers of American banks, which aimed to prove that the expansion in the use and acceptance of technology e-banking such as ATMs, banks, Internet, and means of electronic payment, depends on the characteristics and features of the client, such as: demographic variables; such as age, income, and others, in addition to features of these channels, which are easy to use. The study showed that the products e-banking are used by people with high incomes, and those with financial assets, high youth groups, and individuals with educational attainment applicant, the study found that the most important obstacle for the service is the lack of confidentiality and security, and ease of use the channels. The study recommended the establishment of the U.S. Federal Bank to issue the deposit bonds and sell them to the customers electronically.

**6 - Study (White, Helene, 2004)** entitled (Internet Banking in the UK: Why are there not More Customers?). The study was conducted on the customers of British banks, where the problem of the study there is no increase in the number of users of the Internet for banking services (electronic banking) to the same extent compared with the significant increase in the number of Internet users, the study found the importance of availability of confidentiality and security, and that the use of electronic banking bring advantages such as saving time and effort for the customers, thus encouraging customers to adopt e-banking technology with regard to Internet banks.

**7 - Study (Al-abedallat, 2006)**, entitled obstacles to the expansion of electronic banking, a study on the commercial banks of Jordan, and aimed to identify the barriers that prevent the expansion of customers in e-banking (ATM, internet banking, phone banking, POS, call center, mobile banking) the study conducted the following results:

- 1 - the proportion of customers who use the ATM are 85% of samples.
- 2 - The most important obstacles for the customers are the lack of security and confidentiality.
- 3 - There are obstacles in the banks and the study divided them to regulatory obstacles, and financial obstacles, and other obstacles.

### 3. Hypotheses

For studying the expansion of customers in the use of the ATM, we test the following hypotheses:

H01 - There is no statistical relationship between the existence of obstacles in the bank and the customers don't expand in using the ATM.

H02 - There is no statistical relationship between a sense of customers the obstacles and their demographic variables.

### 4. Research Method

1 - Methodology of the study:

For the purposes of testing hypotheses of the study, the study relied descriptive and analytic method, as well as field research, With regard to side the descriptive, the study gave an accurate picture of the the expansion of the customers in the use of ATM, and through previous studies, as for the side of the field, the study relied on a questionnaire designed in order to collect the necessary data to test hypotheses.

2 The population of study (Scope of the research)

The population of study represents the Jordanian commercial banks and its number is 13 banks, which offers various electronic banking services especially the ATM, where the researcher distributed a questionnaire to obtain information about the study.

3 – Tools of Study:

The researchers designed a questionnaire to solicit the views of customers of commercial banks about the ATM through likert scale, the study distributed (120) questionnaire has been recovered (108), and the percentage is 90%.

4 - Sincerity and persistence of the study tool:

A tool of the study (a questionnaire) has been showed on a group of arbitrators (4 experts), to ensure the veracity of content resolution and good drafting, and representation of the subject accurately, The reliability coefficient of the questionnaire according to the coefficient (Cronbach alpha) is (92%) through the statistical analysis of the study's sample.

### 5. The Results of Hypothesis Testing

In this section of study we present analysis the results of research hypotheses. As mentioned before, for testing H01, H02, we also use a sample of customers of the Jordanian commercial bank, the following subsections provide analysis of results of hypotheses testing at total sample level.

This section contains the results of the research aimed to know the expansion of customers in the use of the ATM, it also includes a description of the personality variables for members of the study sample, and the researcher used the program of statistical analysis (SPSS), to

extract the averages, arithmetic, and standard deviations of the paragraphs of the a questionnaire, and the Scheffe Post Hoc Test The following is a presentation of the demographic variables according to Table No. (4):

**Table no. (4)**

**Distribution of study sample according to demographic variables:**

Variable	Frequency	Percentage %
<u>1- gender</u>		
Male	78	72%
Female	30	28%
<u>2-Age</u>		
From 18-25 years	7	6%
From 26-35years	3	3%
From 36-45years	23	21%
More than 45years	75	70%
<u>3- job</u>		
Employee in the Public sector	60	56%
Employee in the Private sector	39	36%
free professions (doctor, lawyer, pharmacist)	9	8%
<u>4-Acadimic Qualifications</u>		
Graduates (PhD or Master)	7	7%
Baclores	21	19%
Diploma or less	80	74%
<u>5-Income</u>		
less than 150 JD	55	51%
150-300 JD	39	36%
More than 300-500 JD	6	6%
More than 51-1000JD	5	4%
More than 1000JD	3	3%

### 5.1. Results of Testing H01

H01: There is no statistical relationship between the existence of obstacles in the bank and the customers don't expand in using the ATM.

Table (5) shows the results of answers to the questions of the hypothesis

**Table no. (5)**

**The results of answers to the questions of the hypothesis**

number	Paragraph	Arithmetic	Standard
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		Averages	Deviations
1-	Lack of confidence in the use of ATM because the customers don't convinced to the availability of security and confidentiality	3.92	.91
2-	Difficulty of use (such as the difficulty of language, lack of guidance leaflets)	3.6	1.02
3-	Lack of knowledge of the benefits of ATM due to poor marketing of banking services by the Bank.	3.85	.98
4-	The use of ATM involves the manipulation by the banks (such as the imposition of additional fees or commissions).	3.17	1.07
5-	The lack of ATM's close to the client.	3.35	.93
6-	The inability of the client to use the ATM because the instructions of the banks do not allow to the client to get the ATM card because the client does not write and read)	3.26	.87
7-	The presence of frequent technical failures prevent the customers use of ATM when they need.	3.7	.93
8-	There are limitations on the service (such as setting a ceiling for cash withdrawals)	3.38	.86
9-	The existence of banking services can not be provided through the ATM (such as documentary credit, and guarantees).	3.4	.88
	Total	3.514	.938

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We notes from the previous table No. (5), which includes paragraphs that test the first hypothesis that the Arithmetic Averages ranged between 3.17-3.92, and the highest average is paragraph No. 1, which states (Lack of confidence in the use of ATM because the customers don't convinced to the availability of security and confidentiality. ) and was the lowest average is for the paragraph No. 4, which states (The use of ATM involves the manipulation by the banks (such as the imposition of additional fees or commissions.) and in general, all averages were higher than Class 3, and that the overall average of the paragraph are 3.514 and This refers to the rejection of the null hypothesis and accept the alternative hypothesis .

To test the first hypothesis been used multiple regression analysis to identify the relation between the existence of obstacles in the bank and the customers don't expand in using the ATM. indicated that the value of regression coefficient (B) was (0.17 -) and the value of her T (2.09 -), and this value is significant at a level (0.00) or less, and we conclude there is no significant relation between the existence of obstacles in the bank and the customers don't expand in using the ATM. and this lead to rejection the null hypothesis and accept the alternative hypothesis.

## 5.2. Results of Testing H02

H02: There is no statistical relationship between a sense of the customers the obstacles and their demographic variables.

In order to identify the characteristics of customers who feel the obstacles of use of ATM at a higher level, we did a multiple regression analysis. the table no.( 6 ) shows predictive ability of demographic variables in the sense of a higher level of obstacles.

**Table (6)**

**Multiple regression analysis of the demographic variables of the obstacles to the use of ATM.**

Variable	coefficient	Contrast ratio	نسبة التغير	F	Significant
Income	0.52	0.26	0.25	66.876	0.000
Age	0.63	0.39	0.14	41,67	0.00
Sex	0.65	0.42	0.29	9.435	0.003

Note from the table (6) that there are demographic variables contribute to the prediction in the sense customer's obstacles in use the ATM, which the variable rate of income interpreted (26%) in the sense of obstacles, and that variable age is interpreted by some form ratio (14%), The variable sex has been interpreted as representing (2.9%) of the variance in the sense obstacles.

In order to identify the level differences of the variables and the three levels, analysis of variance was performed as in table no. (7).

**Table no, (7)**

**Results of analysis of variance of the difference in the triple**

Source of variation	sum of squares	degrees of freedom	mean of squares	F	Significant
Sex	11.1	1	11.45	.35	.55
Age	299.3	3	99.78	2.89	.089
Income	3440	4	789.89	18.7	.00
Sex-age	1303	6	678.56	10.78	.00
Sex×income	378	9	87.34	2.078	.07
Income×Age	3056.89	5	301.7	7.29	.00
Sex×Age×Income	655.73	145	209.9	5.896	.002
Error	7288.67		40.8		
Total	16432.69	173			

Evident from the table (7) that there are differences in the sense of the obstacles in using of ATM depending on variable income, and that there is interaction significant statistically in the sense of the obstacles depending on the variables of sex and age, and study also found that there is an interaction in the sense of the obstacles depending on the variables of income and age, as shown in Table that there is a difference in the sense of the obstacles depending on the interaction of the variables of sex, age and income.

In order to make a comparison between different income groups and between age groups to

determine the differences between them therefore , the study did the Scheffe Post Hoc Test and it concluded the followings:

- 1- The sense of the obstacles in using of ATM increase with the increasing in the age .
- 2- The sense of the obstacles in using of ATM increase with the group of the income between (150-300 JD) .
- 3- The sense of the obstacles for the female in using of ATM is more than the male .
- 4- The sense of the obstacles for the customers that have the diploma or less in using of ATM is more than the other groups . This refers to the rejection of the null hypothesis and accept the alternative hypothesis .

## 6. Summary and Concluding Remarks

Through the previous results we can see the following:

- 1- The study rejected of the null hypothesis and accepted the alternative hypothesis fore the two hypotheses.
- 2- There is statistical relationship between the existence of obstacles in the bank and the customers don't expand in using the ATM.
- 3- There is statistical relationship between a sense of the customers the obstacles and their demographic variables.
- 4- The sense of the obstacles in using of ATM increase with the increasing in the age the customers.
- 5- The sense of the obstacles in using of ATM increase with decrease the income so the customers that their income between (150-300 JD) are the largest .
- 6- The sense of the obstacles for the female in using of ATM is more than the male.
- 7- The sense of the obstacles for the customers that have the diploma or less in using of ATM is more than the other groups.

Research has recommended the following:

- 1 -The commercial banks should do marketing plan that aimed to increase banking awareness among customers towards the ATM and services provided through it, and introduce them the advantages and the benefits they receive, such as saving time, effort and cost, etc., and especially customers the elderly and those with low incomes.
- 2 - The commercial banks should do marketing plan for e-cards especially ATM card because it is necessary to use the ATM.
- 3 - The commercial banks must understand the obstacles that prevent the expansion of customers to use the ATM, where they must confirm the availability of confidentiality and safety, and that the banks do not take commissions from customers who use ATM.

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	technical failures prevent the customers use of ATM when they need.					
8-	There are limitations on the service (such as setting a ceiling for cash withdrawals)					
9-	The existence of banking services can not be provided through the ATM (such as documentary credit, and guarantees).					

### Appendix No. (2)

#### A table showing the names of Jordanian commercial banks

Number	The Bank
1-	Arab Bank Limited
2-	Housing Bank for Trade and Finance
3-	Jordanian Commercial Bank
4-	Bank of Cairo - Amman
5-	Capital Bank of Jordan
6-	Bank of Jordan
7-	Jordanian Arabic Investment Bank
8-	Bank of the Investment
9-	Jordanian National Bank
10-	Jordan Kuwait Bank
11-	Union Bank
12-	bank Arab Banking Corporation
13-	Society General bank – Jordan