Assessing the Role of Automation in Managing of Iranian E-banking and its Impact on Social Benefit

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ABSTRACT
Banks in the field of commercial developments have attention to create structural changes in the receiving and payment systems and also have facilities in services process to customers. In fact we can claim one of the reasons of general tendency to electronic business is the banks managers' attention to the importance and necessity of this phenomenon, thus have led to their trend and serious attention for providing banking structure, based on electronic method. What banking services makes it different in comparing with other conventional methods for using E-Banking systems, is, quantitative and qualitative expansion in customer service. In other words, E-Banking, prepares the situation to customer till have wider and more diverse services. Furthermore, time and spatial dimension will not have effect in reducing or increasing services to customers. Also the customer can control his/her financial activities in every time and everywhere without attending in bank's branches. The aim of this paper is to illustrate the status of banking automation, its social and organizational consequences in Iranian E-banking system, and providing appropriate recommendations.

Introduction

In recent decades, with expanding information and communication tools the range of electronic trade in competition with traditional business style has enjoyed of good growth and evolution. In the research that is conducted by Foster institute, predicted that, between the years 2002 to 2006, in average 5 percent to trade volume is added per year according to electronic facilities and the amount of 2293 dollars per year in 2002 will be 12837 dollars per year in 2006. Considering the wide and deep impact on electronic commerce dominated the world markets and also based on the importance of monetary and credit transactions in every economical/business activity, requires that the tools and facilities of transport and exchange of money get the proper development, Synchronized and matched with

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E-Business expansion. In between banks are tried to attract more customers and develop for diversity in services and quickly have adapted themselves with communication and information technologies.

Change in quality of banking and customers' services and their satisfaction in a competitive environment have led banks to apply information technology. Modern tools of electronic payments in Iran returns to the year 1991 and initiation of the services of Bank Sepah and Bank Melli Iran (National Bank of Iran), when the first samples of ATMs' cards were introduced primarily for cash withdrawing. Clearly, without computerized systems, bank managers cannot have on the spot information on bank's transactions. With regard to the position of state owned banks and private banks (which are more aggressive compared to state owned banks) and with the phenomenal increase in the country's population and the increase demand for banking services; speed, service quality and customer satisfaction are going to be key differentiators for each bank's future success.

1. Automation System in Iranian Banking

Computers have had equally massive effects on the nature, quality, and structure of work, where they are said to be largely responsible for the emergence of "post-industrial society" and for an 'information revolution. "Here, too, we find that an ideology of technological determinism is commonplace, reflected in managers' frequent belief that both productivity gains and social transformation will be automatic results of computerization. It seems that computers are just one of a variety of social and technical factors which have affecting on organizational efficiency and culture (Kling et al, 1984). Bank Melli Iran was first to use mainframes, and all branches in each region had to send their paper tapes to the computer department of the bank to be processed. This system was carried out for almost 35 years and made a major delay in baking development in the country, while many neighboring countries had already developed and used full scale automation in their banking system. For instance, in Oman, and in Muscat (the capital), application of full scale computerization of banking has been so developed and progressed that Bank Muscat won the "Best Consumer Bank" award from Global Finance for the third time (Salim et al, 2008).

1.1. Banking services: Automation and limitation

Unfortunately, still branches are crowded, and main reasons could be related to limited services provided by the automation systems, and shortage of capable and qualified bank managers, and ATMs still do not provide bank services which one expects. For instance, Iranian bank notes until recently were issued in two amounts: 20000 and 50000 Rails (equivalent of $ 2 and 5 dollars), and ATM has limited bank notes capacity. This refilling can only be done during the working hours, and at nights and weekends, if any ATM is out of service due to this problem, the next working day it would be again refilled (Tofani, 2004).

Automation can have positive effects on the structure of bank branches and reduction of personnel. But this change has not properly occurred in banks in Iran. Perhaps, primarily, this might be due to old and traditional structural systems in branches, and shortage of qualified personnel at Organization and Methods department of banks to study the structure of branches and introduce appropriate structure for bank branches with minimum personnel. According to a research recently done in Iran, due to banking automation, bank

operations' costs have been reduced for those banking services which have been automated and less time is required to perform customer's services. In short, prior to the banking automation in Iran, only for cashing a check in a bank branch, at least two employees at the branch counter had to process the check. Branches of private banks are attractive, and branch interior is well designed and employees compared to employees of state- owned banks seem to be motivated. On the contrary, private banks which are new phenomena in Iran, have benefited from this weak point of state-owned banks' services, and try to attract customers (Godarzi et al., 2008).

1.2. Challenges

Some of the pressing challenges faced by the state-owned banks are the rising profile of private banks, reduction of lending rates, growing need for loans in all sectors, traditional transaction methods and lack of modern banking methods to the extend which is required. The situation is exacerbated by the absence of efficient collaborations with international banks, inefficient management system, failure to allocate credit facilities to the needy sectors, obstructive rules and regulations, as well as growth of non-profit funds and credit agencies. According to a report by the World Bank, the Iranian banking system has one of the biggest liquidity growths in the Middle East.

1.3. Position of electronic banking in Iranian banking system

The position of Iran among countries that have Communication and information technologies is in developing countries row. According to this explanation we can say that our country is in first steps of ICT developing programs and needs to prepare the primary situations for developing E-Banking systems. The expansion of suitable communication infrastructure as we said can be effective in integrating of banking systems with electronic tools. The expansion of hardware and software tools in banking system such as ATM machines, Digital telephone systems, Credit Cards, Smart Cards and etc, Preparing legal framework and to organize electronic banking and develop social culture about E-Banking are such factors which is required for developing E-Banking system.

International sanctions of Iran on the other hand have led to this fact that despite of Vogue of credit cards to the whole world we are still unable to receive international credit cards. Also according to these limitations in transferring technologies sometimes we face with some technical difficulties or legal ones which our country still unable to uses electronic money. General viewpoint to fundamental issue of electronic banking can create structural transformation in the banking system. In this structure we should not ignore some features as Insurance, Customs, Exchange, Transportation and etc. Because each of these features have its own positive or negative effects on E-Banking. We shouldn't forget this point that E-banking prepares a situation for presence of foreign investors and also effective in exports expansion.

In current situation, the only recommended for developing electronic banking, is to develop indicators and requirement tools.

In Table1 the situation of Monolithic systems in branches of State & Private banks is shown. Despite of the long history (from 1996 onwards) the strategy of making Monolithic for online systems and digital distribution channels in State banks as is shown in below Table 1 & figure 1, only 47.3% of State banks are able to provide online products whereas

all Private Banks are equipped to Core banking Monolithic systems (Ministry of Economic Affairs and Finance, 2006).

Table 1. Number of connected Branches to WAN & centralized system in Iranian Banks at the end of Aug 2005

Share %	Branches which has WAN Network & Centralized system	Number of Branches	Description
53.2%	7075	13299	Commercial
19.4%	541	2792	Specialized
47.3%	7616	16091	Total State
100%	153	153	Provate
47.8%	7769	16244	Total Banking Networks

*Source***:** Bank Quartery No.1-3,Ministry of Economic affairs & Finance, Feb. 2006
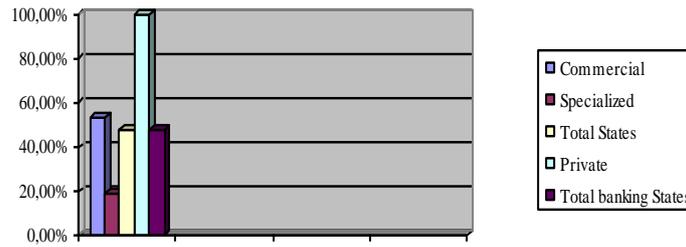
Figure 1

Comparison of Iran and the world capita payment instruments and the present requirement number under the vision plan.

Table 2

Outlook according to our current needs	Iran capitation for every million people	World average for every million people	Payment tool
140٬000٬000	200٬000	2٬000٬000	***Bank cards***
000٬70	73	000٬1	***ATM***
000٬350	093٬1	000٬5	POS

Source: Planning Department and Economical affairs of the Ministry of Commerce

The comparison of Iran bank cards capita with the world's banks in above (table.5) shows that nowadays Iran has a high gap in comparing with the world average so that in average in the world everyone has two credit cards while the amount in Iran is about 0.2, which means there are 200000 cards per every one million people. Also there are 1000 & 5000 ATM and POS machines per every one million people while the amount in Iran is 73 & 1093. And in current situation according to 20-year vision plan of Iran at least 140 million cards, 70000 ATM machines, 250000 POS machines are required till Iran situation would be in world average level. On the other hand, for providing facilities and increasing the

qualities of services to people and substantiation of Fourth Development Plan Goals all state agencies, different companies and institutions, have been instructed to pay all non-cash assistance and cost of goods and services to all employees by such systems as ATM or POS or Internet instead of issuing paper bills & Bin Purchase. This function despite of not having a proper definition for electronic money unit is explanation of development of Central Bank & other banks for providing such services. The economy of country is in a situation that the major amount of money is ongoing basis cash and this cause to create the Lack of financial resources for investment because of high amount of liquidity or high cycle length (Planning Department and Economical affairs of the Ministry of Commerce, n.d.). It is obvious, by providing electronic money above problems will be solved that many opportunities in improving, developing and providing financial resources will be created that some of them are:

- To reduce retail transaction costs
- To reduce the operating costs of banks
- To reduce the duration of collecting and redistributing of liquidity

The above tables (table 2, 3) is shown the turnout of banks and their growing share of quantification of ATM machines and Issued cards and also represent the percentage of their share of total banking network ATM.

Table 3. The statistics of card number and growth percentage, ATM, sales terminal and banking network branch terminal in May 2006 in comparing with the same period last year

Branch Terminal			Sale Terminal			ATM			Card			Year
Figures in thousands of numbers			Figures in thousands of numbers			Figures in thousands of numbers			Figures in millions of numbers			
Total	Province	Tehran	Total	Province	Tehran	Total	Province	Tehran	Total	Province	Tehran	
7.8	5.6	2.2	22.7	11	11.7	3	1.6	1.4	8.1	4.9	3.2	April 2005
11.8	4.7	7.1	76.5	39.8	36.7	5.1	2.3	2.8	14	8.5	5.5	April 2006
51	-16	223	237	262	214	70	44	100	73	73	72	Growth percentage

State banks have the stock of 97% of the ATM market stock and this high stock is caused to use of private bank cards. State bank despite of being high cost of ATM machines installation in comparing with POS machines have the higher range of ATM which represents banks legal necessities according to the clause 10th of the Fourth Development Plan to establish electronic banking system and is, to act implementation of national & international procedures of money exchange and electronic services in all banks of the country for all customers that based on this, we have seen the growth of 71% of ATM, 237% of POS and 51% of branches terminals.

Total electronic card holders and ATM machines in the network of banking in May 2004 to April 2005 shows at table 4.

Table4

ATM per total population capitation	Card holders capitation per POS	Number of ATM	Number of banks which have ATM system	Number of banks which has issued cards	Number of Cards holders	Year
360،25	760،2	968،2	12	15	8202000	April 2005
730،13	750،2	097،5	14	15	14000000	April 2006

Considering the country's total population and number of issued cards, we can find out that, electronic services market, is emerging market and available cards are covered only 20% of total population of the country (assuming each person has only one card). Now that for every 2750 issued cards by banking network, there is just one ATM machines. And if we want to consider the entire population of the country as criterion function, we will reach to the extent of one ATM machine for every 13,730 people.

1.4. Cultural building of electronic banking in Iran

Factors affecting the development of electronic banking are general tendency to use modern tools of this phenomenon. For achieving this goal, we should be making culture and advertising required for the general tendency in order to trust and use of this system. For instance:

- Practical training should be arranged for clients.
- For customers quick access to required information in the distribution and dissemination of information we should use available tools.
- New tools and services under the E-Banking systems should be represented in different ways.
- Continuous relationship with customers and understanding their services needs and information.
- Creation and expansion of information centers.
- Training of electronic banking systems, to employees and managers to provide quality services to customers.
- Development of hardware and software systems based on International standards.
- Propagation of electronic business culture & electronic marketing.
- Determination of special features for users of electronic banking systems.

## 1.5. Development of electronic payment instruments

The growth procedure of cards Issuance & equipments installation that Has climbed dramatically, Coincides with launched acceleration center, has continued in the year 2005 and if this process continue in middle term, reaching the level of international standard about electronic payment instruments would not be Inaccessible. (Table 5)

Table 5

The process of issuing electronic payment instruments and equipment				
Funds Transferring Terminals (*Branches*)	**Funds Transferring Terminals** (*shopping centers*)	**ATM**	**Credit Cards**	**Time period**
7522	18237	2864	7579757	End of the year 2004
9704	37991	3663	10095365	August 2005
11268	68532	4458	13511529	End of the year 2005
16.1%	80.4 %	21.7 %	33.8 %	The growth of the second six months
50%	276 %	56 %	78 5	Annual growth

Based on data of above table, the rate of export growth of electronic payment instruments (provided by Banking network) increasingly has continued in the year 2004 (0.195 cards per everyone) till to be nearer to the international standards. It is worth noting that among developing countries, this range are 0.893 for Financial Harvest Cards, 2.434 for Credit Cards, 5.527 for all Cards (per everyone) that based on Significant growth of Cards issuance by banks it is still far from international standard level. According to this and in order to encouraging & user developing of electronic payment instruments in Iran synchronization with international functions on credit cards, making changes in small payment instruments from state of current "Financial Harvest" to "Based credit" and make general tendency in order to use of electronic payment instruments instead of cheque and bill, Central Bank of Islamic Republic of Iran in corporation with experts of banking network , placed on its agenda the revision in current laws and issuing credit cards till ultimately the regulations draft of issued credit cards and Leadership in the banking network has edited in winter 2005 and placed on authorities agenda for approval. It seems to pass regulations to facilitate the issuance process of credit cards by banks. (Figure 2) General tendency for using cards in order to daily payments considering to credit harvest instead of Financial harvest of banking balance is carried more easily and in other words considering to the nature of non- pecuniary of credit cards, it would be reduced of general emphasis to use pecuniary tools (Performance report and Achievements' of Central Bank of Iran in field of electronic payment, 2007).
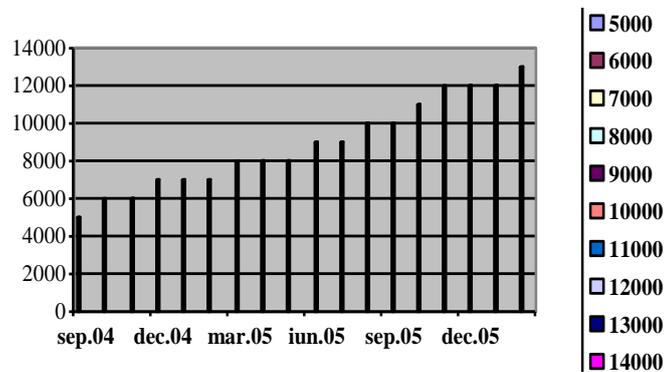
Figure 2

1.6. Development of electronic payment equipments

Alongside the development of issued electronic payment instruments accessing to such equipments. As another side of electronic exchange is fairly important and based on this banking network are trying to create a situation for electronic exchange of financial messages:

1. Development of ATM network and also ATM User from "bill payer "to "auto teller". In this case it has been prescribed to such affairs of Banks branches as interbank funds transferring, Bill Payment Service and etc is added to basket of services which is provided through the ATM and above facilities are accessible from all banks ATMs which are member of acceleration stock.

2. Development of Sales Network Terminals and Make changes in direct payment through the use of cards as a payment tool without the need to convert the account balance to bill. In the field of Sales Network Terminals development wide actions has done by the banks and also by payment services providers and this network during the year 2005 has had growth of 276%. Now for every 992 people there is a Network Terminal and based on planning which is done, we are going to decrease this ratio for about 100 people per every terminal (world *standard)* in average term. (Table 7)

3. Development of Banks online branches and possibility of transferring interbank funds according to the available infrastructures and acceleration stock center. In this field so far 11268 branches of about 17000 banks branches are acting according to the online systems. And it has been prescribed the possibility of Interbank transaction in the basket of terminal branches services be defined and operational in the year 2006 (Performance report and Achievements' of Central Bank of Iran in field of electronic payment, 2007).

Table7

The process of issuing electronic payment instrument and equipment				
The ratio of population per sales terminal	**Cards per sale terminal**	**The ratio of ATM per population**	**Cards per ATM**	**Time peroid**
3673	415	23393	2646	End of the year 2004
1776	265	18427	2756	August 2005
992	197	15253	3030	End of the year 2005

Preparation and editing the draft of instruction on the net bank credit cards

In considering that credit cards are the main Incentive of customers for using bank cards on daily payments and practically play motive role in electronic payments in international level and according to the procedure of bank card Issuance in Iran is against global procedure which is confined to only Financial Harvest Cards as one of the effective solutions for using bank cards as Independent payment instruments, providing the area for presenting credit card services to people by banking network placed on Islamic Republic of Iran central bank agenda. According to this, the Payment Systems Department provided the draft of new instruction of credit cards considering to current terms problems and Received Feedback of banking network and its experts and also by gathering all representatives Comments of banking network in small payment Committee, is confirmed to the Executive

Committee of Comprehensive Plan for Payment System, till would be placed on authorities agenda for approval (Performance report and Achievements' of Central Bank of Iran in field of electronic payment, 2007).

2.   Customer Satisfaction by Increasing in Service Quality in Iranian Banking

There is a great deal of discussion and disagreement in the literature about the discussion between service qualities. Satisfaction with a number of individual transactions decay into an overall attitude towards service quality. A study of the new marketing opportunities and strategies, which stem from the Internet and the ecommerce technologies, should include an understanding of the current situation of the Internet banking development (Kumar et al., 2009). In this context, Ghezelayagh found the status of Internet banking applications in 3 Iranian banks. An indication that Internet banking is still in its early stages of development in Iranian banks is shown by the fact that the application most mentioned by the respondents is providing information about products and services (Ghezelayagh, 2006).

Conclusion

Changes in banking automation systems in Iran started more than 15 years ago, nevertheless, state-owned banks have not aligned themselves not only with what has happed in this context in the neighboring countries, even have not improved their banking services compared with the private banks in the country. There are some issues that concluded from paper who mentioned below:

- In Iran, various payment methods including credit cards, debit cards, ATM cards and terminals are used and the country's banks are connected to the acceleration stock (as central electronic payment network).
- State banks have 97% of ATM market share against 88% of market share in cards.
- Private banks has 77% of the POS market share against 12% of market share in cards.
- State banks, despite of having the high cost of installation of an ATM than POS, have been allocated the highest number of ATM machines which means, legal requirements to establish state banks in electronic banking system.
- POS growth and sales percentage in shopping centers are more than the percentage of ATM & branches terminals which means private banks tendency for offering this kind of services.
- Banks tendency to transfer Traditional payment systems to Electronic Payment System and also the customer's tendency to pay by these tools.

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