

Presenting the Conceptual Model of Evaluating E-Banking Effect on Banks' Performances with the Approach of BSC

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Abstract

This paper is prepared to present a conceptual model to show the effect of E-Banking on Banks' performances with the Balanced Scorecard approach. Today, the most important challenge in front of the organization is to use modern technologies to deliver proper services to the clients. The banks have also been able to provide proper, fast and safe services to the client not as a privilege, but as a necessity in the context of these technologies and in the form of E-Banking. This paper is an applied research in terms of methodology and is a descriptive-survey in terms of execution. Data collection is done through library and survey studies. Data was collected on a quantitative basis and through questionnaires. Data analysis is done using Balanced Scorecard approach. According to the analyses conducted in connection with this research, all of the parameters considered in the presented model at this paper have been used in a wide range of performed researches in this field. These parameters including ease, effectiveness, stability, security, speed, reliability and attractiveness of using Banking services provider, advertising and variety of services which impact on bank's performance.

Keywords: Balanced Scorecard, Conceptual Model, E-Banking, E-Commerce, Organizational Performance Management

1. Introduction

Development of new technologies and arrival of powerful computers in all fields including financial affairs resulted in providing more facilities for data maintenance, classification and easy access to the data saved in the electronic form. In recent years, various electronic services entered in to the banks and financial institutions caused an increase in speed and accuracy of financial and banking services as well as improving the welfare for yeas and bank managers. Among these electronic services, telephone banking, mobile banking and Internet banking can be mentioned. In this study, we have tried to present a conceptual model to show the impact of E-banking on banks' performances using balances scorecard approach. The rapid developments in the field of information technology and communications caused extensive changes in the political, economical and social affairs. Increase in public access to internet has caused that the use of information technologies finds a special

rank. On the other hand, many of features and benefits of E-banking including: no restriction in terms of timing and location in using e-banking, ease of access to the required information, saving the clients' time, significant reduction in banking costs, receiving services tailored to the requirements caused an impressive growth in the use of internet banking services (Divandari, 2013). The banking system was the first structure that used 21st century technology based on IT for its activities using the impact of IT as a factor to integrate and increase the scope of its influence. Quick realization of the benefits of modern electronic banking is obvious for everyone. Respecting the clients, reducing maintenance cost, using cash, increase in credits in country economic cycle and then reduction in inflation are the consequences of implementing modern banking system based on IT. Using E-banking in the country causes reduction in banking costs and then banking fees will come less and the government would be able to achieve its goal which is reducing the bank interest to a single digit amount. Muller (2008) defines E-banking

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as using internet by banks to provide banking services to the clients and using internet by the clients to organize, control and perform transactions on their bank accounts.

2. Related Works

In this study, the researchers use the available theoretical principles on a regular and targeted basis to describe the research subject better and also to imply based on claim of the research (Pour Ezzat, 2014). In this regard, the required literature review and infrastructure of the research will be described.

E-banking: E-banking is a banking system which has been used for the first time in 1995 in USA and then spread quickly among the developed and then developing countries (Wendy W.N., and et al, 2005). E-banking has many advantages such as increasing number of the clients and banking transaction cost reduction. In addition, the banks can provide services in a more efficient way and with lower costs and can also increase their market share (Saeidi, 2003). Based on the performed researches regarding electronic transactions, the most important features and advantages of the electronic transaction systems include: security, speed, ease, low cost, reducing human error, efficiency and effectiveness, better management in cash flow and improvement in relationship with clients. Moreover, implementing an electronic payment system based on internet brings opportunities to create new sets of national and international commercial relationships (Crede, 1996).

The tools which are used to receive electronic services which are also common in our country are described at below figure:



Figure 1. Variety of E-banking.

Organizational Performance Management: One of the new issues in management science on a general basis and in Human Resource Management on a specific basis is the concept of performance management. This concept mentioned when low effectiveness of traditional Performance Appraisal method specially in achieving the organization strategic visions became apparent. According to Deming, the responsible for most of the performance improvement plans is the policy and not the person. He strongly criticized traditional criteria for Performance Appraisal (Waite, Melissa Stites and Susan, 2000). As a result, many Performance Appraisal s, rather than developing the performance, they lead to decreasing them (Latham, Almost, Mann and Moore, 2005). Performance Management is a strategic and integrated process which causes sustainable success of the organizations through

Table 1. Different Performance Appraisal models

Models Based on time cost Lime Half-Life Score's model	Models based on excellence ans self assessment Deming's Model ISO Model Malcolm Baldrige Quality Model EFQM	Benchmarking models (integrated) SMART System Code of Performance Model Benchmarking Model MBO HOSHIN MAnagement System Model Balanced Scorecard Model (BSC)
↓	↓	↓
emphasize on evaluating finance and production process based on time and cost	emphasize on evaluating management and production based on result and process quality improvement	Emphasize on all size of evaluating in management , production and operating process finance and human resource based on execution and strategy development

performance improvement, individuals and teams' capabilities. Performance Management is a concept because it is related to major issues in the businesses and their overall directions. Performance Management can be surveyed in two aspects: 1) Vertical Integration which is

creation of correlation between organizational, team and individuals' visions and core competencies, 2) Horizontal Integration which is creation of correlation among different processes of Human Resource including Human Resource Development, organizational development

Table 2. Theatrical backgrounds of the current paper

Research topic	Author	Year	Research results
Article: Presenting conceptual model to emphasize on key effective factors on quality of the E-banking services providers	Ali Divandari	2013	Those systems can be considered as high quality that in first stage, they could be easy to use and the process of E-banking services by using them would be fascinating. Usefulness of the systems and the speed of services provided by them are the next characteristics. Also, the clients wants to use quality services with least error and uninterrupted, while providing required security for the personal information, would be able to provide internet banking services.
	Ehsan Abedi		
	Seyyed Mohammad Reza Nasser Zadeh		
Final thesis: defining effect amount of affecting factors on E-banking acceptance from clients' perspective	Instructor: Mohammad Lagzian	2009	The results of this research show that three factors of performance expectation, attempt expectation and social effects on willingness to use services are the effective factors and two parameters of willingness to use and easing conditions are affecting usage of E-banking services. Moderating factors were found only in couple of significant associations
	Consultant: Azar Kaffashpour		
	Student: Somayyeh Yaghma		
Acceptance of E banking on USA consumers	Jane M. Kolodinsky	2004	By using of Federal Reserve data base, the results show that there is a correlation among relative advantage, complexity/simplicity, compatibility, observation, risk acceptance and product involvement with acceptance factor. Income, property, education, gender, marital status and age are the factors influencing acceptance factor
	Jeanne M. Hogarth		
	Marianne A. Hilgert		
Communication management in E-banking: better communication for better relationship	Kristine Kirakosyan	2013	In this study, online channel are for communication including: web logs, social networks, virtual computer games, web sites and email. Also, social media is considered as an important communication channel for the current and future customers. The results show that the banks need to change management styles by continuous innovations to provide services to the clients.
	Doina Danaiaata		
Information about internet banking, security and privacy, quality of internet connection and valued perceived in E-banking acceptance in Uganda	Dickinson Turinawe	2013	The results show that the variables in the study have the variance equal to 61.1% of E-banking rejection and the most importance variable is the perceived value in E-banking acceptance.
	Rogers Mwesigwa		
E-banking websites performance in Greece	Christos Floros	2008	Major Greek banks have a high percentage of internet users who visit their websites. It was also found that those banks have more ATM, are more efficient as well. Eventually it was proposed to Greek banks to invest more to improve their websites (E-banking systems) in order to increase customer trust and attract them.

and compensations to achieve an integrated approach in terms of management and human resource development (Michael Armstrong, 2000). In the formation of various organizations during different periods, variety of templates and models has been used to evaluate the performance. Organizations first, have only been using limited indexes and criteria to evaluate the performance. Expansion of the activities and organizational performance, dynamic environment and introduction of modern management problems and topics such as customer satisfaction, social responsibility and ... led the organizations that not to suffice limited indexes, therefore, the comprehensive and multi-criteria models formed and evolved for organizations evaluation. These patterns evaluate the organization in terms of various aspects and provide proper tools for modern organizations' Performance Appraisal considering multiple parameters. In the performance appraisal models, quantitative models such as productivity with value added approach, productivity criteria with effectiveness and efficiency approach and profitability with the approach of performance audit and qualitative criteria such as descriptive and normative with organizational commitment and organization ethics and many other multiple criteria have been used (Kim, Price, Muller and Watson, 2009).

Balances Scorecard (BSC): One of the most famous and well-known models for performance appraisal is "Balanced Scorecard" model which has been created in 1992 by Kaplan and Norton and then expanded and improved. This model suggests that in order to evaluate the performance, each organization should use a set of balanced indexes so that senior managers in an organization would be able to have an overview of four important aspects of the organization.

These various aspects will make us able to answer the below 4 basic questions:

- How to look at the shareholders? (Financial Aspects)
- In what areas we should perform well? (Internal aspects of business)
- How the customers look at us? (Customers or clients aspects)
- How can we continue to improve and create value? (Learning and innovation aspects)

Kaplan and Norton believe that by getting information about these 4 aspects, the problem of increasing and accumulation of information by limiting the use of indices will be resolved. Moreover, the managers will have to concentrate on limited number of the vital and

critical indexes only. In addition, by using several aspects of performance, the optimization of a single section will be prevented (Kaplan and Norton, 1992).

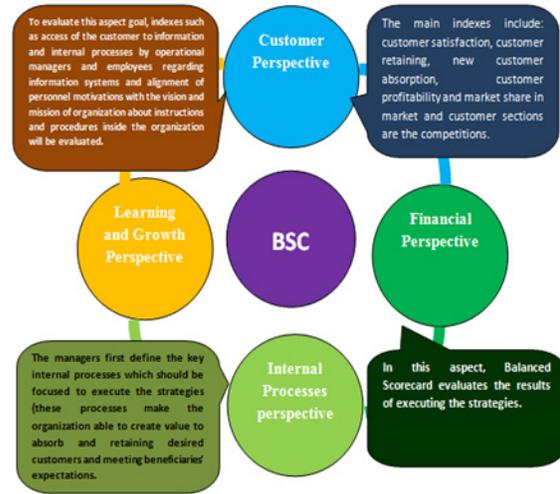


Figure 2. Balanced Scorecard (Kaplan and Norton, 1992).

Theatrical Background: Based on library studies which are available in data bases including such as IEEE, Science Direct, Springer, Wiley, ACM, ACS, ASCE, Emerald, ASME. The most important references which are related to this paper are presented at below table:

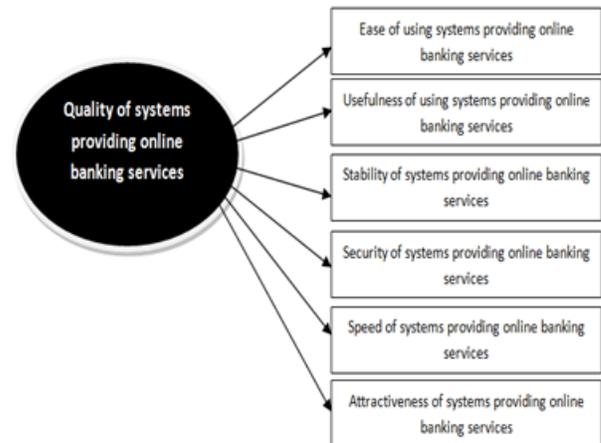


Figure 3.

Quality models of E-banking services:

Pikkarainen et al in 2004 have performed a survey entitled "identification of the effective factors in online banking acceptance by the clients and extending technology acceptance model" with the aim of identifying

the factors influencing on clients usage of online banking system. For this purpose, the identified couple of factors by studying literature review and interviews with bank managers in Finland. The results showed that the perceived usefulness of online banking services by the clients and given information about online banking services will effect on clients' aims to use these services. Also, the level of individual's income has been considered as demographic variable effects on clients' aim to use online banking services. Based on analysis, ease of perceived usage of online banking system, security of given services and enjoyable use of online banking services do not have statistically significant effect on clients' aim to use these services (Rasouli and Manian, 2012).

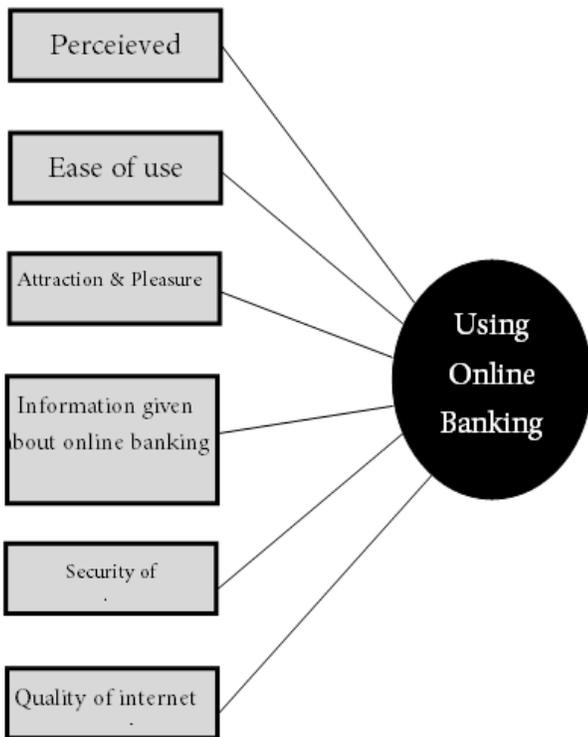


Figure 4.

In the study by Divandori et al (2013) as “providing a conceptual model to explain key factors affecting systems providing online banking systems” the factors affecting on clients' view regarding internet banking is surveyed. Based on findings and research results, some suggestions on how to design systems providing online banking services are given to consider the needs of customers in systems design process that consequently results in possibility of gaining competitive advantage by the banks

providing online banking services. The conceptual model is as per below:

Shuwang Wu in 2003 worked on a research as “surveying the relationship between consumers' characteristics and their view about online shopping” with the aim of investigating online shoppers' perception and started to trace a primary group including 10 potential customers to collect information about consumers' requirements and views about online shopping (Wu, 2003).

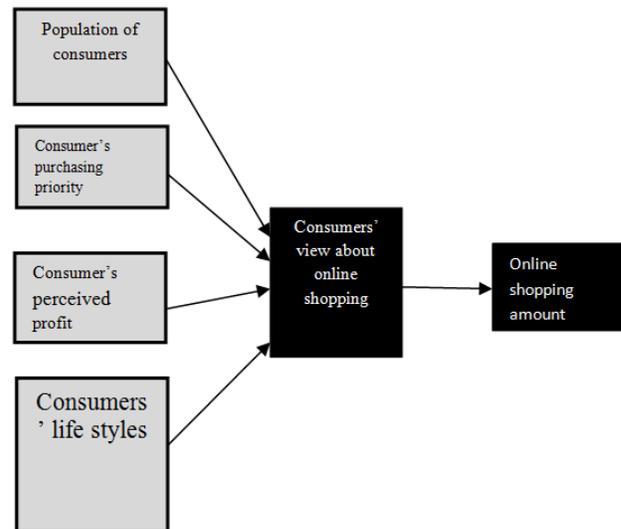


Figure 5. Conceptual model of Shuwang Wu.

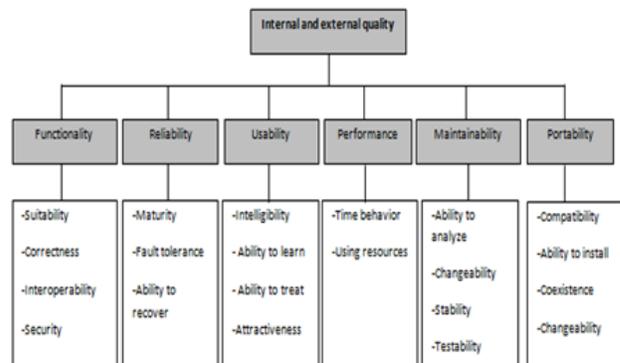


Figure 6. Conceptual model of Chung-Hoon Park and Young-Gul Ki.

Chung-Hoon Park and Young-Gul Kim in 2003 surveyed the key effective factors on consumer's shopping behavior in online shopping environment based on previous researches about acceptance of new services and technologies by the consumers. In this study and also their

other papers, two factors of quality information about the services and security of service providing systems have been identified as effective factors on customers' shopping behavior (Chung and Young, 2003).

Leila Farajpour in a research under the name of "providing a quality model in electronic banking systems according to ISO/IEC 9126 standard was searching a methodology to define quality component and also to quantify the quality component. After several studies, 6 main effective factors on external and internal quality including performance, usability, functionality, portability, maintainability and reliability found and summarized at below figure (Leila Farajpour, 2008).

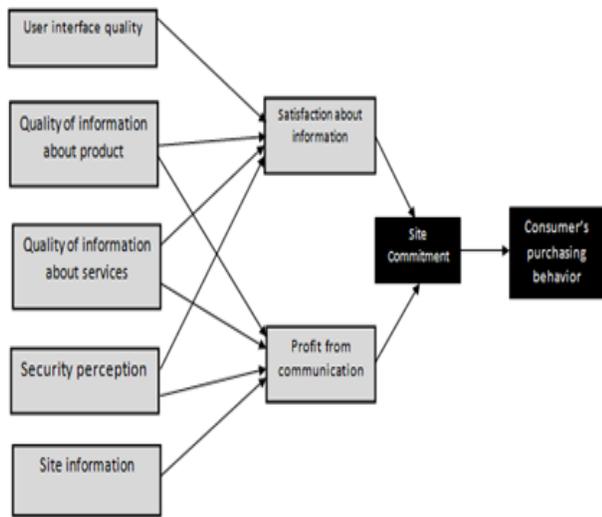


Figure 7. Conceptual model of Leila Farajpour.

Mehdi Naddaf et al in a research as "surveying customers' satisfaction from online banking services using EUCS model" has surveyed online banking services content, correctness and accuracy of given services in online banking field, format of services, ease of using services and eventually time saving during usage of services and then customers' satisfaction from online banking services and it shows that the aforesaid factors have positive and direct effects on customer satisfaction (Mehdi Naddaf et al., 2012).

After reviewing the literature and background of the research, the conceptual model used in this paper is according to below:

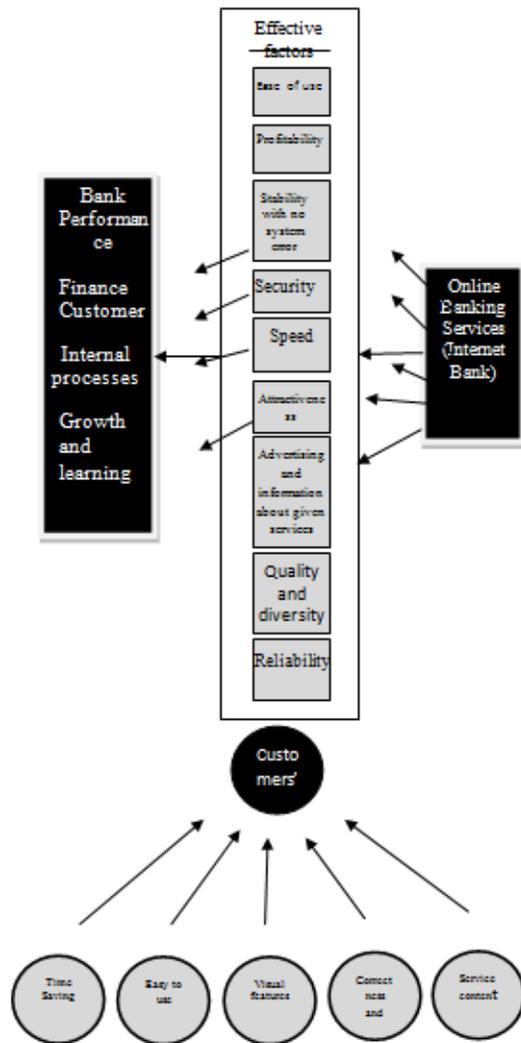


Figure 8. Conceptual model of Naddaf et al.

Why a new model?

After reviewing the literature and background of research, the new conceptual model is used in this paper based on below reasons:

- The need to provide a local model for banks
- Since many conceptual models presented are the result of foreign projects, the necessity of Islamic banking indexes and interest-free banking system seems to be necessary.
- Previous models do not cover the comprehensive new ICT such as network and security.
- By studying previous models, the need to present a new model seems to be necessary to have high efficiency with least error while they are so easy.

- In today's business world that advertising is being considered as one of the most important competitive tools for the organizations, presenting a model considering speed in providing services and also service environment will cause audiences' attraction.

3. Conclusion

As you saw in the model, the main factors including: ease of usage, usefulness, stability, security, speed, attractiveness and reliability of the online banking services providers and also diversity of the services provided, advertising and information about the provided services impact on bank's performance. In the following, a brief description of each identified factors determined according to the literature review is given:

- Ease of using the systems: designing the systems in such a way that could be used by the clients easily (Minijoon, 2001).
- Usefulness of the systems: designing the systems in such a way that could be used by the clients with high productivity and efficiency (Divandori, 2012).
- Stability and errorless systems: the power of used technical systems in service providing sites on a continuous basis with no error and disconnection to the clients (Divandori, 2012).
- Security of the systems: the power of used technical systems in service providing sites in order to keep information security which are important for the organization such as information about sales, prices, goods and etc (Chung and Young, 2003).
- Speed of systems: proper speed of used systems in information provided to the clients during high traffic times in the network (Chen and Chang, 2003).
- Attractiveness of using systems: designing the systems in such way that usage of those online banking systems would be attractive and interesting for the clients (Pikkarainen, 2004).
- Advertising and information about provided services: giving information via training plans or audiovisual advertising in order to inform public about method of usage regarding electronic services (Minijoon, 2001).
- The quality and variety of services: the variety of information provided to the client via online banking services (Mehdi Naddaf et al., 2012).
- Reliability: no failure in the system in order to perform based on defined tasks with designed specified limits in the operational conditions (Polatoglu and Ekin, 2001).

It is proposed that the future researches consider

quantitative performance appraisal based on presented model in different banks and the comparison that make us able to evaluate usage of online banking services factors (Internet bank) by using different quantifying methods.



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